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50+ Years of Diversification Announcements

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This paper studies the announcement returns from 4,764 mergers over the last 57 years in order to shed light on the causes of corporate diversification. One prominent view is that diversification is value destroying, either because of agency problems or internal investment distortions, but we find that combined (acquirer + target) announcement returns were significantly positive for diversifying mergers throughout the period, and no lower than the returns to related mergers. We find that returns to diversifying acquisitions declined after the 1970s, and that investors rewarded mergers involving financially constrained firms before but not after 1980, consistent with the view that the value of internal capital markets declined after the conglomerate merger wave.

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50+ Years of Diversification Announcements

I.   Introduction

Much of what we know about corporate diversification comes from the "diversification discount" literature pioneered by Lang and Stulz (1994). Numerous studies have documented that diversified firms tend to trade at a discount compared to stand-alone firms in their industries. The meaning of this finding is the subject of considerable debate. One interpretation is that diversification causes the discount because diversified firms suffer from agency problems (Jensen, 1986), distorted investment due to internal politics (Scharfstein and Stein, 2001; Rajan et al. 2000), and information loss due to degraded communication (Ozbas, 2005). An alternative interpretation is that causality runs the other way – firms with discounted assets might be more inclined to diversify.[1] Diversification could be a value-maximizing response to deteriorating industry conditions. Further complicating matters are studies suggesting that the diversification discount may be hard-wired or the result of faulty data (Graham et al., 2002; Villalonga, 2004a).

In light of difficulties associated with the diversification discount approach, scholars have recently turned to alternative strategies for understanding the value consequences of diversification. One promising approach is to look at operating performance: Maksimovic and Phillips (2002) and Schoar (2002) study plant productivity and find evidence generally consistent with value maximization (an older literature using

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[1] For theory, see Matsusaka (2001) and Maksimovic and Phillips (2002). For evidence, see Campa and Kedia (2002), Maksimovic and Phillips (2002), Burch et al. (2003), and Villalonga (2004b). Maksimovic and Phillips (forthcoming) is a good survey.

accounting data reaches a similar conclusion, e.g. Weston (1970) and Weston and Mansinghka (1971)). A complementary approach that has not received as much attention is to study the market's response to diversification announcements using event study methods. In principle, the announcement return from a diversifying merger provides a fairly clean estimate of the change in expected value of the merging firms: the estimate is forward looking, it seems to predict subsequent operational performance (Healy et al., 1992), and the effect of diversification is isolated from most potential confounding influences. Some evidence exists on bidder returns from diversifying acquisitions (e.g., Morck et al., 1990; Matsusaka, 1993; Hubbard and Palia, 1999), but evidence on combined (acquirer + target) returns is scarce and in most cases has been estimated only in passing.[2]

The purpose of our paper is to provide a map of this relatively unexplored terrain by examining the announcement returns from diversifying mergers from 1950 to 2006, a period that spans virtually the entire history of the diversification movement. Our main sample includes 4,764 acquisitions, of which about a third were diversifying. One of our central findings is that combined returns from diversifying acquisitions were significantly positive overall – in the vicinity of 1.6 percent over a three day window – and robust to a variety of considerations such as means of exchange, alternative measures of diversification, and variations in event study methodology. Moreover, the returns from diversifying acquisitions were at least as large as the returns from related acquisitions

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[2] The studies that provide estimates of combined returns from diversifying acquisitions are Kaplan and Weisbach (1992), which focuses on the success of acquisitions; Maquieira et al. (1998), which focuses on how merger returns are divided between different classes of securities; Chevalier (2004) that focuses on investment patterns; and Fan and Goyal (2002) that focuses on vertical mergers.

during most subperiods of the last six decades. This evidence suggests that investors did not view the diversifying mergers that occurred as value destroying, and unless investor reactions are systematically biased over the last 50+ years, supports the idea the diversification is value maximizing.

A second goal of our paper is to shed some light on the evolution of diversification returns over time. As present, there is little statistical evidence of a time series nature about diversification – most of what we know, or think we know, about the evolution of diversification is inferred from cross-sectional evidence. We find that the market's response to diversification announcements tends to vary over time, both in absolute terms and relative to related acquisitions, but it appears that returns were highest in the 1960s and 1970s, and then fell in the late 1970s and 1980s. This pattern mirrors aggregate behavior in the number and frequency of diversifying acquisitions and is roughly consistent with the oft-noted undoing of diversification in the 1980s, what Shleifer and Vishny (1991) call the "round-trip for corporate America."

One explanation for the decline in diversification is that capital markets have become more effective in controlling agency problems, which are considered the root cause of diversification (Jensen, 1986). Our finding that diversification announcements created value on average undercuts the idea that diversification is primarily a value-destroying consequence of agency problems. We also find that acquiring firms earned a mean negative return of -0.6 percent from diversifying acquisitions, which could imply that these acquisitions were driven by managerial objectives (Morck, et al., 1990). However, bidder returns were a significantly positive 0.7 percent for acquisitions where cash was used as the method of payment, suggesting that the overall negative return is

primarily due to standard signaling effects associated with issuance of stock. As another test of the agency theory of diversification, we investigate whether firms that theory identifies as particularly vulnerable to agency costs – firms with ample cash but poor investment opportunities ("free cash flow") – were penalized by the market when they diversified. The estimated returns for "free cash flow" firms are if anything larger than the returns for other acquirers, and in any case are never statistically significant. Taken together, our evidence provides little support for the idea that agency problems are central to understanding corporate diversification.

We do find evidence consistent with the view that the value of diversification stems from the ability of internal capital markets to outperform external capital allocation. Following Hubbard and Palia (1999), we compare the return from diversifying acquisitions that match a financially constrained (measured by the Kaplan-Zingales index) and a financially unconstrained firm – a pairing in which the formation of an internal capital market is likely to be valuable – and find a positive connection up to 1980, but not after 1980. This finding is consistent with the claim that internal capital allocation was valuable in the 1950s, 1960s, and 1970s because external capital markets were undeveloped, but the advantages of internal capital allocation dissipated in the 1980s as capital markets improved due to deregulation, increased professionalization, and heightened disclosure (Bhide, 1990; Matsusaka and Nanda, 2002). Also consistent with this view, we also find some evidence that diversifying mergers earned higher announcement returns in times when external capital was relatively abundant.

The paper is organized as follows. Section II describes the data and variables. Section III reports evidence on combined returns. Section IV examines acquirer returns. Section V studies the evolution of returns over time. Section VI concludes.

II.   Data and Methodology

A. Sample Construction

The sample consists of 4,764 mergers involving U.S. publicly traded firms that took place between 1950 and 2006. A significant amount of pre-1980 data had to be collected by hand. For the 1950-1980 period, we began with CRSP firms that were delisted from the NYSE, AMEX, or NASDAQ due to an acquisition. We then hand-collected announcement dates, acquiring company names, and various deal characteristics from articles in the Wall Street Journal (WSJ). The announcement date is the first day in which an article was published that mentioned the intention to merge. For the 1981-2006 period, we used the SDC Platinum Mergers & Acquisitions Database (SDC) to identify acquisitions and announcement dates. We traced acquirers that were owned by another company back to the parent, and deleted foreign firms, holding companies (SIC 67), and mergers where the acquirer already owned more than 25 percent of the target on the announcement date.

We supplemented the initial sample with data from several additional sources. SIC codes for acquirers and targets, used to determine if an acquisition was related or diversifying, were taken from SDC for 1981-2006 and hand-collected from Dun & Bradstreet's *Million Dollar Directory* (MDD) for 1957-1980. Because MDD lists at most six SIC codes for each firm, we only consider the first six listed SIC codes from SDC for

the later part of the sample. We also add the historical (primary) SIC code reported by CRSP. The MDD is not available for 1950-1956 so we used only the historical primary SIC code from CRSP for this period. The method of payment, cash or stock, was identified from SDC for 1981-2006 and hand-collected from the WSJ for 1950-1980. Many of the firms in the sample had sparse accounting data coverage in Compustat prior to 1980; as a result we hand-collected accounting data for nearly 1,000 acquirer and target firms from Moody's Manuals.

The sample is constructed along fairly standard lines. The main difference from previous research is that we extended the sample back to 1950, whereas most studies only go back to 1980 or so when CRSP and SDC become more complete. The cost was that a significant fraction of the data had to be hand-collected, and there could be some comparability issues across time.[3] The upside is that the final sample comprises 4,764 observations and is a more-or-less complete list of mergers involving publicly traded companies over the last 57 years, making it (we believe) the largest and longest such sample to have been studied.

B. Definition of Diversifying

One methodological decision is how to define "diversifying" and "related" acquisitions. We follow the preponderance of the literature and look for relatedness of the buyer and seller in terms of SIC codes. Specifically, we identify the top six 4-digit SIC

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[3] Another issue is that CRSP coverage of NASDAQ is incomplete before 1973. This should not bias the event returns we study: an unpublished Ph.D. research paper by Daniel Asquith found that merger returns on NASDAQ were not significantly different from NYSE or AMEX returns (discussed in Weston et al. (1998), page 127.) However, the type of firms in the sample may be different pre- and post-1973.

codes for each company and add to that the historical SIC code from CRSP , and then see if the companies share any SIC codes.[4] If the merger partners do not have any SIC code in common, we call it a "diversifying" merger, otherwise it is a "related" merger. This approach has some well known limits, for example, it does not capture vertical relations and it does not adjust for the importance of the businesses; its virtues are concreteness and replicability.[5] The approach is conservative: we can be fairly confident that the mergers classified as diversifying involve firms in unrelated businesses. Previous studies have defined industries at the 2-digit level (Matsusaka, 1993; Hubbard and Palia, 1999; Chevalier, 2004), 3-digit level (Kaplan and Weisbach, 1991), or 4-digit level (Morck et al., 1990). Since theory does not point to any particular definition, we focus on 3-digit industries, and double-check the results using 2-digit industries.

Figure 1 plots the total number of acquisitions in our sample over time and the number of diversifying acquisitions measured at the 2-digit and 3-digit level. The number of mergers is reported as a fraction of the number of publicly traded firms in the year of

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[4] Some studies, such as Maquieria et al. (1998) and Fan and Goyal (2002) classify acquisitions by comparing only primary industries, that is, they do not take into account relations between merger partners' secondary businesses. Since two-thirds of large corporations operate in five or more 4-digit industries, classifications based only on primary businesses end up putting many acquisitions in the "diversifying" category that are really related.

[5] There is not much evidence on the prevalence of vertical mergers. Matsusaka (1993) finds few vertical mergers during the conglomerate merger wave, but the more comprehensive study by Fan and Goyal (2002) suggests that between a fifth and a third of all mergers during 1962-1996 may have involved firms in vertically related industries. As a crude check, we re-estimated our main results after deleting mergers between firms that were in vertically related industries in the sense of buying or selling 5 percent of output from each other according to the 1987 U.S. Input-Output Tables published by the Census, and found no important changes in the main results. We thank Oguzhan Ozbas for providing us with the raw data.

the merger. The total number of mergers displays a pattern that is now familiar: the conglomerate merger wave of the 1960s, the "refocusing" wave of the 1980s, and "dot.com" wave of the 1990s. Despite the common perception that diversification has fallen from favor since the 1970s, we see that firms continued to make diversifying acquisitions after 1980, and there was a minor "boom' in the mid-1990s. Nevertheless, the figure shows that diversifying acquisitions become much less common after 1980. The pattern is similar whether diversification is measured at the 2-digit or 3-digit level.

Table 1 presents descriptive statistics by three-year subperiods. The majority of the mergers from 1959 to 1979 were diversifying mergers, peaking at 70 percent in the 1968-70 subperiod. The popularity of diversifying mergers faded quickly after 1980; only 20 percent of mergers during the 1981-2006 period were diversifying compared to 54 percent during the 1950-80 period. Targets in diversifying mergers had a smaller relative size than targets in related mergers; for the entire sample period targets in diversifying mergers made up 16 percent of the combined firm compared to 19 percent in related mergers. Diversifying acquirers paid almost the same deal premium (52 percent for the full sample) as related acquirers (55 percent).[6]

C. Abnormal Returns

A second methodological issue is how to measure the announcement return. Theory does not prescribe a particular window size, but [-1,+1], [-2,+1], and [-5,+5] seem

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[6] Deal premium is defined as [bidder's offer /target's pre-bid market value of equity) – 1], where the bidder's offer is computed using, in order of availability, the sum of the value of the considerations offered, the initial offer price, or the final offer price as reported in SDC (Officer, 2003). The pre-bid market valueis the target's day -3 market value. For the pre-1980 period, not covered by SDC, the bid premium is calculated using the initial offer price obtained from the Wall Street Journal article announcing the merger.

popular. We use a [-1,+1] window throughout but check the robustness of our results with a [-2,+1] window. Abnormal returns are measured relative to the Fama-French three factor model estimated using return data for the one year period ending at day -64 relative to the announcement date .[7] Most of our analysis focuses on cumulative abnormal returns during the event window as a percentage, but we also report the percentage of positive abnormal returns for robustness.

We study both the combined (bidder + target) return and the return for acquirers alone. The combined return is the sum of acquirer and target cumulative abnormal returns, weighted by the ratios of acquirer and target market values to the combined firm's market value. Market values are equity values two days before the merger announcement. For the full sample of 4,764 mergers, the mean (median) excess return is 1.59 (0.98) percent for the acquirer and target combined, -1.11 (-0.89) percent for the acquirer alone, and 17.9 (13.8) percent for the target alone. These numbers are comparable to those reported by Andrade et al. (2001) for 1973-1998.

III.   Value Creation or Value Destruction?

A. Baseline Estimates

Table 2 reports nonparametric evidence on whether investors expected diversification to create or destroy value. Panel A of the table presents the combined (target + acquirer) abnormal announcement returns over the entire period 1950-2006. We

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[7] In a small number of cases (52) where data to estimate the Fama-French three factor model was not available, we used returns in excess of the value-weighted index in CRSP to measure abnormal returns. To avoid acquisitions that are negligible in size, we deleted mergers where the target's market value was less than $1 million or less than 1 percent of acquirer's market value.

report returns as a percent of the pre-announcement combined value of the firms and the percentage of returns that were positive, and we examine two subsamples that differ in how a diversifying acquisition is defined. The announcement return associated with diversifying mergers is positive using both measures. When diversification is defined as a merger between firms that do not have a 3-digit SIC code in common, the mean return is 1.6 percent and the median is 0.9 percent, both of which are significant at the 1 percent level. When diversification is defined as a merger between firms that do not have a 2-digit SIC code in common, the mean return is 1.7 percent and the median is 0.9 percent. Again, both are significant. The number of positive observations is significantly greater than 50 percent using both measures.[8]

At first glance, these results may not seem entirely surprising. We know from a long line of event studies that combined returns to merger announcements are slightly positive. However, the previous literature is less applicable than it might seem at first because previous studies do not distinguish between related and diversifying mergers, and the samples are dominated by related mergers (on average 73 percent related if Table 1 is representative). What has not been clearly documented until now is that the return from diversifying mergers is positive, and this finding stands in contrast to the prevailing view that diversification destroys value.

Panel A also reports the returns from related acquisitions. An acquisition is related if the buyer and target share at least one SIC code. Even if diversifying acquisitions create value (a finding whose robustness we pursue below), it could be that

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[8] Throughout the paper, we report significance of medians using the Wilcoxen Signed Rank Test, but do not report the test statistics themselves to conserve space. For the percent positive we test whether the number is different from 50 using a z-statistic from a binomial proportion test.

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they create less value than related acquisitions. As can be seen, we find that the excess returns to related acquisitions are also positive, but the excess returns from diversifying and related acquisitions are similar (the differences are not significant.)[9] Contrary to conventional wisdom, the data indicate that not only do diversifying acquisitions create value, but on average they create as much value as related acquisitions.[10]

One important question is whether the positive returns associated with diversifying acquisitions represent the market's assessment of the value consequences of the acquisition or if the market was responding to other information that was released at the same time as the announcement. To make things concrete, think of the estimated announcement return, r^*, being determined by $r^* = r_{CF} + r_{INF}$, where r_{CF} is the return associated with changing cash flows due to the merger and r_{INF} is a revaluation of the firm based on information revealed at the time of the announcement (that is, a signaling adjustment). To understand if diversification creates or destroys value, we want to know if r_{CF} is positive or negative, but we only observe r^*. In order to make inferences about r_{CF} from r^*, then, we need to know something about r_{INF}.

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[9] We replicated panel A for [-2, +1] and [-5, +5] windows and found significant positive returns from diversifying mergers, and no significant difference in returns between diversifying and related mergers.

[10] Some studies have assessed the value consequences of diversification by comparing the returns from diversifying and related mergers, but the validity of such an inference is not self-evident. If the abnormal return from diversifying acquisitions was (say) 40 percent and the return to related acquisitions was (say) 50 percent, then diversifying acquisitions would be 10 percent worse than related acquisitions but it would seem to strange to conclude that diversification is a value destroying activity based on such evidence. On the other hand, absolute returns could also be misleading if there is some sort of "fixed component" to the return from mergers in general. Our position is that both metrics – absolute and relative returns – carry useful information and neither is conclusive in isolation.

One reason to expect a nonzero value of r_{INF} is because acquisition

announcements typically include information about the method of payment. If a firm

pays for an acquisition with its stock, then the announcement return compounds the

market's reaction to the acquisition and its reaction to an increase in outstanding equity.

An equity issue might affect the stock price if managers have private information about

the value of the firm's assets; by choosing to issue stock they reveal that it is overpriced

(Myers and Majluf, 1984).[11] We know from an extensive empirical literature that

seasoned equity issues are associated with negative announcement returns in the

neighborhood of -3 percent on average (Smith, 1986), and that the returns from merger

announcements (not specifically diversification announcements) are about 3 percent

lower when stock is used instead of cash (Andrade et al., 2001). Thus, for acquisitions

paid for with stock, we would expect $r_{INF} \approx -3$ percent, and the estimated announcement

return would underestimate the value creation from diversification by about 3 percent

($r_{CF} = r^* - 3$).

To gain some perspective on this possibility, Panel B of Table 2 reports the

announcement return separately for acquisitions depending on the method of payment.

Consistent with evidence from studies that do not focus on diversifying mergers, we find

that the return from stock-only acquisitions is about 3.8 percent lower than the return

from cash-only acquisitions for both diversifying and related mergers. What is more

important here is that the return associated with cash mergers is positive – 3.8 percent for

diversifying mergers and 3.7 percent for related mergers – and different from zero at

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[11] The method of payment also matters in principle for tax reasons because stock transactions are generally
tax free while cash transactions are not (Brown and Ryngaert, 1991). Such a tax effect, all else equal,
would point to an even higher return from diversification.

better than the 1 percent level. The medians are also positive and statistically different from zero. Almost three-quarters the announcement returns are positive for cash acquisitions. The return from stock acquisitions is approximately zero. Since we know that stock issues are met with a reliably negative reaction when not associated with a diversification announcement, our point estimate for the return from diversifying acquisitions using stock suggests that the cash flow component of the return is positive.

Although cash is not "informationally sensitive," the choice of cash instead of equity may convey information that equity is undervalued by the market. This could trigger a positive event return from announcements of cash acquisitions for reasons having nothing to do with the acquisition itself. That is, it could be that $r_{INF} > 0$ for cash acquisitions, causing the estimated return to be an upward biased measure of the return from diversification. This possibility is undercut by the finding of a gap between cash and stock acquisitions that is roughly 3 percent, the magnitude of the typical return from an equity issue alone – we would expect it to be larger if there is an additional effect from cash itself. Even if there is a positive signaling value to a cash acquisition, in the context of an adverse election model where firms can choose cash or equity financing, the market's response to the acquisition itself would be a weighted average of the return from cash and stock acquisitions (where the weights depend on the initial probability distribution of firm value). Any weighted average would be positive based on the estimated returns in Panel B.[12]

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[12] The use of cash also might cause a "signaling" return if it leads investors to update their belief about the severity of agency problems in the firm. However, since diversification has long been a standard example of a problem associated with free cash flow (Jensen, 1986), cash acquisitions would be expected to convey

The announcement return might also be a biased estimate of the value of diversification if the announcement signals something about the "quality" of the involved firms. Existing theory suggests that firms might diversify because their organizational capabilities are not well matched to their existing business opportunities (Gort et al., 1985; Matsusaka, 2001; Jovanovic and Braguinsky, 2004), in which case, a diversifying merger is bad news about the acquirer and would cause investors to revise down their estimate of the firm's value. Such a signaling effect would cause our estimate of diversification's value to be biased down, strengthening confidence in our finding that diversification creates value.[13]

To explore this possibility, Panel C of Table 2 reports abnormal returns separately for acquirers that were making their first move into a new industry (previously specialized firms) and acquirers that were already diversified. We define acquirers to be "diversified before the merger" if they operated in more than one 3-digit SIC code in the year before the announcement, and define them to be "not diversified before the merger" otherwise, and we define a merger to be diversifying if the firms did not have a 3-digit SIC code in common. The mean (median) combined return when an already diversified firm made a diversifying acquisition was 1.7 (1.0) percent whereas the mean (median)

negative information, biasing down our estimates of the value of diversification, and strengthening the conclusion that diversification creates value.

[13] In the model of Jovanovic and Braguinsky (2004), the announcement also reveals that the target is better than expected, causing an upward revaluation in its price. However, in practice, target abnormal returns are typically reversed if an announced merger falls through, suggesting that (Jarrell et al., 1988, page 56) "the market does not, on average, learn much of anything that is new or different about target firms' intrinsic value through the tender offer process." Taking theory and evidence together, it seems that diversification announcements convey bad news about the acquirer and little news about the target, meaning that the announcement returns are if anything downward-biased estimates of the value created by diversification.

return when an undiversified firm made a diversifying acquisition was 1.3 (0.4) percent. In both cases, means and medians are significantly different from zero, but they are not statistically different from each other. The percentage returns also indicate that diversifying acquisitions increased value on average whether the acquirer was initially diversified or not. Thus, there is some weak evidence that the market's reaction is less welcoming to new diversification than ongoing diversification, consistent with the idea that diversification announcements convey bad news about the quality of the acquirer, but the absolute returns remain positive in both cases.

To summarize, the market's reaction to diversification announcements over the last 50+ years was significantly positive on average as measured by the abnormal combined return to the merging firms. And the reaction to diversifying announcements on average was no worse than the reaction to related acquisitions. Announcement returns impound information unrelated to the value of diversification per se, but those signaling effects generally bias our estimates of the value of diversification downward, and in any case, do not seem large enough on their own to be driving our main finding of a positive market reaction to diversification announcements.

B. Returns over Time

While the preceding results suggest that investors consistently viewed diversification as a value-creating activity over the last 57 years, the sample averages could conceal time trends that lead to a different interpretation of the evidence. Matsusaka (1993) suggests that the market might have underestimated the inefficiencies of the conglomerate form of organization during the 1960s, only to learn the truth in the

1980s. Shleifer and Vishny (2003) suggest that diversification may have been a fad –

smart investors understood from the beginning that diversification would not work but

lacked the resources to make prices fully reflect their information. If our finding of a

positive average return overall conceals negative returns in the later years of the sample,

it might be reasonable to conclude that diversification has always been a value-destroying

activity but the market did not reflect that in the early years.

To shed light on the possibility of changing sentiment, Table 3 reports returns

over time. We report returns for subperiods that are defined to break the sample into

periods of merger waves and troughs.[14] As before, the primary entries are mean returns,

with standard errors in parentheses, and medians in square brackets. The table shows that

diversifying announcements earned positive abnormal returns on average in every sample

period except 1950-66, and the means and medians were significantly different from zero

in the periods covering 1966-69 and 1976-99, a little over half of the sample years. The

bottom rows of the table show that the return from diversifying acquisitions averaged 2.0

percent during waves and 1.4 percent outside of waves. This difference, while nontrivial

in magnitude, is not statistically significant. The returns from related mergers were

similar to the returns from diversifying mergers, with positive and statistically significant

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[14] We initially estimated returns year-by-year but such disaggregated results were hard to interpret. Merger
waves were identified following the method of Harford (2005). First, we identified the highest 36-month
concentration of merger announcements for each decade as a potential wave (using calendar months, with
1950-69 and 1990-2006 treated as a single decade). We then tested whether this concentration of mergers
was significantly different at the 5 percent level from the empirical distribution of 1,000 randomly
generated samples of the same number of mergers for that decade, giving each month an equal probability
of merger occurrence. This procedure yielded four 36-month merger waves, 3/1966-2/1969, 12/1976-
11/1979, 2/1985-1/1988, and 10/1996-9/1999. Overall, 38.5 percent of sample mergers took place during
one of these waves. We also tried more subjective definitions, with no material change in the main results.

returns in every period but the first. The last column compares the mean return associated with diversifying and related mergers. The differences are never statistically significant.

Table 3 does not control for any of the factors that are known to be related to merger announcement returns. Although this does not introduce any obvious biases, merger characteristics do vary over time. To get a sense of the behavior of returns over time conditional on deal characteristics, we estimated a regression (not reported) of returns on a dummy for stock as a method of payment dummy, a tender offer dummy, the log of target firm's market value on day -64, the log of target's market value divided by the sum of the combined value of the target and acquirer on day-64, and a constant. Figure 2 plots the mean residuals from the regressions for diversifying and related acquisitions. The residuals display a similar pattern over time as Table 3. The figure shows what might be a downward trend in the return to both type of mergers, or perhaps a jump downward beginning in the period 1979-1985. There is also some evidence of a decline in the return from diversifying relative to related acquisitions from the beginning of the sample period until the early 1980s. However, the differences across periods are typically not different from zero at conventional levels of significance. Taking the evidence as a whole, it appears there is evidence for the idea that mean announcement returns associated with diversification, both absolute and relative to the return from related acquisitions, changed over time, and perhaps some evidence of a downward trend.

IV.   Acquirer Returns

This section reports evidence on how acquisition announcements affected the price of acquiring firms. Acquirer returns alone (as opposed to combined returns) cannot

reveal the market's evaluation of the overall merits of a merger, but they do have the potential to shed light on the motives for acquisitions. As Morck et al. (1990) observed, if a bidder's value falls when an acquisition is announced, there is some reason to suspect that managerial objectives rather than shareholder value are driving the acquisition.

The existing evidence on acquirer returns from diversifying mergers is extensive and somewhat contradictory. Table 4 summarizes estimates of which we are aware. As can be seen, both positive and negative returns have been found, and the means often are not statistically different from zero. The sample sizes are not always large and the methodologies differ in details (calculation of returns, event window size, definition of diversification, etc.), but there is not an obvious explanation for the dispersion of findings, nor is there an obvious reason to prefer one set of studies over another. By revisiting this issue with our much larger sample, we hope to provide a more definitive conclusion about the effects of diversifying mergers on acquiring firm values, and by using consistent methods across a long time span, we hope to shed some light on the extent to which the conflicts in previous studies are due to different methodologies.

Table 5 reports the abnormal returns received by acquiring firms in our sample. The first row in Panel A presents returns for the full sample. The mean return is -0.6 percent for diversifying acquisitions and -1.3 percent for related mergers. Both numbers are significantly different from zero at the 1 percent level. The medians are also both negative and significant. Forty-three percent of diversifying mergers received positive returns and 39 percent of related mergers received positive returns. The mean and median returns are significantly more negative (at the 1 percent level) for related than diversifying mergers. The basic picture that emerges is that acquisitions were typically

bad news for bidding firm shareholders, but that diversifying acquisitions were less harmful than related acquisitions.

Acquiring firm returns could have been negative because bidders were overpaying, allowing targets to capture a disproportionate share of the gain, or the announcements could have caused investors to downgrade their estimates of the firm's value for pure signaling reasons. To gain some insight on the importance of signaling, the remaining rows Panel A report returns separately by the method of payment. As argued above, signaling should be particularly important for stock acquisitions but not much of a factor for cash acquisitions. Again we see the standard gap between cash acquisitions and stock acquisitions, in this case about 2.4 percent for diversifying mergers and 2.8 percent for related mergers. The mean return for cash-only acquisitions is positive and statistically distinguishable from zero for both types of merger. The mean return for stock acquisitions is -1.7 percent for diversifying acquisitions and -2.3 percent for related acquisitions, both values different from zero at the 1 percent level of significance. The medians are also negative and significantly different from zero. If the means were adjusted upwards by the standard -3 percent return from an equity issue, the estimates become positive (or perhaps it is better to think of them being approximately zero.) The evidence suggests that acquirer returns may be negative primarily for signaling reasons, and that without signaling concerns, the returns are positive or at least zero.

Panel B in Table 5 reports the returns by time period. The first pattern worth noting is that acquirer mean returns from diversifying acquisitions are reliably positive during the conglomerate merger wave and negative in the surrounding years and during the most recent period 1999-2006. This suggests that the conflicting findings in the

literature (Table 4) may be due in part to examination of different time periods and not due to different methodologies. For example, the significant positive returns in Matsusaka (1993) appear in a sample concentrated on the conglomerate merger wave while the significant negative returns in Chevalier (2004) (and the insignificant negative returns in Morck et al. (1990)) appear in samples concentrated on the 1980s. Timing does not explain all contradictory findings – for example, Hyland and Diltz (2002) report significantly positive returns in the 1980s – but timing does seem to account for much of the variation. A lesson from this is that researchers should be sensitive to the possibility of time variation in the effects they are measuring – especially when it comes to an evolving practice such as corporate diversification – and should be cautious in generalizing from samples concentrated in particular periods of time.

A second observation about Panel B of Table 5 is that except for the 1999-2006 period the returns are only modestly negative, around -1 percent, well within the bounds of a negative signaling effect for stock. Thus, there is not strong evidence in the subperiods for the importance of managerial objectives. Finally, it is worth noting that the return associated with related acquisitions is often lower than the return associated with diversifying mergers, although the difference is different from zero at conventional levels of significance only during the 1996-99 dot.com merger wave. The bottom rows of the table show that the return from related mergers was significantly lower than the return from diversifying mergers on average both during waves and outside of waves.

V.   Evolution of Market Sentiment towards Diversification

Figure 2 reveals time variation in the returns from diversification. Returns were highest during 1950-79, plunged during 1979-88, then recovered somewhat during 1988-2006. Although these returns suggest volatility in the market's views toward diversification, we should keep in mind that the sample returns are only for mergers that were actually announced, not for all potential mergers. If investor sentiment soured on diversification, we would expect to see fewer diversifying mergers (as managers react to changing investor sentiment), and the measured returns would not appear to be as negative as the true underlying sentiment. Nevertheless, it is reasonable to expect returns to track changes in investor sentiment with a lag, as it takes time for managers to learn about changing views among investors. Seen in this light, Figure 2 suggests that investors soured on diversification in the late 1970s and early 1980s but firms did not fully respond to the changing sentiment immediately. Average returns from diversifying mergers were negative in the 1980s while managers learned, but by the late 1980s managers had gotten the message and stopped making many of the diversifying mergers that the market disliked, causing the mean announcement returns to rise. This view fits with informal accounts of the decline of diversification (Sobel, 1984; Shleifer and Vishny, 1991; Matsusaka, 1993) and is also consistent with the drop off in diversifying mergers seen in Figure 1 (50 percent of sample mergers were diversifying during 1950-80 compared to 20 percent during 1981-2006). What it leaves unexplained is why investor sentiment soured on diversification in the late 1970s and early 1980s. The purpose of this section is to provide evidence on why diversification seemed to fall from favor.

A. Two Hypotheses

We focus on two prominent explanations for the decline in corporate diversification. The *internal capital market hypothesis* posits that diversification was valuable in the 1950s, 1960s, and 1970s because external capital markets were undeveloped. When external capital markets improved in the 1980s, the benefits of internal capital markets declined, and diversification fell from favor (Bhide, 1990; Matsusaka and Nanda, 2002). This argument rests on a theory of diversification that revolves around advantages of internal capital allocation: if resources can be moved from low to high return projects at a lower cost internally than through markets, diversification can be efficient (Williamson, 1975; Matsusaka and Nanda, 2002). The value of an internal capital market is greatest when external capital allocation is costly.

The *agency cost hypothesis* posits that diversification is inherently a value destroying strategy but firms are willing to expand into new lines of business because managers receive private benefits from diversifying (Jensen, 1986). According to this view, diversification flourished in the 1950s, 1960s and 1970s because of faulty corporate governance that allowed managers to squander corporate wealth for their own private gain. In the 1980s, with the development of the hostile takeover and low cost methods of financing, investors were able to gain control of many corporations and block or in some cases undo inefficient diversification (Bhagat et al., 1990). The agency cost hypothesis is not easy to square with the evidence reported above that combined returns were positive and that bidder returns, at least from cash acquisitions, were positive. However, while agency costs might not be the central driver of announcement returns, they may be able to explain some of the variation over time.

B. Tests

In order to evaluate the internal capital market and agency cost hypotheses, we estimate a series of regressions in which the dependent variable is the abnormal combined announcement return. We are interested in whether variables linked to internal capital markets and agency costs can explain announcement returns, and whether those effects change over time. To test for time changes, we estimate the regressions separately for two periods, 1950-1980 and 1981-2006. These periods approximately bracket to the high and low periods for diversification.

Our test of the internal capital market hypothesis is based on the idea that an internal capital market allows headquarters to shift resources from one division to another. Internal resource transfers add value only to the extent that they channel funds to higher return investments or reduce financing costs compared to transfers that take place across external capital markets. Stein (1997) shows how internal resource allocation can add value when headquarters knows more about divisional investment opportunities than outside investors, and Matsusaka and Nanda (2002) show how internal transfers can allow a firm to avoid costly external finance. Following Hubbard and Palia (1999), we posit that a merger is most likely to create a valuable internal capital market when one firm is financially constrained and the other is not. In this case, the unconstrained firm is able to raise resources that it can transfer to the other firm that would otherwise find it difficult to finance its investment.[15]

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[15] Although this is a plausible interpretation of the internal capital market hypothesis, there are also theories that predict gains from integration even if both firms are financially constrained. Lewellen (1971) argues that a merger can reduce financing costs if the assets can be used to coinsure each other, and Duchin (2007) argues that the imperfectly correlated cash flows and investment opportunities of diversified firms allow them to economize on precautionary cash holdings.

To identify firms that are likely to be financially constrained, we employ the KZ

index (Kaplan and Zingales, 1997) using coefficient estimates from Lamont et al. (2001).

The KZ index assigns to each firm a numerical score that is positively related to the

firm's debt and market-to-book ratio, and negatively related to the firm's cash flow, stock

of cash, and dividends.[16] A higher value of the KZ index indicates that a firm is more

financially constrained. We compare the KZ value for a given firm in a given year with

its industry's (defined using the 12 Fama-French industries) median KZ value for that

year and label it a "high KZ" firm if the firm value is above the industry median, and a

"low KZ" firm if the firm value is below the industry median.[17] We then define two

dummy variables that indicate when a high KZ firm (financially constrained) buys a low

KZ firm (financially unconstrained), and when a low KZ firm buys a high KZ firm.

Hubbard and Palia (1999) conduct a similar exercise for the 1960s using the dividend

payout ratio as a measure of financial constraints and find that bidders earned higher

announcement returns when an unconstrained firm acquired a constrained firm (they do

not consider combined returns). We are interested in whether the market reacted more

positively to mergers that matched constrained and unconstrained firms than other

mergers, and if so, whether that effect diminished over time as would be the case if

improved external capital markets made internal capital allocation less valuable.

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[16] Specifically, the value of the KZ index in year t from Lamont et al. (2001) is given
by $KZ_t = 3.139D_t + 0.283MB_{t-1} - 1.002CF_t - 1.315CS_t - 39.368DIV_t$, where D_t is debt divided by total
capital, MB_t is the market-to-book ratio, CF_t is cash flow, CS_t is cash, and DIV_t is dividends, the last
three variables all divided by capital in year $t-1$.

[17] Because Compustat has sparse accounting data coverage for the 1950-1965 period, there are too few
firms to calculate a median KZ at the industry level for every year. To solve this problem we treat 1950-65
as a single year by pooling observations and then calculate the median KZ for a given industry. As a result,
industry median KZ figures are the same for every year from 1950 to 1965.

Our second test of the internal capital market hypothesis relies on the observation that internal capital allocation should be more valuable when external capital is more costly at the aggregate level, an implication recently exploited by Yan (2006). Yan documents that the value of conglomerates increases relative to focused firms when external capital is more costly at the aggregate level. Following Yan, we include variables in our regressions that proxy for external capital market conditions: the federal discount rate, the money supply in 2006 dollars as measured by M2, the percentage change in money supply over the previous 12 months, the amount of corporate bonds issued, the amount of commercial paper issued, and net new equity issued.[18] Here again we are interested in whether the costliness of external finance predicts the returns from diversification, and if so, whether that effect diminishes over time.

To test the agency cost hypothesis, we include variables that proxy for the potential agency costs of free cash flow. Jensen (1986) argues that firms with cash flow in excess of what is needed to fund all of their positive NPV investment opportunities are most likely to make value destroying diversifying acquisitions. To identify the firms most at risk, we create a dummy variable equal to one if the acquirer has a cash flow from operations in excess of its industry median and a Tobin's Q (assumed to proxy for investment opportunities) lower than its industry median.[19] We posit that if agency costs

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[18] The federal discount rate and M2 are measured in the month before the announcement. The other capital market variables, taken from the Federal Reserve Bulletin, are measured in the year before the announcement.

[19] Cash flow from operations is earnings before extraordinary items (Compustat #18) plus depreciation and amortization (#14) minus working capital accruals (the change in current assets (#4) minus the change in cash holdings (#1) minus the change in current liabilities (#5) plus the change in short-term debt (#34) plus the change in tax payable (#71)), all scaled by total assets (#6), following Bushman et al. (2007). Tobin's Q is the market value of equity at the end of the fiscal year (#25 x #199) plus book value of assets (#6) minus

are an important factor in determining announcement returns, acquisitions by firms with high cash flow and low Q will receive lower returns. If diversification declines because markets become better at controlling agency problems, the agency cost variable will decline in importance over time.

C. Regression Results

Table 6 presents the results. Each column reports estimates from a single regression; standard errors are in parentheses beneath the coefficient estimates. In addition to variables connected with the internal capital market and agency cost hypotheses, we include a set of control variables that are standard in the literature: deal characteristics (stock dummy, tender offer dummy, target size, and relative size of the two firms) and firm characteristics (buyer Q, target Q, buyer leverage, target leverage, buyer cash, target cash, buyer age, and target age).[20]

The regression in column (1) considers only diversifying acquisitions during 1950-80. Consistent with the internal capital market hypothesis, mergers between a financially constrained acquirer and an unconstrained target earned a return that was 1.59 percent greater than otherwise identical mergers that did not pair a constrained and unconstrained firm. The coefficient is different from zero at the 5 percent level of significance. The coefficient for mergers between financially unconstrained acquirers and constrained targets is also sizeable, 0.86 percent, but is not statistically significant.

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book value of common equity (#60) minus deferred taxes (#74), all divided by total assets (#6). We also created variables using cash stock instead of cash flow, with similar results.

[20] Leverage is long-term debt (Compustat #9) divided by total assets (#6). Cash is cash holdings (#1) divided by total assets (#6). Age is the number of months since the firm first appeared in Compustat.

The regression in column (2) reports the same regression for diversifying acquisitions during 1981-2006. The coefficients on the two financial constraint variables are much smaller than in column (1), and neither is different from zero at conventional levels of significance. Investors no longer rewarded mergers between a constrained and unconstrained firm during this period, consistent with the view that improved external capital markets were undercutting the value of internal capital allocation.

The regressions in columns (3) and (4) estimate the same regressions on a subsample of small bidders. If internal capital markets can account for part of the decline in investor sentiment towards diversification, then the financial constraint variables should be more important among small bidders than large bidders because small bidders are more likely to suffer from financial constraints. The definition of a small bidder is a firm with a market value (measured at day -64) below the median market value of all acquirers in the sample. The coefficients for 1950-80 in column (3) imply that the return from a merger with a financially constrained-unconstrained pairing is 2.43 percent greater than other mergers, and the return on a financially unconstrained-constrained pairing is 2.66 percent greater than otherwise identical mergers. Both coefficients are statistically significant at the 5 percent level. The corresponding coefficients for 1980-2006 in column (4) are smaller in magnitude and statistically insignificant. Thus, the evidence for the internal capital market hypothesis is stronger among smaller bidders, as would be expected if small firms are more financially constrained.

For comparison purposes, columns (5) and (6) report similar regressions for mergers between related firms. Both financial constraint variables are statistically insignificant in 1950-80 and 1980-2006, and three out of four coefficients are actually

negative, suggesting that creation of internal capital markets was not important for horizontal mergers. This also supports the idea that internal capital allocation played a role in how investors evaluated diversifying mergers.

A second implication of the internal capital market hypothesis is that announcement returns should be associated with external capital market conditions, and that association should weaken over time. The evidence for this implication is mixed. For diversifying acquisitions during 1950-80 in column (1), two of the five capital market coefficients are statistically distinguishable from zero. The coefficient on the change in money supply and the amount of commercial paper issued are both negative, consistent with the idea that internal capital allocation is less valued when external financing is available. Also consistent with the internal capital market hypothesis, in 1981-2006 the coefficient on commercial paper falls in magnitude and becomes insignificant, but the coefficient on money growth becomes more negative and remains statistically significant. The results are better for the internal capital market hypothesis in the small firm sample, but the pattern is roughly the same. For related mergers in columns (5) and (6), only one of the coefficients on the capital market variables is different from zero at conventional levels of significance, and that coefficient (on new bonds issued) it is positive instead of negative. This suggests that the value of related mergers was not strongly connected to capital market conditions. Thus, some but not all of the evidence from the capital market variables provides support to the internal capital market hypothesis.

Turning to the agency cost hypothesis, the regressions in Table 6 fail to provide any support for the hypothesis. The key variable is a dummy for firms with high cash flow and a low Q. The agency cost hypothesis predicts such "free cash flow" firms will

earn lower announcement returns. The coefficient on the free cash variable, however, is

positive for diversifying acquisitions, and insignificant in every regression. If anything,

the estimates imply that the market rewarded diversifying acquisitions by firms with free

cash flow. These findings cast further doubt on the idea that agency problems are central

to understanding corporate diversification.

VI.   Conclusion

This paper studies the announcement returns from diversifying mergers over a 57-

year period using a new dataset that spans essentially the entire history of the

diversification movement. We find that the combined (acquirer + target) return from

diversifying acquisitions was positive throughout the sample period, and the return from

diversifying acquisitions was no lower than the return from related acquisitions. This

evidence suggests that diversification is a value-creating strategy on average, and

generally comports with evidence from profitability and productivity studies showing that

diversification improves or at least does not hinder performance. The conclusion that

diversification creates value may seem inconsistent with the large literature that

documents the existence of a "diversification discount" – multisegment firms tend to

trade at a lower price than comparable single segment firms (Lang and Stulz, 1994).

However, recent theory (Matsusaka, 2001; Maksimovic and Phillips, 2002) and evidence

(Campa and Kedia, 2002; Villalonga, 2004b) suggest that diversification might not cause

the discount, rather discounted firms might be more likely to diversify.[21] More research

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[21] There is also evidence suggesting that diversified firms might not always trade at a discount historically
(Servaes, 1996; Klein, 2001) and that the discount might not be present uniformly in other countries (Lins
and Servaes, 1999, 2002).

will be needed to sort out the alternative possibilities, but our results are intended to advance the discussion by introducing event study evidence into a literature that has largely revolved around estimates of the diversification discount.

We also find that the market's reaction to diversifying mergers, both in absolute terms and compared to related mergers, became markedly less positive in the 1970s and 1980s. It is well known that around the same time the number of diversifying mergers began to decline, and opinion turned against diversification. We explore two popular explanations for the change in opinion. According to the internal capital market hypothesis, diversification was particularly valuable in the 1950s, 1960s, and 1970s because external capital markets were undeveloped, but internal capital allocation became less valuable in the 1980s when capital markets became more efficient. Consistent with this view, we find that mergers between firms that were likely to be financially constrained received the highest announcement returns during 1950-1980, but not afterwards. According to the agency cost hypothesis, diversification took place during 1950-1980 because capital markets could not control agency problems associated with free cash flow, but declined during 1981-2006 when capital markets became better at controlling managers. We test this hypothesis by examining the returns to firms with abundant cash flow and limited investment opportunities – firms that are most likely to diversify because of agency problems according to Jensen (1986) – and find that the market did not penalize such acquisitions at any point throughout the period. Taken together, our evidence suggests that diversification can provide value when internal capital allocation is more efficient than external capital allocation, but that value has eroded over time. None of our evidence lends support to the view that agency problems

are central to understanding corporate diversification. Our findings on the evolution of investor sentiment toward diversification are obviously preliminary, but we believe examination of time series evidence on diversification can add a useful perspective to a literature that has largely focused on cross-sectional implications.

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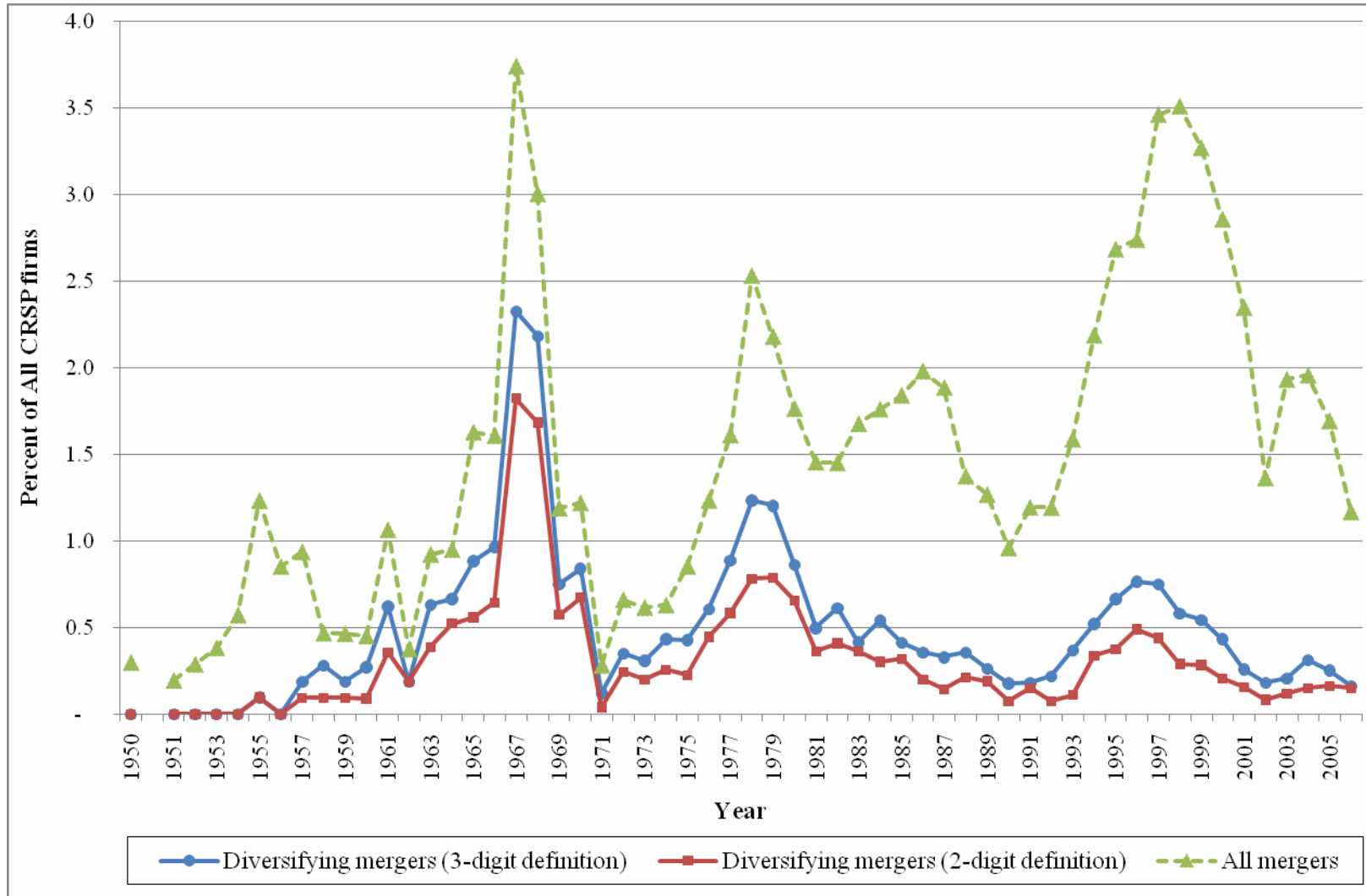
Figure 1
Diversifying Mergers, 1950-2006

Figure 2
Mean Residuals from Regressions of Announcement Returns on Deal Characteristics
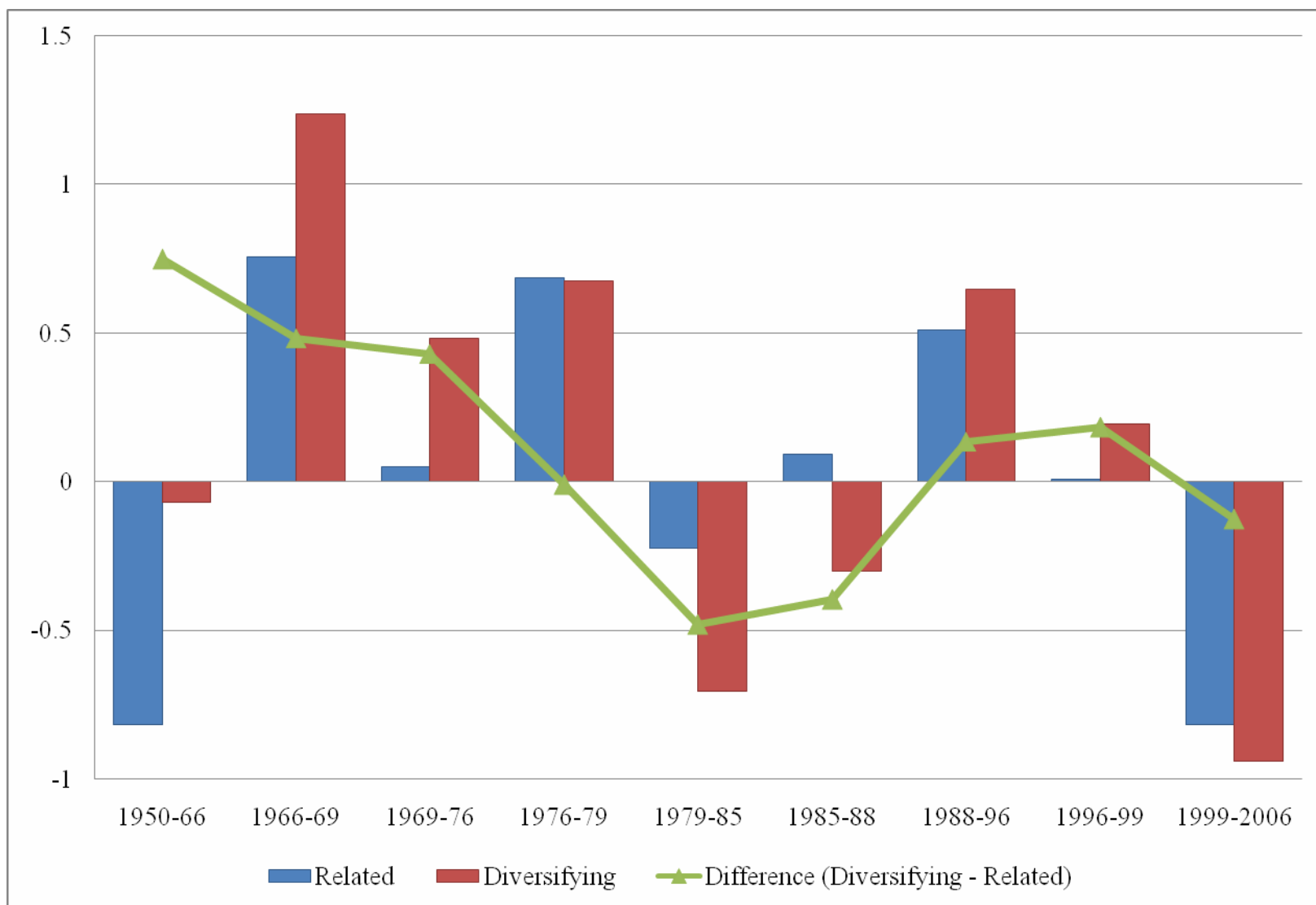
Table 1
Descriptive Statistics

This table reports summary statistics for acquisitions during 1950-2006. In the column headings, "div" refers to an acquisition in which the acquirer and target did not have a 3-digit SIC code in common among their top six SIC codes (diversifying); "rel" refers to an acquisition in which the acquirer and target did have a 3-digit SIC code in common (related).

Period	Number		Diversifying (%)	Stock only (%)		Cash only (%)		Tender offer (%)		Deal premium (Mean %)		Relative size (%)		Acquirer diversified? (%)	
	Div	Rel		Div	Rel	Div	Rel	Div	Rel	Div	Rel	Div	Rel	Div	Rel
1950-52	0	8	0	…	88	…	13	…	13	…	25	…	30	…	50
1953-55	1	22	4	100	100	0	0	0	0	32	29	11	29	0	41
1956-58	5	19	21	80	100	0	0	0	0	12	16	27	19	80	63
1959-61	12	10	55	92	90	8	10	0	10	18	29	18	17	83	100
1962-64	30	15	67	90	87	10	13	0	13	26	34	10	16	83	73
1965-67	91	61	60	89	89	10	10	7	10	35	25	17	24	84	87
1968-70	85	37	70	80	86	15	14	6	14	32	32	17	27	81	86
1971-73	30	30	50	83	77	17	23	3	23	40	52	19	14	90	67
1974-76	73	62	54	62	73	27	23	10	23	63	52	10	18	86	82
1977-79	162	146	53	28	39	53	34	5	34	58	55	16	17	86	92
1980-82	101	139	42	29	33	18	14	16	14	60	58	20	21	92	89
1983-85	84	240	26	21	28	36	21	46	21	52	48	23	25	90	93
1986-88	71	286	20	13	25	63	50	45	50	64	61	16	21	96	90
1989-91	42	190	18	38	47	33	25	17	25	58	69	17	18	93	89
1992-94	84	290	22	44	54	33	18	20	18	59	57	15	17	79	83
1995-97	190	586	24	47	58	33	21	26	21	54	53	15	19	75	75
1998-2000	134	694	16	49	56	31	21	22	21	62	61	15	19	83	86
2001-03	47	363	11	43	36	19	29	15	29	54	61	14	17	87	86
2004-06	49	275	15	18	26	45	36	18	36	44	44	17	19	94	87
1950-80	531	454	54	61	66	28	21	6	5	46	44	16	20	85	82
1981-2006	760	3,019	20	36	44	34	26	27	16	57	57	16	19	85	85
1950-2006	**1,291**	**3,473**	**27**	**46**	**47**	**31**	**25**	**18**	**15**	**52**	**55**	**16**	**19**	**85**	**85**

Table 2
Combined (Target + Acquirer) Returns from Acquisition Announcements, 1950-2006

This table lists the combined (target + acquirer) cumulative abnormal return, measured relative to the Fama-French three factor model, from announcements over a [-1, +1] window. The main entry is the mean, followed by the standard error in parentheses, and the median in square brackets. Returns are measured as a percent of the combined market value of the firms on day -2. Significance levels are indicated as follows: * = 10%, ** = 5, *** = 1%.

	Diversifying Acquisitions			Related Acquisitions		
	Return	% return positive	N	Return	% return positive	N
Panel A. Full Sample						
Diversifying = No 3-digit SIC code in common	1.6*** (0.2) [0.9]***	59***	1,291	1.6*** (0.1) [1.0]***	59***	3,473
Diversifying = No 2-digit SIC code in common	1.7*** (0.2) [0.9]***	60***	810	1.6*** (0.1) [1.0]***	59***	3,954
Panel B. By Method of Payment						
Stock	-0.1 (0.2) [-0.2]	48	599	0.0 (0.2) [0.1]	51	1,640
Cash	3.8*** (0.3) [2.6]***	74***	406	3.7*** (0.2) [2.2]***	73***	873
Stock and cash	2.1*** (0.4) [1.6]***	63***	209	2.0*** (0.3) [1.1]***	60***	726
Other	2.7*** (0.9) [0.9]**	58	77	3.3*** (0.5) [2.1]***	67***	234
Panel C. By Diversified and Undiversified Acquirers						
Acquirer not diversified before acquisition	1.3*** (0.5) [0.4]**	53	194	1.1*** (0.3) [0.8]***	56***	538
Acquirer diversified before acquisition	1.7*** (0.2) [1.0]***	60***	1,097	1.7*** (0.1) [1.0]***	60***	2,935

Table 3
Combined (Target + Acquirer) Returns from Acquisition Announcements over Time

This table reports the combined cumulative abnormal return measured relative to the Fama-French three factor model over a [-1, +1] window. Returns are measured as a percentage of the combined market value of the merging firms on day -2. A merger is classified as diversifying if the two firms do not share a 3-digit SIC code among their top six codes. Three-year merger waves are labeled in parentheses and defined as the highest 36-month concentration of merger announcements in a given decade based on the method in Harford (2004). The main return entry is the mean, followed by the standard error in parentheses, and median in square brackets. The last column and row report p-values for the hypothesis that the means are equal. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

	Diversifying Acquisitions			Related Acquisitions			p-value: div
	Return	%return positive	N	Return	%return positive	N	= related
1950-66	-0.2 (0.3) [-0.4]	44	70	-0.1 (0.4) [-0.3]	43	91	0.867
1966-69 (conglomerate wave)	1.6*** (0.4) [0.8]**	55	123	1.4** (0.6) [1.1]*	55	65	0.713
1969-76	0.8 (0.6) [0.5]	56	130	0.9 (0.6) [0.7]**	56	102	0.886
1976-79 (post-conglomerate wave)	2.3*** (0.4) [1.6]***	64***	162	2.3*** (0.4) [1.5]***	65***	149	0.967
1979-85	1.9*** (0.5) [1.4]***	60***	166	2.4*** (0.4) [1.3]***	65***	294	0.424
1985-88 (refocusing wave)	2.5*** (0.8) [1.4]***	61*	72	2.9*** (0.4) [1.7]***	67***	311	0.594
1988-96	2.3*** (0.4) [1.4]***	64***	252	2.1*** (0.2) [1.2]***	63***	830	0.725
1996-99 (dot.com wave)	1.7*** (0.6) [1.0]***	60***	178	1.2*** (0.3) [0.7]***	55***	740	0.439
1999-2006	0.6 (0.9) [0.6]	55	138	0.8*** (0.3) [0.7]***	57***	891	0.813
All merger wave years	2.0*** (0.3) [1.2]***	60***	535	1.8*** (0.2) [1.1]***	59***	1,265	0.541
All non-wave years	1.4*** (0.3) [0.9]***	58***	756	1.5*** (0.2) [1.0]***	60***	2,208	0.854
p-value: wave = non-wave	0.138			0.244			

Table 4

Summary of the Literature on Acquirer Returns from Announcements of Diversifying Mergers

The table summarizes estimates of the acquirer returns associated with announcements of diversifying acquisitions. The acquirer return is the cumulate abnormal return as a percent over the indicated window. Unless noted, the results are for daily returns. "NR" means the information was not reported. Definition of diversification: "4D" means 4-digit SIC code, "top 3" means the firm's three most important businesses. Sample: "T" represents target and "A" represents acquirer. Superscripts: a = the return is not adjusted for market movements, and is divided by the value of the target; b = event window ends 2 months after completion of merger, c = monthly returns.

Paper	Years	N	Bidder Return		Event Window	Definition of Diversification	Sample
			Mean	$p < 0.10$			
1. Morck et al. (1990)	1975-87	235	-1.89[a] (1.70)	No	[-2, +1]	No common 4D in top 3	
1. Morck et al. (1990)	1975-79	120	0.23[a] (2.13)	No	[-2, +1]	No common 4D in top 3	
1. Morck et al. (1990)	1980-87	115	-4.09[a] (2.65)	No	[-2, +1]	No common 4D in top 3	
2. Kaplan-Weisbach (1992)	1971-82	177	-1.46 (NR)	NR	[-5, 5]	No common 3D in top 4 4D	T>$100M, no financial & railroad firms
3. Eckbo (1992)	1963-81	59	-0.41 (NR)	No	[-20, +10]	Target top 4D different from bidder top 4 4D	Mining & manufacturing
3. Eckbo (1992)	1964-82	62	0.62 (NR)	Yes	[0][c]	Target top 4D different from bidder top 4 4D	Canada, mining & manufacturing
4. Matsusaka (1993)	1968, 71, 74	67	1.23 (0.67)	Yes	[-5, +5]	No common 2D	Mining & manufacturing, stock only

5. Maquieira et al. (1998)	1977-96	47	-4.79 (2.68)	Yes	[-2, +2[b]][c]	Different primary 2D	Stock only
6. Hubbard-Palia (1999)	1961-70	NR	0.24 (0.86)	No	[-5, +5]	No 2D in common	…
7. Hyland-Diltz (2002)	1978-92	134	0.01 (NR)	Yes	[-1.,0]	New Compustat segment	A>$100M, A has only 1 segment
7. Hyland-Diltz (2002)	1978-79	17	-0.01 (NR)	No	[-1, 0]	New Compustat segment	A>$100M, A has only 1 segment
7. Hyland-Diltz (2002)	1980-87	82	0.03 (NR)	Yes	[-1, 0]	New Compustat segment	A>$100M, A has only 1 segment
7. Hyland-Diltz (2002)	1988-1992	35	-0.01 (NR)	No	[-1, 0]	New Compustat segment	A>$100M, A has only 1 segment
8. Bae et al. (2002)	1981-97	41	0.67 (NR)	No	[-5, +5]	No 3D in common	Korean nonfinancial firms
9. Chevalier (2004)	1980-95	289	-1.92 (0.94)	Yes	[-5, +5]	No 2D in common	…
9. Chevalier (2004)	1980-87	NR	-1.58 (NR)	NR	[-5, +5]	No 2D in common	…

Table 5
Acquirer Returns from Acquisition Announcements

This table reports the acquiring firm's cumulative abnormal return measured relative to the Fama-French three factor model over a [-1, +1] window. Returns are measured as a percentage of the market value of the acquiring firm on day -2. A merger is classified as diversifying if the two firms do not share a 3-digit SIC code among their top six codes. Three-year merger waves are labeled in parentheses and defined as the highest 36-month concentration of merger announcements in a given decade based on the method in Harford (2004). The main return entry is the mean, followed by the standard error in parentheses, and median in square brackets. The last column and row report p-values for the hypothesis that the means are equal. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%.

	Diversifying Acquisitions			Related Acquisitions			p-value: div
	Return	%return positive	N	Return	%return positive	N	= related
Panel A. All years combined							
All mergers	-0.6*** (0.2) [-0.6]***	43***	1,291	-1.3*** (0.1) [-1.0]***	39***	3,473	0.003
Stock only	-1.7*** (0.3) [-1.1]***	36***	599	-2.3*** (0.2) [-1.8]***	33***	1,640	0.133
Cash only	0.7** (0.3) [0.1]*	51	406	0.5*** (0.2) [0.2]**	53	873	0.559
Stock and cash	-0.8* (0.5) [-0.8]***	42**	209	-1.7*** (0.2) [-1.5]***	36***	726	0.080
Other method of payment	1.4 (1.1) [0.1]	51	77	-0.1 (0.5) [-0.3]	47	234	0.164
Panel B. By time periods							
1950-66	-0.9** (0.4) [-0.7]**	36**	70	-0.7 (0.4) [-0.8]**	34***	91	0.737
1966-69 (conglomerate wave)	1.1** (0.4) [0.5]*	54	123	0.7 (0.7) [0.5]	52	65	0.580
1969-76	-1.0** (0.4) [-0.9]***	42*	130	-1.0* (0.6) -[0.6]	41*	102	0.992
1976-79 (post-conglomerate wave)	-0.7** (0.3) [-0.7]***	40**	162	-0.1 (0.3) [-0.2]	47	149	0.188
1979-85	-0.6 (0.5) [-0.5]**	43	166	-0.5 (0.4) [-0.6]**	43**	294	0.793

1985-88 (refocusing wave)	-0.2 (0.6) [-0.6]	42	72	-0.4 (0.3) [-0.5]**	43**	311	0.792
1988-96	-0.4 (0.4) [-0.4]**	45	252	-0.9*** (0.2) [-0.8]***	40***	830	0.276
1996-99 (dot.com wave)	-0.5 (0.6) [-0.5]	40***	178	-1.6*** (0.3) [-1.6]***	38***	740	0.079
1999-2006	-2.0** (0.9) [-0.9]**	40**	138	-2.4*** (0.4) [-1.7]***	35***	891	0.666
All merger wave years	-0.2 (0.3) [-0.5]*	43***	535	-1.0*** (0.2) [-0.9]***	41***	1,265	0.009
All non-wave years	-0.9*** (0.3) [-0.6]***	42***	756	-1.5*** (0.2) [-1.1]***	38***	2,208	0.096
p-value: wave = non-wave	0.0444			0.1046			

Table 6
Regressions of Combined Returns from Merger Announcements

This table reports regressions of combined (acquirer + target) announcement returns on financial constraint and agency cost variables, capital market conditions, and deal and firm characteristics. Heteroskedasticity-corrected standard errors are in parentheses beneath the coefficient estimates. The dependent variable is the combined cumulative abnormal announcement return, measured relative to the Fama-French three factor model, over a [-1, +1] window. "High KZ" firms are financially constrained according to the KZ index, and "low KZ" firms are unconstrained. Significance levels are indicated as follows: * = 10%, ** = 5, *** = 1%.

	Diversifying Acquisitions				Related Acquisitions	
			Small Firms			
	1950-80	1981-2006	1950-80	1981-2006	1950-80	1981-2006
	(1)	(2)	(3)	(4)	(5)	(6)
Dummy = 1 if high KZ acquirer/low KZ target	1.59**	0.41	2.43**	1.63	-1.07	-0.64
	(0.72)	(1.21)	(1.22)	(2.15)	(0.91)	(0.60)
Dummy = 1 if low KZ acquirer/high KZ target	0.86	-0.69	2.66**	-0.50	0.68	-0.11
	(0.65)	(0.85)	(1.24)	(1.65)	(1.08)	(0.54)
Dummy = 1 if acquirer has high cash flow and low Q	0.66	0.70	1.17	1.96	-0.96	0.25
	(0.92)	(0.86)	(1.76)	(1.59)	(0.81)	(0.49)
Capital market conditions						
Federal discount rate	0.24	-0.21	0.63	-0.30	0.07	-0.20
	(0.23)	(0.24)	(0.40)	(0.47)	(0.23)	(0.15)
Money supply, M2 (× 100)	0.06	-0.09	0.25	-0.11	-0.03	-0.05
	(0.09)	(0.09)	(0.19)	(0.19)	(0.08)	(0.04)
Growth in money supply	-20.49*	-42.75***	-48.63**	-36.07	-9.82	-9.66
	(12.03)	(13.59)	(22.49)	(23.74)	(10.40)	(8.53)
New equity issued	-0.01	-0.01**	-0.00	-0.02	-0.03	-0.01
	(0.03)	(0.01)	(0.05)	(0.01)	(0.04)	(0.003)
New bonds issued	0.01	-0.00	-0.02	-0.01	0.05**	-0.00
	(0.02)	(0.01)	(0.03)	(0.01)	(0.03)	(0.00)
New commercial paper	-0.14***	-0.01	-0.38***	-0.01	0.02	0.00
	(0.05)	(0.02)	(0.11)	(0.04)	(0.06)	(0.01)
Deal Characteristics						
Dummy = 1 if stock is only method of payment	-2.48***	-2.66**	-2.12	-4.53**	-1.33	-2.99***
	(0.76)	(1.10)	(1.45)	(2.01)	(0.82)	(0.47)
Dummy = 1 if tender offer	2.14*	2.03**	0.80	3.39**	2.42	1.72***
	(1.22)	(0.83)	(2.40)	(1.49)	(3.02)	(0.50)
Target size, log	-0.23	-0.33	-0.68	-0.18	0.07	-0.48***
	(0.34)	(0.33)	(0.94)	(0.83)	(0.35)	(0.14)
Target size/acquirer size	1.26***	1.41***	2.86**	1.64*	1.03**	1.35***
	(0.39)	(0.45)	(1.13)	(0.97)	(0.43)	(0.23)

Firm Characteristics

Q, acquirer	0.11	1.13*	0.31	1.68*	0.12	0.05
	(0.09)	(0.59)	(0.20)	(0.85)	(0.15)	(0.20)
Q, target	-0.25	-1.22***	-0.15	-1.64*	-0.79**	-0.38*
	(0.20)	(0.41)	(0.42)	(0.84)	(0.38)	(0.21)
Leverage, acquirer	-1.82	0.75	-2.50	3.48	4.23	0.65
	(3.38)	(2.50)	(5.57)	(3.69)	(3.07)	(1.51)
Leverage, target	-0.38	-2.08	-0.18	-6.42	-5.64***	-2.97**
	(2.22)	(3.48)	(4.53)	(6.60)	(2.03)	(1.20)
Cash, acquirer	-1.35	-5.09	-1.89	-3.27	0.87	-3.34**
	(3.53)	(3.56)	(6.26)	(5.31)	(5.28)	(1.66)
Cash, target	2.69	-2.16	2.34	0.35	0.14	-2.18
	(3.82)	(3.35)	(6.48)	(7.02)	(3.09)	(1.46)
Firm age, acquirer ($\times$ 100)	0.00	0.05	-0.11	-0.15	-0.04	0.02
	(0.13)	(0.17)	(0.26)	(0.28)	(0.19)	(0.10)
Firm age, target ($\times$ 100)	0.11	-0.00	0.64*	-0.02	-0.14	0.36***
	(0.18)	(0.23)	(0.33)	(0.54)	(0.21)	(0.13)
Constant	6.78	15.99***	10.35	14.88	3.15	15.97***
	(5.71)	(5.61)	(15.71)	(12.90)	(5.08)	(2.67)
R^2	.228	.193	.314	.239	.123	.150
N	362	396	153	186	300	1,284