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## The Success of Acquisitions: Evidence from Divestitures

STEVEN N. KAPLAN and MICHAEL S. WEISBACH\*

### ABSTRACT

This paper studies a sample of large acquisitions completed between 1971 and 1982. By the end of 1989, acquirers have divested almost 44% of the target companies. We characterize the *ex post* success of the divested acquisitions and consider 34% to 50% of classified divestitures as unsuccessful. Acquirer returns and total (acquirer and target) returns at the acquisition announcement are significantly lower for unsuccessful divestitures than for successful divestitures and acquisitions not divested. Although diversifying acquisitions are almost four times more likely to be divested than related acquisitions, we do not find strong evidence that diversifying acquisitions are less successful than related ones.

ACQUIRERS OFTEN BUY OTHER companies only to sell them afterward. Grimm's *Mergerstat Review* reports that divestitures make up at least 35% of mergers and acquisitions transactions in the 1980s.<sup>1</sup> In a more systematic study, Ravenscraft and Scherer (1987) estimate that 33% of acquisitions in the 1960s and 1970s were later divested, while Porter (1987) finds that over 50% of the acquisitions made by 33 conglomerate acquirers in "new" or unrelated industries were later divested. These authors interpret the divestiture rates as evidence that acquisition strategies, particularly diversifying ones, failed to increase and, instead, destroyed value. In light of such high divestiture rates, they question the typical event-study results that the combined stock market return to acquirer and target shareholders is positive on average (see Bradley, Desai, and Kim (1988) and Jensen and Ruback (1983)).

This view of divestitures (and acquisitions) as failures, however, is not the only explanation consistent with high divestiture rates. Weston (1989) argues that acquirers sell targets for a number of reasons which do not involve poor performance. For example, an acquirer may sell a business it has

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<sup>1</sup>See Weston (1989) and W. T. Grimm's *Mergerstat Review*, 1989.

improved or a business that once had synergies with the acquirer's core business but no longer does. In these cases, both the original acquisition and the sale could have increased shareholder value. In addition, relaxed antitrust enforcement and financial innovations made in the 1980s made possible some business combinations that were not viable previously. Some acquisitions that led to a relatively efficient allocation of resources in the 1970s may no longer have been efficient in the 1980s when sales to related buyers or leveraged buyouts became feasible. (See Shleifer and Vishny (1990).)

In this paper, we evaluate the extent to which divestitures in the 1980s represent unsuccessful or failed acquisitions. Beginning with a sample of 271 large acquisitions completed between 1971 and 1982, we follow the acquisitions and determine which are subsequently divested. We find that 43.9% of the acquisitions have been divested by the end of 1989. This percentage is greater than that found by Ravenscraft and Scherer (1987), but lower than that found by Porter (1987) for unrelated acquisitions.

Whenever possible, we categorize divestitures as successful or unsuccessful acquisitions using accounting data on the gain or loss on sale from the divestiture, the business press article describing the divestiture, and the divestiture sale price. The results suggest that many divestitures are not failures, from an *ex post* perspective. For example, of the divestitures with a reported gain or loss on sale, 42% report a gain on sale; 44% report a loss; and 14% report that the gain or loss is immaterial. Based on accounting results as well as comments by reporters and managers, we classify only 34% of the divested acquisitions as unsuccessful; that is, the reason for the divestiture appears to be performance-related. Furthermore, in transactions that report a comparable sale price, targets are divested at 192% of their purchase price, which when adjusted for the increase in the S&P 500 index over the same time period equals 90% of their purchase price and 143% of their market value before the initial takeover announcement.

The view of divested acquisitions as failures questions the use of the stock market reaction to the initial acquisition announcement as a measure of the acquisition's value. The results for gain on sale and sale price, however, are generally consistent with the event-study results that bidder returns are slightly negative, while combined returns to bidder and target are positive. Targets appear to be worth less than bidders pay, but more than the targets are worth before the takeover occurs. Although target shareholders receive most of the value increase, these results suggest that acquisitions increase combined shareholder value. We note (here and throughout the paper) that because our sample is limited to one time period, our evidence is also consistent with the alternative explanation that sellers of assets received fortuitously high prices for those assets in the 1980s.

Accordingly, we further test the information content of the stock market reaction to acquisition announcements by comparing the announcement period abnormal returns for divestitures we categorize as unsuccessful with those we do not categorize as unsuccessful. We find that acquirer returns and

combined (acquirer and target) returns at the acquisition announcement are significantly lower for unsuccessful acquisitions than the corresponding returns for successful divestitures and for acquisitions that are not divested. In light of the cross-sectional relation, the view that sellers of assets received unexpectedly high prices appears less likely—such a view implies that the market is better at evaluating the relative success of acquisitions than the level of that success.

This last result has two implications. First, it provides some evidence that the market evaluates managerial decisions in a reasonable way based on their effect on fundamental value. This distinction occurs in a situation where the nature of the news revealed to all market participants is not necessarily obvious. Second, the cross-sectional relation is consistent with managerial or hubris-related motives for acquisitions. (See Marris (1963), Shleifer and Vishny (1989), and Roll (1986).) When they complete acquisitions with negative acquirer returns, managers ignore signals that the acquisitions decrease acquirer shareholder value. We present some evidence supportive of managerial motives: acquirers in unsuccessful acquisitions have higher levels of estimated free cash flow than acquirers in successful acquisitions.

As noted above, previous researchers have found higher divestiture rates for diversifying acquisitions than for related acquisitions. In light of such evidence, they argue that diversifying acquisitions were particularly bad investments. We consider this possibility by comparing the divestiture rates of related and diversifying acquisitions. We find large differences. Divestitures are almost four times more likely when targets are not in businesses highly related to those of the acquirer (i.e., the four most important lines of business of the acquirer and target do not have at least one three-digit SIC industry code in common).

The evidence on the success of diversifying versus related acquisitions, however, is mixed. We classify 13% of related acquisitions as unsuccessful compared to 38% of diversifying ones. The difference is significant at the 10% level. However, we also find that 43% of diversifying and 40% of related divestitures register a gain on sale. Finally, the stock market reactions to the announcements of diversifying and related acquisitions are not significantly different.

This evidence seems only weakly supportive of arguments that diversification programs decreased value, *ex ante*. In view of the small difference in the success rates of diversifying and related acquisitions, we are more sympathetic toward alternative explanations for the large difference in divestiture rates. If there is a real and unrecoverable cost of integrating related acquisitions, divestiture rates would naturally be higher for diversifying acquisitions than for related ones. The relaxation in antitrust policy that occurred during the 1980s may also explain part of the difference in divestiture rates—diversifying acquisitions that were value-increasing in the 1970s could have become dominated by newly permitted related combinations in the 1980s.

The paper proceeds as follows. Section I describes our sample design and data set. Section II presents our results on acquisition success. Section III explores the differences between related and diversifying acquisitions. Section IV discusses our results in relation to previous work on acquisitions. Section V concludes.

## I. Sample Design and Description

### A. Sample Selection

Our initial sample of acquisitions comes from *Mergers and Acquisitions* magazine. Beginning in 1971, *Mergers and Acquisitions* lists the largest completed deals of the year. The number reported varies from 10 in 1971 to 100 in 1987.<sup>2</sup> These deals include acquisitions of free-standing publicly traded companies, of privately owned companies, and of divisions of other companies.

We use several criteria to obtain the acquisitions in our sample. To restrict ourselves to larger transactions whose post-acquisition history is easier to follow, we eliminate those transactions valued at less than \$100 million in 1982 dollars. Second, we eliminate acquisitions by foreign acquirers because of the difficulty in obtaining post-acquisition data. Third, we require the acquiring company to have stock return data available on the CRSP tapes so that we can measure the market reaction to the acquisition announcement. This restriction eliminates acquisitions by private buyers. Fourth, we eliminate acquisitions by insurance companies, banks, and railroads because they are regulated. Fifth, to improve the likelihood that the stock reaction to the acquisition announcement is not affected by random noise, we require the purchase price of the target equity to exceed 5% of the market value of acquirer equity twenty trading days before the first acquisition announcement. Sixth, we consider only those acquisitions completed by 1982. Because we observe divestitures until the end of 1989, this gives an acquirer at least seven years to divest an acquisition. To the extent that some acquirers still own targets that they will subsequently divest, our results underestimate the extent of divestitures. Such measurement error will also lower the power of any test we perform on the cross-sectional relation between divestiture probabilities and announcement returns. Finally, we eliminate deals if the acquirer did not obtain complete ownership of the target. Our selection criteria yield 282 acquisitions: 216 of free-standing public companies and 66 of non-traded private companies or divisions.

### B. Divestiture Information

For each acquisition, we examine *Moody's Industrial Handbook*, the *Wall Street Journal* (WSJ), annual reports, and 10-K's to determine the

<sup>2</sup>In some of the data descriptions below, we report that some deals took place in 1969 and 1970. These deals made it into the *Mergers and Acquisitions* sample because they were completed after the beginning of 1971 even though they were announced before 1971.

subsequent history of the acquisition. We determine whether the target is divested by the end of 1989. We classify an acquisition as a divestiture only if the acquirer divests all recognizable assets and product lines of the target. Therefore, we do not classify as divestitures the 17 observations in which targets are only partially sold. If the acquirer still owns the target, but is subsequently acquired itself, we follow the original acquisition under the new owner. The original acquisition is considered a divestiture if the new owner separates the assets of the original target from the original acquirer. When the acquirer spins off all or part of the target to its public shareholders, we classify the spin-off or equity carve-out as a divestiture, even if the acquirer maintains an equity stake in the target. For each divestiture, we collect the *WSJ* article describing the divestitures and determine, if possible, the gain or loss on sale from the divestiture, the selling price of the target, and the operating income of the divested unit.

In eleven cases, we cannot determine whether the acquirer still owns the target. We exclude these observations from our sample, leaving us with a final sample of 271 acquisitions. The first two columns of Table I list the number of acquisitions and the relative size of the targets to acquirers by year. The table shows that the acquisitions in our sample are concentrated between 1975 and 1982. Consistent with our sampling the largest transactions from the annual *Mergers and Acquisitions* magazine lists, the median relative target size (the ratio of final target value or purchase price to pre-announcement acquirer market value of equity) is 25.6%.

## II. Results

### A. Divestiture Frequency

Table I documents that 43.9% of the acquisitions in our sample are divested by 1989.<sup>3</sup> Because we measure divestitures only through the end of 1989, this clearly represents a lower bound on the total number that will eventually be divested. However, the percentage of acquisitions divested varies only slightly with age: 47% of the acquisitions before 1978, 44% of the acquisitions between 1978 and 1979, and 40% of the acquisitions from 1980 to 1982 have been divested. This pattern suggests that additional acquisitions will be divested, particularly those completed in the early 1980s, but the number may not be large. The overall divestiture rate of at least 43.9% is somewhat higher than the 33% estimated by Ravenscraft and Scherer (1987).

Table I also shows that the median time between the acquisition and subsequent divestiture (conditional on a divestiture) is 7.0 years. It is apparent that acquirers hold the pre-1976 divested acquisitions longer than this. This pattern simply confirms that only three of the divestitures in our sample occur in the 1970s.

<sup>3</sup>This estimate weighs each acquisition equally. When we weigh acquisitions by target market value, we find that a similar percentage, 41.1%, of the acquisitions have been divested.

Table I  
**Number of Acquisitions<sup>a</sup> Relative Sizes of Acquirer and Target,  
 Number and Percentage of Subsequent Divestitures, and Years  
 Held Until Divestiture by Year of Acquisition Completion**

Sample consists of 271 acquisitions of at least 100 million 1982 dollars. Target value is the final purchase price of the target. Acquirer value is the equity market value of the acquirer twenty trading days before the initial acquisition announcement. Time held is the number of years from the acquisition date to the divestiture date. Three of the 119 divestitures (one each in 1973, 1977, and 1980) do not have identifiable divestiture dates.

| Year  | Number of<br>Acquisitions | Median Target<br>Value as Percentage<br>of Acquirer Value | Number<br>Divested | Percentage<br>Divested | Median<br>Years<br>Held |
|-------|---------------------------|-----------------------------------------------------------|--------------------|------------------------|-------------------------|
| 1971  | 8                         | 36.0                                                      | 5                  | 62.5                   | 15.6                    |
| 1972  | 4                         | 28.9                                                      | 1                  | 25.0                   | 16.9                    |
| 1973  | 9                         | 22.3                                                      | 7                  | 77.8                   | 11.6                    |
| 1974  | 7                         | 19.6                                                      | 2                  | 28.6                   | 7.7                     |
| 1975  | 7                         | 34.1                                                      | 4                  | 57.1                   | 11.5                    |
| 1976  | 16                        | 19.8                                                      | 8                  | 50.0                   | 8.3                     |
| 1977  | 30                        | 26.1                                                      | 12                 | 40.0                   | 8.8                     |
| 1978  | 39                        | 28.0                                                      | 16                 | 41.0                   | 7.6                     |
| 1979  | 45                        | 28.1                                                      | 23                 | 51.1                   | 6.5                     |
| 1980  | 30                        | 25.7                                                      | 12                 | 40.0                   | 6.3                     |
| 1981  | 34                        | 28.4                                                      | 17                 | 50.0                   | 6.5                     |
| 1982  | 42                        | 24.6                                                      | 12                 | 28.6                   | 4.5                     |
| Total | 271                       | 25.6                                                      | 119                | 43.9                   | 7.0                     |

<sup>a</sup> Acquisition sample is taken from *Merger and Acquisitions* magazine lists of the largest completed deals of the year from 1971–1982, and excludes foreign company, insurance company, bank, and railroad acquirers. All acquirers have stock returns available from CRSP. Value of transaction exceeds 5% of the equity market value of the acquirer twenty trading days before the initial acquisition announcement.

### *B. Divestiture Success*

As noted earlier, the high divestiture rate is certainly consistent with the view that acquisitions are mistakes and do not increase value. If divestitures do imply failure, a 43.9% failure rate seems high.<sup>4</sup> However, a number of other reasons could also explain the high divestiture rate. In this section, we attempt to determine the extent to which the high divestiture rate indicates that the original acquisitions turned out to be poor investments. We use two methods to classify divestitures as unsuccessful acquisitions. First, we examine the reasons stated by the corporation and by the business press at the time of the divestiture. We classify acquisitions as unsuccessful when the stated reason for the divestiture is unsatisfactory performance. Second, we use accounting data on the gain or loss on sale of the asset when it is

<sup>4</sup> We qualify this by noting that we do not know how such a failure rate compares to that for internal investments.

available. We consider acquisitions divested at a loss of unsuccessful. These two measures enable us to classify 108 of the 119 divestitures.

We recognize there are several reasons that these measures may be flawed. First, we do not have reasons or accounting measures for all divestitures in the sample; we tend not to have reasons for smaller, less visible divestitures and accounting measures for acquisitions that are sold in pieces. Second, firms can manipulate accounting numbers and may have tax, contracting, and political incentives to do so. Finally, firms have a tendency to understate and disguise mistakes they have made. For example, econometric evidence indicates that firms regularly dismiss CEOs for poor performance, yet the firms rarely announce publicly that they are doing so. (See Warner, Watts, and Wruck (1988) or Weisbach (1988).) We proceed with these potential biases in mind.

The reasons announced by the press (either the *WSJ*, *Business Week*, or *Fortune*) for 103 of the 119 divestitures are presented in Table II. In those cases in which the firm gives a different reason (usually change of focus or strategy) than the reporter (usually performance-related), we rely on the reporter's judgment. Additionally, in the few cases where the reporter gives more than one reason including performance, we consider the divestiture performance-related.<sup>5</sup>

The most common reason for divestiture, cited in 42%, or 43 of the 103 cases, is to change corporate focus or strategy. Some of these undoubtedly are actually performance-related. The second most common reason, cited in 28% of the divestitures, is to finance subsequent acquisitions or leveraged buy-outs. In 21% of the cases, units are reportedly sold for performance-related reasons. The four remaining reasons cited—antitrust, needing cash, defending against a takeover, and receiving a good price—are infrequent, representing fewer than 9% of the divestitures.

In many divestitures, the acquirer reports an accounting gain or loss on the sale of the target. This provides a crude measure of the target sale price relative to the purchase price. A loss on the sale of a target signifies that the acquirer has sold the target for less than the net book value of the target. In most cases, the net book value of the target will reflect the purchase price of the target adjusted by subsequent investment in and depreciation of target company assets. This is true as long as the original acquirer uses purchase accounting for the acquisition and the original acquirer divests the target. Accordingly, we record accounting gain or loss on sale only for those targets divested by the original acquirer, and not for the cases in which the original

<sup>5</sup>We stress that we rely solely on the reason mentioned in the article, not on additional data in the article. For example, if the article says, "XYZ Corp. will divest ABC division at a loss on sale of \$50 million. The company indicated the divestiture was part of a plan to change the corporate strategy." we consider this a change in focus or strategy, not poor performance. We count the reason as poor performance if the article says, "Because of the poor earnings at ABC division, XYZ Corp. decided to sell ABC to UVW Inc. XYZ said it would recognize a loss of \$50 million on the sale."

**Table II**  
**Number of Divestitures by Announced Reason for 103**  
**Divestitures of Acquisitions of At Least 100 Million**  
**1982 Dollars Completed Between 1971 and 1982**

The reasons are either announced publicly by the corporation or inferred by reporters from the *Wall Street Journal*, *Fortune*, or *Business Week*. When a firm's announcement differs from the reporter's assessment, we use the reporter's assessment.

| Reason                                                    | Number of<br>Divestitures |
|-----------------------------------------------------------|---------------------------|
| Change focus or corporate strategy                        | 43                        |
| Unit unprofitable or mistake                              | 22                        |
| Sale to finance acquisition or<br>leveraged restructuring | 29                        |
| Antitrust                                                 | 2                         |
| Need cash                                                 | 3                         |
| To defend against takeover                                | 1                         |
| Good price                                                | 3                         |
| Divestitures with reasons                                 | 103                       |

acquirer is itself acquired.<sup>6</sup> When an acquirer sells the target as the primary part of a package of assets, we record whether the package is sold at a gain or loss.

We acknowledge that the accounting measure is imperfect because it does not measure the value of the investment in the target precisely. It is possible to recognize an accounting gain on sale many years after an acquisition, yet to have had negative operating profits for a long time. In favor of the gain or loss on sale measure, we feel it is very unlikely that acquisitions divested with a loss on sale are successful. A loss on sale indicates that the acquirer has sold the targets for less than its historical cost, which does not control for inflation or stock market movements. Furthermore, to the extent that it measures divestiture price relative to original acquisition price, which are both market-based measures, accounting gain or loss on sale is superior to accounting measures of income which may be affected by corporate transfer pricing and may not reflect market values.

We present the accounting measures in Panel 1 of Table III. The divestitures are roughly split; 28 have a gain on sale while 29 have a loss on sale. In 9 cases, the selling firm announced that it would not recognize a gain or loss on the sale. The results are similar when the divestitures are divided between those accounted for as purchases and those accounted for as pooling of interest. Panel 1 of Table III also shows that the average pre-tax accounting gain is 12% of the purchase price. The averages are calculated from fewer

<sup>6</sup>Overall, of the 119 divestitures, 82 are divested by the original acquirer, 8 by the original acquirer after a leveraged restructuring, and 27 by the new owners of the acquirer and target. In two cases, we cannot determine whether a new owner or the original acquirer completes the divestiture.

**Table III**  
**Divestitures by Accounting Gain on Sale, and By Relation of**  
**Sale Value to Purchase Price and Pre-takeover Price for**  
**Divestitures from a Sample of 271 Acquisitions of At**  
**Least 100 Million 1982 Dollars Completed Between 1971**  
**and 1982**

Accounting gain on sale is the gain or loss reported when the original acquirer divests a target, including cases in which targets are divested in several pieces or combined with other assets as long as the gain or loss on sale is reported. Means and medians are calculated using pre-tax gain or loss on sale. If pre-tax gain is not reported, pre-tax gain is estimated as the after-tax gain divided by one minus the corporate tax rate in effect the year of the divestiture. Purchase acquisitions are acquisitions accounted for as purchases. Pooling acquisitions are accounted for using pooling of interests accounting. The pre-takeover target value is the target equity value 20 days before the first acquisition announcement. Target sale prices are used only if the target is sold at one time and in one piece.

|                                                                                                             | > 0 | = 0 | < 0 | N  | Mean | Median | N  |
|-------------------------------------------------------------------------------------------------------------|-----|-----|-----|----|------|--------|----|
| 1. Accounting gain on sale as a percentage of purchase price                                                | 28  | 9   | 29  | 66 | 12%  | 0%     | 58 |
| a. Purchase Acquisitions                                                                                    | 22  | 7   | 21  | 50 | 9%   | 0%     | 44 |
| b. Pooling Acquisitions                                                                                     | 6   | 2   | 8   | 16 | 22%  | 0%     | 14 |
| 2. Percentage change in sale value of divestiture relative to purchase price                                | 44  | 0   | 14  | 58 | 92%  | 52%    | 58 |
| 3. Percentage change in sale value of divestiture deflated by S&P 500 relative to purchase price            | 19  | 0   | 39  | 58 | -11% | -23%   | 58 |
| 4. Percentage change in sale value of divestiture deflated by S&P 500 relative to pre-takeover target value | 27  | 0   | 22  | 49 | 43%  | 7%     | 49 |

observations than the percent positive because we exclude divestitures that report only the sign of the gain or loss and that include operations in addition to those of the original acquisition. For divestitures that report only an after-tax result, we estimate the pre-tax gain or loss as the after-tax gain or loss divided by one less the (U.S.) corporate tax rate in the divestiture year.

The accounting measures suggest that approximately half of the divestitures were performing poorly. This figure exceeds the 22% of divestitures which the press reports as performance-related. The two measures may disagree for two reasons. First, even if a divestiture is performance-related, the press report may be sufficiently vague that we cannot classify it as such. As noted above, selling firms may try to disguise or downplay poor performance.

Second, a number of targets do not report a usable accounting gain or loss on sale, in most cases because they are not divested by the original acquirer. This subsample of divestitures has a disproportionately small number of acquisitions we classify as performance-based (only three of the 42 divesti-

tures with press reports, but without accounting results). Many of these occur shortly after takeovers or buyouts and are sold to retire take-over related debt.

It is important to note that when both are available, the press reports and accounting results are strongly correlated. Of the 27 acquisitions divested at a loss and having a press report, 14 are classified as performance-related. In contrast, only one of the 25 acquisitions divested at a gain and having a press report is classified as performance-related.<sup>7</sup>

There is a weak relation between our two measures of acquisition success and the time between acquisition and divestiture. Almost 49% of the acquisitions divested less than 7 years after the acquisition (the median holding period for our divestitures) register a loss compared to 39% of acquisitions divested years or longer after the acquisition. Similarly, 26% of the divestitures in less than 7 years are considered performance-related by the press compared to 19% of the divestitures 7 years or longer after the acquisition. Neither of these differences, however, is significant at conventional levels using a chi-square test.

We collect two other measures of divestiture performance in addition to our two primary measures. First, in 69 divestitures, the press and/or the seller report the operating income (52 cases) or net income (17 cases) of the divested unit for the last fiscal year before the divestiture. In 55 of the 69 cases, the measure of income is positive. This suggests, again, that the performance of divested units is not uniformly negative. This finding contrasts with Ravenscraft and Scherer (1987, 1988) who find that divested units have negative operating income on average. It is possible that our focus on larger transactions is responsible for the difference.

Second, we obtain the sale price of the divestiture. Panel 2 of Table III compares the sale value of the divestiture to the original purchase price. This comparison includes targets divested by companies that acquired the original acquirer. Most of the units increase in value; 44 of the 58 divestitures with a sale value are sold for more than their purchase price. The mean increase of sale value over purchase price is 92% and the median is 52%.

The ratio of sale value to purchase price is strongly correlated with whether the acquisition is divested at a gain or a loss. The mean increase of sale value over purchase price for 12 acquisitions divested at a loss is -5%; for 24 acquisitions divested at a gain, the increase is 146%. The difference is significant at the 1% level. The ratio of sale value to purchase price is similarly strongly correlated with the reason given in the press. The mean increase of sale value over purchase price for 7 performance-related

<sup>7</sup>An alternative explanation for this correlation is that the press was guided by the accounting numbers when they wrote their articles. Because we wanted to keep the measures as independent as possible, we disregarded the accounting information given in the article (see footnote 5), concentrating only on the "reason" given. However, it is possible that the authors of these articles selectively chose to report reasons for the divestiture depending on the available accounting information.

divestitures is 4%; for 48 non-performance-related divestitures, the increase is 110% (difference significant at the 7% level).

Although the sale value relative to purchase price provides a rough benchmark of the success of these acquisitions as investments, it is clearly flawed. In contrast to accounting gain or loss, sale value to purchase price does not adjust for the interim net cash flows from the target to the acquirer. Sale value reflects these cash flows, while the purchase price does not. Similarly, the sale value may not be directly comparable to the purchase price if the sale price includes the assumption of target debt.

In addition, the return measure using sale price is a nominal return. An investment in the stock market over most of this period would have increased in value as well. As a benchmark, we use the return an acquirer would have received if it had invested in the S&P 500 (excluding dividends) instead of purchasing the target. This benchmark, therefore, approximates the capital gain portion of an investment in the value-weighted index. The returns relative to this benchmark are presented in Panel 3 of Table III. This panel indicates that the mean market-adjusted return is  $-11\%$ ; the median,  $-23\%$ . For an acquisition that was held for 7 years, (the median time held for divested acquisition in our sample), these figures imply an annual market-adjusted return of  $-1.5\%$  per year for the mean observation and  $-3.3\%$  for the median. This suggests that the acquirers overpaid for the divested acquisitions; firms would have done better if they had invested their money in the S&P 500 (excluding dividends). At the same time, the divested acquisitions do not seem to be uniformly bad investments for the acquirers, *ex post*.

The first three measures in Table III address the question of whether the acquisitions are positive net present value investments for the acquirer. Panel 4 of Table III addresses the different question of whether the acquisitions are associated with an increase in the value of the target by comparing the divestiture sale price with the pre-acquisition-announcement target stock price. Specifically, panel 4 compares the sale value of the divestiture to the equity value of the target 20 days before the acquisition announcement. As in Panel 3, the sale price is deflated by the return on the S&P 500 from the acquisition announcement until the divestiture. Panel 4 indicates that the mean market-adjusted return is  $43\%$ ; the median,  $7\%$ . Acknowledging again the crude nature of this comparison, the results are consistent with positive combined returns for these acquisitions.<sup>8</sup>

Overall, the results in this section appear consistent with previous studies of the returns to acquirer and target shareholders at acquisition announcements. These studies (and our results that we report later) find that on average acquirer shareholders suffer a small loss, target shareholders earn a positive return, while acquirer and target shareholders combined earn a

<sup>8</sup>As a check on our results, we have repeated this analysis replacing the return on the S&P 500 with the median return (without dividends) to firms with the same primary four-digit SIC code as the target firms. The results are virtually identical.

positive return when acquisitions are announced (during the 1970s and early 1980s). We do emphasize, however, that our results are generated entirely from one time period. Therefore, they are observationally equivalent with the alternative explanation that the stock market did not anticipate future improvements. According to this alternative view, sellers of assets fortuitously received high prices for those assets in the 1980s.

### *C. Market Expectations and Acquisition Success*

To this point, we have documented the performance of divested acquisitions. This evidence is consistent with stock price reactions to acquisition announcements reflecting the net present value of those acquisitions. In this section, we test whether acquisition success is related to acquirer and target shareholder returns when the acquisitions are announced. A positive correlation would support the view that announcement period returns are related to changes in underlying fundamental values. In contrast, a negative or zero correlation would cast doubt on this view.

#### *C.1 Methods*

To determine the market reaction for acquirers and targets to the acquisition announcements, we estimate market model parameters over the period from 300 to 61 trading days before the first announcement in the *Wall Street Journal* that a company is seeking control of the target. For acquirers, we calculate abnormal returns for the period beginning five trading days before the acquirer's first announcement that it is seeking control of the target and ending five trading days after the announcement of the ultimately successful bid or outcome. For publicly traded targets, we calculate abnormal returns for the period beginning five trading days before the first announcement that any bidder is seeking control of the target and again ending five trading days after the announcement of the ultimately successful bid or outcome.<sup>9</sup> We compute daily (percentage) abnormal returns for both acquirer and target shareholders over the event period using these parameters and cumulate these daily abnormal returns to obtain cumulative abnormal returns (CARs). These and the following abnormal return calculations follow the methods used by Bradley, Desai, and Kim (1988), and Lang, Stulz, and Walkling (1989).

Combined abnormal returns to target and acquirer shareholders are calculated as the sum of the total dollar CARs for the acquirer and the target divided by the sum of the market value of equity of the acquirer and the target twenty trading days before the first acquisition announcement. The dollar returns to and market value of target equity are adjusted for any target shares held by the acquirer at the time the acquisition is announced.

<sup>9</sup>In those cases in which an acquirer gains control of a target through a tender offer, but does not purchase the remaining outstanding shares immediately, uncertainty of control is assumed to have been resolved at the announcement of the successful tender offer.

Total dollar CARs are calculated by multiplying the CARs for each firm by the market value of the firm's equity twenty trading days before the first acquisition announcement. We do not calculate target or combined returns for the 62 targets that are not publicly traded.

We conduct our significance tests using standard errors calculated using cross-sectional announcement period returns. These standard errors tend to be larger than those calculated using returns from the market model estimation period (as proposed by Patell (1976)).

We also note that we obtain qualitatively and statistically similar results when (1) we use shorter event windows; (2) we eliminate firms that make other announcements during the event window; (3) when we consider the first acquisition announcement date as the date that any potential acquirer either purchases shares in or announces it is seeking control of the target; and (4) when we exclude acquisitions in which the target purchase price is less than 10% of the market value of acquirer equity twenty trading days before the first acquisition announcement.

### *C.2 Non-Divestitures versus Divestitures*

Table IV presents CARs for the entire sample and for the divested and non-divested subsamples. The acquirer CARs are negative, with a mean of  $-1.49\%$  (significant at the 1% level) and a median of  $-1.75\%$ . Acquirer CARs for acquisitions that are subsequently divested average  $-1.99\%$ , lower than the  $-1.11\%$  acquirer CARs for acquisitions that are not divested. The 0.88% difference, however, is moderate in magnitude and not significantly different from zero ( $t$ -statistic = 1.0,  $p = .31$ ). Rows two and three present the target CARs and combined CARs. Again, both of these measures are lower for divested than for non-divested acquisitions, but the differences are not significant. The combined CARs are significantly positive, consistent with previous results that the total returns to acquisitions are positive.

Morck, Shleifer, and Vishny (1990) argue that a more appropriate benchmark for scaling acquirer returns is the size of the target, rather than the size of the acquirer, since large acquisitions will have a greater impact on an acquiring firm's profits than small acquisitions. Accordingly, we report the dollar value of acquirer CARs as a fraction of the final purchase price of the target. This provides an estimate of the market's evaluation of the present value of the acquisition to acquirer shareholders as a function of the acquisition price. We also report the dollar value of combined acquirer and target CARs as a fraction of the target value twenty days before the first acquisition announcement. This provides an estimate of the total present value added by the acquisition.

We find that the average change in bidder value as a fraction of target value is higher for divestitures than for non-divested acquisitions, while the median is lower. Neither difference is statistically significant. Both the means and the medians of the combined CARs as a fraction of target value are lower for divested than for non-divested acquisitions, but not significantly

Table IV

Cumulative Abnormal Returns by Divestiture Status and Success

Mean, median, percentage positive for cumulative abnormal returns at announcement of original acquisition by divestiture status and divestiture success for 271 Acquisitions of at least 100 million 1982 dollars completed 1971–1982. Cumulative abnormal returns are calculated from five trading days before the day of initial *Wall Street Journal* announcement of the acquisition until five trading days after the final bid. Returns are computed using parameters from a market model estimated from 300 to 61 trading days before the initial announcement. Acquisitions are classified as “Unsuccessful” if either the acquirer reports a loss on the sale of the acquisition or if the business press reports that the acquisitions was *ex post* a mistake. Acquisitions in the “Successful” category are divested acquisitions that either have a gain or no loss on sale, or are not referred to as mistakes by the business press. Acquisitions for which we have no information on gain or loss on sale, and no business press description of the divestiture are classified as “no reason.” The number of observations for rows requiring changes in target values is smaller than the rest of the sample because some targets were not traded publicly.

| Cumulative Abnormal<br>Return | All<br>Acquisitions | All Non-Divested<br>Acquisitions | All Divested<br>Acquisitions | Divested Acquisition |            |           |
|-------------------------------|---------------------|----------------------------------|------------------------------|----------------------|------------|-----------|
|                               |                     |                                  |                              | Unsuccessful         | Successful | No reason |
| Ch. Acquirer Value            | Mean:               | –1.49%***                        | –1.11%*                      | –1.99%***            | –4.42%***  | –0.64%    |
| Acquirer Value                | Std. Error:         | 0.44                             | 0.61                         | 0.63                 | 1.28       | 0.71      |
|                               | Median:             | –1.75***                         | –1.77***                     | –1.73***             | –2.65***   | –1.25     |
|                               | % > 0:              | 38.0                             | 38.8                         | 37.0                 | 21.6       | 45.1      |
|                               | N:                  | 271                              | 152                          | 119                  | 37         | 71        |
|                               |                     |                                  |                              |                      |            | 11        |
| Ch. Target Value              | Mean                | 26.90***                         | 27.83***                     | 25.81***             | 27.13***   | 23.54***  |
| Target Value                  | Std. Error:         | 1.40                             | 1.80                         | 2.21                 | 4.10       | 2.90      |
|                               | Median:             | 24.76***                         | 26.08***                     | 21.08***             | 19.22***   | 19.86***  |
|                               | % > 0:              | 94.7                             | 96.5                         | 92.7                 | 100.0      | 87.5      |
|                               | N:                  | 209                              | 113                          | 96                   | 30         | 56        |
|                               |                     |                                  |                              |                      |            | 10        |
| Ch. Acquirer + Target         | Mean:               | 3.74***                          | 4.11***                      | 3.31***              | 0.74       | 4.59***   |
| Acquirer + Target             | Std. Error:         | 0.59                             | 0.87                         | 0.78                 | 0.84       | 1.04      |
|                               | Median:             | 2.21***                          | 2.58***                      | 1.86***              | 1.03       | 5.03***   |
|                               | % > 0:              | 66.0                             | 66.4                         | 65.6                 | 60.0       | 71.4      |
|                               | N:                  | 209                              | 113                          | 96                   | 30         | 56        |
|                               |                     |                                  |                              |                      |            | 10        |
| Ch. Acquirer Value            | Mean:               | –8.29***                         | –9.03***                     | –7.35**              | –12.90**   | –2.75     |
| Target Value                  | Std. Error:         | 2.11                             | 2.84                         | 3.15                 | 5.23       | 3.80      |
|                               | Median:             | –5.69***                         | –4.48***                     | –6.90***             | –9.87***   | –1.42     |
|                               | N:                  | 271                              | 152                          | 119                  | 37         | 71        |
|                               |                     |                                  |                              |                      |            | 11        |
| Ch. Acquirer + Target         | Mean:               | 12.11***                         | 14.01**                      | 9.86                 | 19.04***   | –39.18    |
| Target Value                  | Std. Error:         | 4.47                             | 5.39                         | 7.40                 | 8.62       | 6.69      |
|                               | Median:             | 13.36***                         | 15.27***                     | 10.72***             | 4.33       | 22.76***  |
|                               | N:                  | 209                              | 113                          | 96                   | 30         | 56        |
|                               |                     |                                  |                              |                      |            | 10        |

\*\*\*, \*\*, and \* denote, respectively, significance at the 1%, 5%, and 10% levels for two-tailed tests for means and medians.

so. Overall, announcement returns for subsequently divested operations tend to be lower than, but not significantly different from those of non-divested acquisitions.

### *C.3 Successful versus Unsuccessful Divestitures*

As we have argued above, acquisitions are divested for a number of reasons, only one of which is poor performance. In addition, acquirers may decide to keep some acquisitions which are not successful. The appropriate test of the stock market's ability to predict an acquisition's ultimate success is not to compare returns for divestitures to non-divestitures, but to compare returns to acquisitions that are considered unsuccessful *ex post* with those of other acquisitions. In this section, we classify divestitures as unsuccessful if either the acquirer reports a loss on the sale of the divestiture or the business press reports that the acquisition was a mistake (at the time of the divestiture). We classify divestitures in the "no reason" category if the acquirer does not report a usable accounting number for the divestiture and the business press does not report the divestiture. All other divestitures are classified as successful.<sup>10</sup> Using these definitions, we classify 108 divestitures, 37 (34%) of which are labeled unsuccessful; and 71 (66%) successful. We recognize that this classification system is imperfect. Any random noise in our classification system, however, should make differences between the categories less apparent. Furthermore, as we note below, we obtain similar results using different classification schemes.

Table IV also presents CARs for divestitures categorized as unsuccessful, successful, and no reason available. The results strongly suggest that the stock market can differentiate between unsuccessful and successful acquisitions when they are announced. The mean acquirer return is  $-4.42\%$  for divested acquisitions classified as unsuccessful, compared to  $-0.64\%$  for divested acquisitions classified as successful, and  $-1.11\%$  for acquisitions not divested. The mean acquirer returns are significantly lower (at the 1% level) for the unsuccessful acquisitions than for the other two groups.<sup>11</sup>

The mean target CARs for the unsuccessful acquisitions are not significantly different from those for acquisitions considered successful and acquisitions not divested. This is consistent with the view that target returns are determined in a competitive market for corporate control, i.e., a market in which the presence of other potential acquirers causes the acquisition price to be independent of the acquirer's ability to run the division well.

<sup>10</sup>We do not mean to imply that these divestitures were clearly successful, only that they appear to have performed better than the "unsuccessful" divestitures. In previous versions of this paper we used the label "not unsuccessful" instead of "successful." We have chosen the new label because a number of readers found "not unsuccessful" confusing.

<sup>11</sup>These results and those which follow are qualitatively and statistically similar when we use median returns instead of mean returns.

The combined acquirer and target CARs are significantly lower (at the 1% level) for unsuccessful acquisitions (0.74%) than for acquisitions considered successful (4.59%) and acquisitions not divested (4.11%). Furthermore, the combined CARs for the acquisitions labeled unsuccessful are not significantly different from zero.

Finally, Table IV shows that the market reaction is similar for divested acquisitions classified as successful and for acquisitions that are not divested. Bidder, target, and combined returns are not significantly different across the two groups.

One potential objection to the results in Table IV is that we arbitrarily use the reasons for divestiture gain in the business press to classify acquisitions by their *ex post* success. Therefore, we also compare excess returns for divestitures classified according to the accounting definition of profitability. The results are similar to the results in Table IV. Acquisitions sold at a loss have significantly lower acquirer and combined CARs than acquisitions sold for a gain. Acquirer CARs for divestitures sold for a gain average 0.79% compared to CARs of -3.35% for acquisitions sold at a loss (difference significant at 2% level). Combined CARs are 4.77% for gains, only 1.43% for losses (difference significant at 7% level). Again, these results suggest that the market has some ability to forecast the future success of an acquisition.

As an additional check on the robustness of our results, we have replicated them using two additional classification schemes. First, we classify the acquisitions as unsuccessful if either the divested unit is sold at a loss, the business press identifies the divested acquisition as a mistake, or the divested unit is sold for less than the purchase price. Second, we classify divested acquisitions as unsuccessful if the business press notes that the divested acquisition is unprofitable or a mistake, making no inferences from the accounting data. The results using both of these classification schemes are similar to the ones we report.

We also examine the market reaction of the divesting firm's stock price to divestiture announcements. At a first pass, it is tempting to hope that this will provide an unambiguous measure of acquisition success. If less successful acquisitions have negative externalities on the firm's other operations, then, other things equal, divestiture CARs should be higher for divestitures that undo these acquisitions.

Unfortunately, other things are not necessarily equal. Acquirers of any target presumably divest only if they can receive more for the acquisition than it is worth to them. This is arguably more likely to be true for unsuccessful acquisitions. They are presumably unsuccessful because they are worth more to someone other than the original acquirer. If the market knows that an acquisition is not successful, the market may be less surprised by the divestiture, and the CARs for these divestitures may not fully reflect the benefit of the divestiture. CARs for divestitures of unsuccessful acquisitions, therefore, need not be greater than those for divestitures of successful acquisitions.

It is also worth noting that less successful acquisitions may be those in

which the bidder overpays, not those with negative externalities. In this case, divestiture CARs will be unrelated to acquisition success.

The potential ambiguity in interpretation notwithstanding, we do estimate CARs for divesting firms around the divestiture announcement. The average reaction to 68 divestiture (including equity carve-out and spin-off) announcements is 3.48% (significant at the 1% level).<sup>12</sup> This result is consistent with previous work by Alexander et al. (1984), Jain (1985), Klein (1986), and Schipper and Smith (1983 and 1986). Our divestiture CARs are 5.39% for 27 divestitures we classify as unsuccessful and 2.05% for 40 divestitures we classify as successful (difference significant at the 3% level). Similarly, we find a negative correlation of  $-0.27$  between the divestiture CARs and the bidder acquisition announcement CARs (significant at the 3% level). We view these results as suggestive, but by no means conclusive, that less successful acquisitions have a negative effect on other acquirer operations.

#### *C.4 Multivariate Results*

The results in Table IV are univariate results. In Table V, we control for other potential determinants of abnormal returns using a regression framework. Our cumulative abnormal return variables serve as the dependent variables in these regressions. The independent variables include a constant term and two dummy variables which measure the divestiture status of the acquisition. The first dummy (Divested-Unsuccessful) equals 1 if a divested acquisition is unsuccessful and 0 otherwise, while the second (Divested-Successful) equals 1 if a divested acquisition is classified as successful. We do not include the 11 divested acquisitions we could not classify.

Asquity, Bruner, and Mullins (1987), Eckbo and Langhor (1989), and Travlos (1987) have found that announcement period returns to acquirers in mergers are significantly more negative for acquisitions financed with stock than those financed with cash. Accordingly, these regressions include a dummy variable, Stock, that equals 1 if some part of the acquisition is financed by acquiring firm equity and 0 if the acquisition is financed by cash and debt only.

Bradley, Desai, and Kim (1988) find that announcement period returns to acquirers in tender offers are lower in the presence of multiple bidders while returns to targets are higher. Accordingly, the regressions include a dummy variable, Multiple Bidders, that equals 1 if multiple bidders compete for the target and 0 otherwise.

Regression A.1 of Table V shows that acquirer CARs are 3.85% lower as a percentage of acquirer value for acquisitions of targets classified as unsuccessful divestitures than for acquisitions that are not divested (significant at

<sup>12</sup>As we have done throughout the paper, we report the market-model CARs from five days before to five days after the announcement that the acquirer will divest the target. In this case, our results are qualitatively similar, but not statistically significant for a shorter event window of three days around the announcement.

Table V

# **Regressions of Cumulative Abnormal Returns on Acquisition and Divestiture Characteristics for 271 Acquisitions of At Least 100 Million 1982 Dollars Completed Between 1971 and 1982**

Cumulative abnormal returns are calculated from five trading days before the day of the initial *Wall Street Journal* announcement of the acquisitions until five trading days after the final bid. Returns are computed using parameters from a market model estimated from 300 to 61 trading days before the initial announcement. Acquisitions are classified as "Unsuccessful" if they are divested and either the acquirer reports a loss on the sale of the acquisition or the business press reports that the acquisition was *ex post* a mistake. Divested Unsuccessful variable equals 1 if an acquisition is divested and classified as unsuccessful; 0, otherwise. Acquisitions are classified as "Successful" if they are divested and either have a gain or no loss on sale, or are not referred to as mistakes by the business press. Divested Successful variable equals 1 if an acquisition is divested and classified as "Successful"; 0, otherwise. Stock variable equals one if part of the payment for the acquisition is an equity security of the acquirer. The Stock variable equals 0 if the payment consists of cash and debt only. Multiple bidders variable equals 1 if multiple bidders compete for the target; 0, otherwise. (*t*-statistics are in parentheses.)

| Cumulative<br>Abnormal<br>Return                                      | Constant | Divested<br>Unsuccessful | Divested<br>Successful | Stock    | Multiple<br>Bidders | R <sup>2</sup> | N   |
|-----------------------------------------------------------------------|----------|--------------------------|------------------------|----------|---------------------|----------------|-----|
| Panel A: Target market value is at least 5% of acquirer market value. |          |                          |                        |          |                     |                |     |
| 1. Ch. Acquirer Value                                                 | 1.57     | -3.85                    | 0.24                   | -3.52    | -2.49               | .10            | 260 |
| Acquirer Value                                                        | (1.9)*   | (3.0)***                 | (0.2)                  | (4.0)*** | (2.3)**             |                |     |
| 2. Ch. Target Value                                                   | 28.34    | -0.75                    | -4.54                  | -5.01    | 12.25               | .10            | 199 |
| Target value                                                          | (9.4)*** | (0.2)                    | (1.4)                  | (1.7)*   | (3.7)***            |                |     |
| 3. Ch. Acquirer + Target                                              | 5.26     | -3.68                    | 0.33                   | -2.90    | 3.54                | .09            | 199 |
| Acquirer + Target                                                     | (4.2)*** | (2.2)**                  | (0.3)                  | (2.3)**  | (2.6)***            |                |     |
| 4. Ch. Acquirer Value                                                 | -0.91    | -5.28                    | 5.51                   | -12.37   | -2.66               | .04            | 260 |
| Target Value                                                          | (0.2)    | (0.9)                    | (1.1)                  | (2.9)*** | (0.5)               |                |     |
| 5. Ch. Acquirer + Target                                              | 29.51    | -9.48                    | 3.98                   | -22.08   | 0.52                | .04            | 199 |
| Target Value                                                          | (3.6)*** | (0.9)                    | (0.5)                  | (2.7)*** | (0.1)               |                |     |

Table V-(Continued)

| Cumulative<br>Abnormal<br>Return                                       | Constant | Divested<br>Unsuccessful | Divested<br>Successful | Stock    | Multiple<br>Bidders | R <sup>2</sup> | N   |
|------------------------------------------------------------------------|----------|--------------------------|------------------------|----------|---------------------|----------------|-----|
| Panel B: Target market value is at least 10% of acquirer market value. |          |                          |                        |          |                     |                |     |
| 1. Ch. Acquirer Value                                                  | 1.90     | -4.45                    | 0.16                   | -3.88    | -2.39               | .11            | 224 |
| Acquirer Value                                                         | (2.0)*   | (3.1)***                 | (0.1)                  | (3.9)*** | (2.0)**             |                |     |
| 2. Ch. Target Value                                                    | 29.41    | -1.68                    | -2.65                  | -7.34    | 15.22               | .15            | 174 |
| Target Value                                                           | (9.4)*** | (0.4)                    | (0.8)                  | (2.3)**  | (4.4)***            |                |     |
| 3. Ch. Acquirer + Target                                               | 5.89     | -4.39                    | 0.36                   | -3.23    | 4.48                | .12            | 174 |
| Acquirer + Target                                                      | (4.4)*** | (2.4)**                  | (0.3)                  | (2.4)**  | (3.0)***            |                |     |
| 4. Ch. Acquirer Value                                                  | 1.18     | -9.98                    | 2.12                   | -11.04   | 0.39                | .06            | 224 |
| Target Value                                                           | (0.3)    | (1.9)*                   | (0.5)                  | (3.0)*** | (0.1)               |                |     |
| 5. Ch. Acquirer + Target                                               | 30.61    | -14.75                   | 6.40                   | -23.51   | 10.67               | .09            | 174 |
| Target Value                                                           | (4.3)*** | (1.5)                    | (0.8)                  | (3.3)*** | (1.3)               |                |     |

\*\*\*, \*\*, and \* denote, respectively, significance at the 1%, 5%, and 10% levels for two-tailed tests.

the 1% level). CARs to acquirers in divestitures classified as successful are an insignificant 0.24% higher than CARs for acquisitions not divested. This is consistent with the results in Table IV.

At the same time, there is a significant relation between the acquirer CARs and the Stock and Multiple Bidder variables. Acquirer returns are 3.52% lower (significant at the 1% level) for acquisitions financed by acquirer stock than those financed solely by cash and debt. The stock variable is unrelated to our measure of the success of the acquisition. This is consistent with the idea that stock financing of an acquisition is a negative signal of the acquirer's value, rather than a negative signal about the acquisition. The negative coefficient on the stock value may also reflect the absence of interest tax shields and asset write-ups. Consistent with previous work, we also find that acquirer returns are 2.49% lower (significant at the 5% level) when multiple bidders are present.

It is important to note that the constant term in regression A.1 is positive. This implies that acquirers earn positive returns for uncontested acquisitions financed with cash or debt which have not been divested. Because only 20% of the acquisitions involve multiple bidders, the average acquirer return over all cash and debt acquisitions that are not divested unsuccessfully is still positive (1.07%). In other words, when we control for equity issues that may provide signals about acquirer (not acquisition) quality, the estimates in regression A.1 are consistent with non-divested and successfully divested acquisitions being positive net present value investments for the acquirers.

Regression A.2 presents similar results for target CARs. Target CARs are negatively, but not significantly related to the two divestiture dummies. Like acquirer CARs, target CARs are lower, by 5.01%, for acquisitions financed with stock (significant at the 10% level). Target CARs are 12.25% higher in the presence of multiple bidders (significant at the 1% level).

Regression A.3 presents results for the combined acquirer and target returns as a percentage of acquirer and target value. The results are similar to those in regression A.1. The combined returns to divestitures classified as "unsuccessful" are 3.68% lower than those of acquisitions not divested (significant at the 5% level). CARs to acquirers in "successful" acquisitions are again insignificantly higher, by 0.33%, than CARs for acquisitions not divested. Stock-financed acquisitions are associated with lower combined returns while acquisitions involving multiple bidders are associated with higher combined returns.

Regressions A.4 and A.5 repeat the analysis of regressions A.1 and A.3 using the acquirer and combined CARs as a percentage of target value. The results are qualitatively similar for the divestiture success variables, but insignificant. Acquirer returns are 5.28% lower (as a percentage of target value) in divested-unsuccessful acquisitions than in acquisitions not divested; combined returns are 9.48% lower.

In both regressions A.4 and A.5, the coefficient on the divested-unsuccessful variable is affected by a few large acquirer stock price movements on the announcement of relatively small acquisitions. To account for this, Panel B of

Table V restricts the sample to targets with an equity market value at least 10% of acquirer market value. The results in regressions B.1–B.3 are similar to those in A.1–A.3. The main differences between panels A and B are that the effect of the divested-unsuccessful variable on the wealth of acquirer shareholders scaled by target values drops from  $-5.28\%$  to  $-9.98\%$  (regression B.4) and its effect on the wealth of acquirer and target shareholders combined scaled by target value drops from  $-9.48\%$  to  $-14.75\%$  (regression B.5).

Overall, the regression results in Table V are consistent with our earlier results. The market returns to acquirer shareholders and the combined returns to acquirer and target shareholders are significantly related to our classification of the success of the acquisition, even when controlling for the means of financing and the existence of multiple bidders.

### *C.5 Implications of the Cross-Sectional Results*

The results in Tables IV and V suggest that stock price movements at the time of an acquisition announcement are related to the acquisition's ultimate success or failure. In this section, we examine this relation further by restricting the sample to those divested acquisitions we can categorize as successful or not successful and estimating the following equation:<sup>13</sup>

|                                 |          |              |                  |
|---------------------------------|----------|--------------|------------------|
| Prob. (Divested Unsuccessful) = | Constant | Acquirer CAR |                  |
| Coeff                           | 0.31     | $-1.82$      | $R^2 = 0.07$ (1) |
| ( <i>t</i> -stat)               | (6.6)    | (2.8)        | $N = 108$        |

The estimated coefficient of  $-1.82$  indicates that a 5% drop in the stock price on the announcement of the acquisition is associated with a 9.1% increase in the probability that a divestiture is unsuccessful rather than successful.

Considering the measurement error in our variables, the  $-1.82$  coefficient is likely to have been underestimated. To place an upper bound on the coefficient, we run a reverse regression of the acquirer CAR on the divestiture success variable and obtain a coefficient of  $-0.035$  on the divestiture success variable.<sup>14</sup> Inverting this, we obtain an upper bound of  $-28.6$  for the sensitivity of the acquirer return to the probability of an unsuccessful divestiture. In this case, a 5% drop would be associated with a 143% increase in the probability that a divestiture is unsuccessful rather than successful.

The true predictive power of the information available to the market as estimated by the coefficient for the acquirer CAR (regressed against acquisition success) lies somewhere between  $-1.82$  and  $-28.6$ . At the upper end of this range, the size of the coefficient implies that the market has an impres-

<sup>13</sup>For ease of interpretation, we present the equation as a linear probability model. The results are qualitatively the same using a logit model. Heteroskedastic-consistent *t*-statistics are in parentheses.

<sup>14</sup>Healy et al. (1990) perform a similar analysis.

sive ability to forecast the ultimate success of an acquisition. At the lower end, the market still has a non-trivial forecasting ability.

If the market has this information, the managers of the acquiring companies most likely have it too. The costs of gathering the information probably are not large. If managers believe the market has better information than they do, the managers can ask analysts or investment banks their opinion of the acquisition. (Analysts following the acquiring company probably have some influence on the stock market movements around these announcements.) In all likelihood, the managers have at least as good information about their companies as the market.

The market's ability to predict acquisition success, therefore, is consistent with managers knowingly making negative net present value investments when they acquire companies that are subsequently unsuccessful divestitures. Marris (1963), Jensen (1986), and Shleifer and Vishny (1989) present managerial models of the firm that motivate such investments. Our results are also potentially consistent with Roll's hubris hypothesis in which managers overestimate their ability to manage the target. However, managers must also ignore the acquisition announcement reaction or discount the relation of that reaction to ultimate acquisition performance.

### *C.6 Evidence for Managerial Motives*

A more detailed, in-depth analysis to distinguish the managerial and hubris hypotheses is beyond the scope of this paper. However, in this section we compare the values of several variables usually associated with managerial models of the firm—free cash flow, Tobin's  $q$ , and debt to total capital—by our classification of acquisition success.

Lang, Stulz, and Walkling (1991) find that bidder returns in tender offers are negatively related to the acquirer's free cash flow. This relation is stronger for firms with low Tobin's  $q$ . One interpretation of these results is that firms with high free cash flow make poorer acquisitions. We use the same measure of free cash flow as Lang et al.—operating income before depreciation less interest expense, taxes, preferred and common dividends. We deflate free cash flow by total capital—the sum of the book values of total debt, preferred stock, and common equity.<sup>15</sup> The ratios are computed for the fiscal year ending before the acquisition announcement.

Table VI presents free cash flow to total capital ratios by acquisition outcome. Acquirers of subsequently divested successful acquisitions have less free cash flow (mean 10.18%, median 9.92%) than acquirers of divested unsuccessful acquisitions (mean 12.28%, median 12.21%). The differences in means and medians are both significant at the 5% level. The free cash flow of acquirers of acquisitions that have not been divested falls between the successful and unsuccessful acquisitions: mean 11.91%, median 11.42%. These

<sup>15</sup>Free cash flow equals COMPUSTAT item #13 - #15 - (#16 - change in #35) - #139 - #21. Total capital equals COMPUSTAT item #9 + #34 + #130 + #60.

Table VI

**Mean and Median Acquirer Free Cash Flow, Tobin's q, and Debt to Total Capital in the Fiscal Year Ending Before the Acquisition Announcement by Divestiture Status and Divestiture Success for 271 Acquisitions of At Least 100 Million 1982 Dollars Completed Between 1971 and 1982**

Acquisitions are classified as "Unsuccessful" if either the acquirer reports a loss on the sale of the acquisition or if the business press reports that the acquisition was *ex post* a mistake. Acquisitions in the "Successful" category are divested acquisitions that either have a gain or no loss on sale, or are not referred to as mistakes by the business press. Acquisitions for which we have no information on gain or loss on sale, and no business press description of the divestiture are classified as "no reason." Free cash flow equals operating income before depreciation minus interest expense, taxes, preferred and common dividends. Total capital equals the sum of the book values of total debt, preferred stock and common equity. The ratios are computed for the fiscal year ending before the acquisition announcement. Tobin's q is calculated using the same method as Servaes (1991). Acquirer debt is the sum of long-term debt and debt in current liabilities in the fiscal year ending before the acquisition announcement. The differences are those between the mean and median values of acquisitions classified as unsuccessful and successful.

|                                                  |             | All<br>Acquisitions | Divested Acquisitions |            |            | All Non-Divested<br>Acquisitions |
|--------------------------------------------------|-------------|---------------------|-----------------------|------------|------------|----------------------------------|
|                                                  |             |                     | Unsuccessful          | Successful | Difference |                                  |
| Acquirer Free Cash Flow<br>as % of Total Capital | Mean:       | 11.49%              | 12.28%                | 10.18%     | 2.10%**    | 11.91%                           |
|                                                  | Std. Error: | 0.35                | 0.85                  | 0.58       |            | 0.48                             |
|                                                  | Median:     | 11.19               | 12.21                 | 9.92       | 2.29**     | 11.42                            |
|                                                  | N:          | 267                 | 37                    | 69         |            | 150                              |
| Acquirer Tobin's q                               | Mean:       | 1.00                | 0.90                  | 0.98       | -0.08      | 1.01                             |
|                                                  | Std. Error: | 0.04                | 0.06                  | 0.08       |            | 0.05                             |
|                                                  | Median:     | 0.79                | 0.77                  | 0.78       | -0.01      | 0.81                             |
|                                                  | N:          | 260                 | 37                    | 66         |            | 148                              |
| Acquirer Debt as % of<br>Total Capital           | Mean:       | 31.94               | 29.73                 | 33.35      | -3.62      | 31.42                            |
|                                                  | Std. Error: | 0.93                | 2.01                  | 1.70       |            | 1.34                             |
|                                                  | Median:     | 31.64               | 31.58                 | 32.61      | -1.03      | 30.64                            |
|                                                  | N:          | 269                 | 37                    | 70         |            | 151                              |

\*\*\*, \*\*, and \* denote, respectively, significance at the 1%, 5%, and 10% levels for two-tailed tests for means and medians.

results, therefore, give some support to the free cash flow that companies with high free cash flow are more likely to waste it on unprofitable investments.

Our second measure is the acquirer's Tobin's  $q$ .<sup>16</sup> Lang, Stulz, and Walking (1989) and Servaes (1991) find that bidder returns are higher in acquisitions by firms with high  $q$  ratios. One interpretation of these results is that  $q$  is a measure of managerial ability, and the market rewards good (or penalizes bad) managers when they acquire other firms.

The results for  $q$  ratios are less supportive of the managerial theories. Table VI shows that acquirers in successful acquisitions have higher  $q$ 's (mean 0.98, median 0.78) than acquirers in unsuccessful acquisitions (mean 0.90, median 0.77). The differences are not significant at conventional levels. Average  $q$  ratios are highest (mean 1.01, median 0.81) for acquirers of non-divested acquisitions.

Our third measure is the acquirer's debt as a percentage of total capital. Jensen (1986) argues that debt bonds managers to pay out free cash flow. Debt may also serve as a proxy for how closely an acquirer's management is monitored. The patterns for debt to total capital ratios in Table VI are similar to those for free cash flow to total capital. Acquirers in unsuccessful acquisitions have lower debt to total capital ratios (mean 29.73%, median 31.58%) than acquirers of successful acquisitions (mean 33.35%, median 32.61%). The differences, however, are not significant at conventional levels. The mean debt ratio of acquirers in acquisitions that have not been divested, 31.42%, falls between those of the successful and unsuccessful acquirers. (The median is lower.)

Overall, the results in Table VI give some support for managerial or agency cost explanations for acquisitions. All three of our measures for managerialism or agency costs are higher for acquirers in unsuccessful acquisitions than for acquirers in successful acquisitions with the difference significant for free cash flow. The support, however, is not overwhelming given that the differences for the two other variables are not significant.

In an analysis that focuses more directly on these issues, Weisbach (1991) finds evidence for the managerial or agency cost explanation by considering the relation of CEO characteristics to the acquisitions and divestitures undertaken by their firms. He finds that unsuccessful acquisitions tend to be divested after the CEO who made the acquisition leaves the firm. Seyhun (1990) presents evidence that is consistent with a combination of self-interested and hubris-driven managers. He analyzes insider trading by managers in the months before their companies make acquisitions. Consistent with managerial motives, he finds that insiders are more optimistic (in terms of net stock purchases) for acquisitions with large positive excess returns than for acquisitions with large negative excess returns. However, consistent with

<sup>16</sup>We calculate Tobin's  $q$  using the same method as Servaes (1991). We thank Henri Servaes for allowing us to use his computer program.

hubris, he also finds that managers tend to increase net stock purchases around acquisitions with small, negative excess returns.

### III. Related versus Diversifying Acquisitions

Other authors (Porter (1987), Ravenscraft and Scherer (1987), and Morck, Shleifer, and Vishny (1990)) have argued that diversifying acquisitions are less likely to succeed than related acquisitions. Porter (1987) and Ravenscraft and Scherer (1987) find evidence that divestiture rates are particularly high for diversifying acquisitions and argue that this evidence implies that diversifying acquisitions are worse investments than related acquisitions. Furthermore, Lichtenberg (1990) and Comment and Jarrell (1991) find a significant decline in the level of diversification in U.S. firms in the 1980s.

To examine this view, we classify each of our acquisitions as either related or diversifying. To measure the relatedness of an acquisition, we use a rule based on the SIC codes listed in *Dun and Bradstreet's Million Dollar Directory*. For each firm, the *Million Dollar Directory* lists the SIC codes of the firm's businesses in the order of their importance (as measured by sales). We focus on the SIC codes of the four most important businesses of the target and acquirer. An acquisition is related at the four-digit level if one of the four most important businesses of both the acquirer and target are in the same four-digit SIC code industry. Similarly, acquisitions are related at the three- or two-digit levels if the acquirer and target are in the same three- and two-digit SIC code industries, respectively. Acquisitions are considered unrelated if none of the four most important businesses of the acquirer and target share a two-digit SIC code. These definitions are similar to those of Morck, Shleifer, and Vishny (1990) who consider firms to be related if they share a four-digit SIC Code in one of the three most important four-digit SIC codes businesses.<sup>17</sup> We refer to acquisitions as related if the acquirer and target are related at the three- or four-digit level and as diversifying if the acquirer and target are not related at the three- or four-digit level.

The divestiture rate differs dramatically and monotonically by our relatedness measure. Table VII shows that 60.2% of the acquisitions in which the acquirer and target do not share a primary two-digit SIC code are divested; 55.6% in which they share a two-digit SIC code; 26.3% in which they share a three-digit SIC code; and, only 13.3% in which they share a four-digit SIC code. The divestiture rates of the unrelated and two-digit acquisitions are significantly different from the rates of the three- and four-digit acquisitions at the 1% level.<sup>18</sup> The divestiture rates of unrelated and two-digit

<sup>17</sup>We obtain similar results when we classify acquisition relatedness using *Standard and Poor's Register of Corporations* which lists all SIC codes in which a firm produces. (The *Million Dollar Directory* only lists the six most important SIC codes.) This rule classifies acquisitions as diversifying when the target and acquirer do not share any two-digit SIC codes.

<sup>18</sup>Significance levels are calculated using chi-square tests with one degree of freedom.

Table VII

**Number of Acquisitions Divested and Not Divested as of  
December 31, 1989 by Relatedness of Acquisition for 271  
Acquisitions of At Least 100 Million 1982 Dollars  
Completed Between 1971 and 1982**

Target market value is at least 5% of acquirer market value. Acquisitions are in category 1 if acquirer and target share one of the four principal four-digit SIC codes listed in *Dun and Bradstreet's Million Dollar Directory*. Acquisitions are in category 2 if acquirer and target share one of the four principal three-digit SIC codes but not one of the four principal four-digit SIC codes. Acquisitions are in category 3 if acquirer and target share one of the four principal two-digit SIC codes but not one of the four principal three-digit SIC codes. Acquisitions are in category 4 if acquirer and target do not share any of the four principal two-digit SIC codes.

|                                                      | Total<br>Number<br>Acquisitions | Percentage<br>(Number)<br>Acquisitions<br>Divested<br>As of 1989 | Percentage<br>(Number)<br>Acquisitions<br>Not Divested<br>As of 1989 |
|------------------------------------------------------|---------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------|
| 1. Acquirer and Target share<br>four-digit SIC Code  | 75                              | 13.3% (10)                                                       | 86.7% (65)                                                           |
| 2. Acquirer and Target share<br>three-digit SIC Code | 19                              | 26.3% (5)                                                        | 73.7% (14)                                                           |
| 3. Acquirer and Target share<br>two-digit SIC Code   | 54                              | 55.6% (30)                                                       | 44.4% (24)                                                           |
| 4. Acquirer and Target do not share<br>any SIC Code  | 123                             | 60.2% (74)                                                       | 39.8% (49)                                                           |
| All Acquisitions                                     | 271                             | 43.9% (119)                                                      | 56.1% (152)                                                          |

acquisitions are not significantly different from one another at conventional levels; nor are the divestiture rates of the three- and four-digit acquisitions.

Because more of the acquisition in 1981 and 1982 are related, 52% versus 69% for acquisitions before 1981, it is possible that the difference in divestiture rates by relatedness occurs only because a shorter time has elapsed since the related acquisitions were completed. To test this possibility, we estimate a linear probability model in which the dependent variable equals one if the acquisition is divested, zero otherwise.<sup>19</sup> As independent variables, we include variables (1) *Diverse*, that equals one if the acquisition is diversifying (two-digit or no-digit match), zero otherwise; (2) *D1977*, equals one if the acquisition occurs before 1978, zero otherwise; and (3) *D1980*, that equals one if the acquisition occurs between 1978 and 1980, zero otherwise:

$$\begin{array}{l} \text{Prob. (Divested)} = \text{Constant} \quad \text{Diverse} \quad \text{D1977} \quad \text{D1980} \\ \text{Coeff.} \quad \quad \quad 0.14 \quad +0.42 \quad +0.04 \quad +0.03 \quad R^2 = 0.17 \quad (2) \\ \text{(t-stat)} \quad \quad \quad (2.2) \quad (7.1) \quad (0.7) \quad (0.8) \quad N = 271 \end{array}$$

<sup>19</sup>The results are similar using a logit specification. We present the linear probability model for ease of interpretation. Heteroskedastic-consistent *t*-statistics are in parentheses.

These estimates suggest that acquisition relatedness rather than age is the primary determinant of whether an acquisition is divested. The coefficients imply diversifying acquisitions are 42% more likely to be divested than related acquisitions (significantly at the 1% level). In contrast, both variables for acquisition completion date are small and insignificant.

While the overall divestiture rate in our sample of 43.9% is slightly higher than the 33% estimated by Ravenscraft and Scherer (1987), the relative frequency of divestitures of diversifying (versus related) acquisitions in our sample appears to be much higher. Ravenscraft and Scherer (1987, p. 180) estimate that divestitures of conglomerate acquisitions (no two-digit match) are only 12% more likely than those of related horizontal acquisitions (four-digit match). Our results for unrelated acquisitions appear to be more in line with those of Porter (1987) who finds that approximately 53% of the acquisitions in "new industries" and 74% of the acquisitions in "unrelated new fields" by 33 conglomerate acquirers are later divested. Because Porter's definition of "unrelated new field" or "new industry" is different from ours, we cannot compare our results directly.

#### *A. Purchasers of Divested Units*

The strong relation between divestiture rate and relatedness in our sample is consistent with an increase in relatedness and a deconglomeration in the 1980s. This is true as long as divested units are not resold to unrelated acquirers. Table VIII considers this possibility by classifying the buyers of the divested divisions in our sample. Only 21 of 105, or 20%, of the divestitures we can classify are sold to buyers unrelated to the divested units.<sup>20</sup> In contrast, 43% of the divestitures are sold to related acquirers, 22% are sold to management groups, 12% are spun off, and 3% are liquidated.

The results of Tables VII and VIII, therefore, are consistent with an undiversifying or deconglomeration of American corporations in the 1980s. Table VII shows that 104 of the 177 (59%) diversifying or not related acquisitions are divested by 1989. In the 92 cases we can identify, only 21, or 23%, of the diversifying acquisitions that are divested are sold to companies that do not share a three- or four-digit SIC code with the unit. If this is typical, 45% of the diversifying acquisitions in our sample are no longer in diversified corporations by 1989.

#### *B. Success of Diversifying and Related Acquisitions*

There are several potential explanations for the large difference in the divestiture rate between acquisitions that are related and those that are not. First, if diversifying acquisitions are more likely to be bad acquisitions than related ones, diversifying acquisitions will be divested more often for performance reasons. Alternatively, if there is a real and irrecoverable cost to

<sup>20</sup>In 14 divestitures, we could not determine the primary business (or the identity) of the buyer.

**Table VIII**  
**Divestitures Classified by Purchaser of Divested Unit and by**  
**Relatedness of Acquisition for 119 Divestitures From a Sample**  
**of 271 Acquisitions of At Least 100 Million 1982 Dollars**  
**Completed Between 1971 and 1982**

Acquirers and targets are classified as sharing or not sharing a primary 3- or 4-digit SIC code depending on whether they share or do not share one of the four principal three- or four-digit SIC codes listed in *Dun and Bradstreet's Million Dollar Directory*. Divestitures are in category 2 if the target is sold to a purchaser that shares one of the four principal three- or four-digit SIC codes listed in *Dunn and Bradstreet's Million Dollar Directory*. Divestitures are in category 3 if the target is sold to a purchaser that does not share one of the four principal three- or four-digit SIC codes listed in *Dunn and Bradstreet's Million Dollar Directory*.

|                                                                                    | All | Acquirer and Target<br>do not share<br>primary 3- or 4-<br>digit SIC Code | Acquirer and Target<br>share primary<br>3- or 4-digit<br>SIC Code |
|------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1. Divested unit sold to management group                                          | 23  | 21                                                                        | 2                                                                 |
| 2. Divested unit sold to buyer that shares primary 3- or 4-digit SIC code.         | 45  | 36                                                                        | 9                                                                 |
| 3. Divested unit sold to buyer that does not share primary 3- or 4-digit SIC code. | 21  | 21                                                                        | 0                                                                 |
| 4. Divested unit is part of spin off.                                              | 13  | 11                                                                        | 2                                                                 |
| 5. Divested unit is liquidated.                                                    | 3   | 3                                                                         | 0                                                                 |
| 6. Buyer could not be classified.                                                  | 14  | 12                                                                        | 2                                                                 |
| Total                                                                              | 119 | 104                                                                       | 15                                                                |

integrating related mergers (such as changing product names or integrating functional areas) that is incurred immediately after the acquisition, divestitures of related units will be less likely. Third, before 1981 and the Reagan Administration, related acquisitions were strongly discouraged. Acquirers of unrelated businesses may have hoped to increase value by improving management, improving systems, improving access to capital markets, etc. In the 1980s, with relaxed antitrust as well as more accessible and innovative capital markets, assets may have become worth less under the control of unrelated owners than under related or specialized owners.

The evidence on the success of diversifying versus related acquisitions is mixed. Among the acquisition we classify, we consider two of fifteen (13%) related acquisitions as unsuccessful compared to 35 of 93 (38%) diversifying acquisitions. This difference is significant at the 10% level (chi-square test). At the same time, 2 of 5 (40%) and 26 of 61 (43%), respectively, of related and diversifying divestitures register a gain on sale. This difference is not significant.

To measure whether expected future profits were different for diversifying

and related acquisitions, we also compare the excess returns at the acquisition announcements. Acquirer returns at the acquisition announcement are  $-1.46\%$  for all diversifying acquisitions,  $-1.56\%$  for related acquisitions. Combined acquirer and target returns are  $3.53\%$  and  $4.33\%$ , respectively. The differences are not significant. Among divested acquisitions, acquirer announcement returns are  $-2.07\%$  for diversifying acquisitions,  $-1.42\%$  for related acquisitions. Combined acquirer and target returns are  $3.24\%$  and  $4.25\%$ , respectively. Again, the differences are not significant. The results for median returns are qualitatively similar.

We do not find large differences in the average performance of diversifying and related acquisitions. While some of the less successful acquisitions in our sample are diversifying (United Technologies/Mostek, or Armco/NN Corporation), so are some of the more successful ones (IC Industries/Midas, or Westinghouse/Teleprompter). This evidence provides surprisingly weak support for arguments that diversifying acquisitions decreased value, *ex ante*. In view of the small difference in the success rates of diversifying and related acquisitions, we are more sympathetic towards non-performance-based explanations for the large difference in divestiture rates.

#### **IV. Related Literature**

Our paper is related to several recent studies on post-acquisition performance. Healy, Palepu, and Ruback (1990) use accounting data to measure post-acquisition performance in 50 large acquisitions in the period 1979 to 1983. They find an increase in industry-adjusted operating cash flow return on assets (operating income as a fraction of assets) that is caused primarily by an increase in asset turnover. The increase in return on assets is positively correlated with the total excess return in the acquisition. They also find no difference in the performance of diversifying and related acquisitions.

Mitchell and Lehn (1990) examine a sample of companies which made large acquisitions between 1982 and 1986. They find that firms which receive hostile takeover bids are more likely to have made acquisitions to which the market reacted negatively. They also find that acquisitions that are subsequently divested are associated with negative acquirer abnormal returns. Bhagat, Shleifer, and Vishny (1990) find that hostile targets in the 1984–1986 period are often broken up and sold to companies in related businesses.

The comparisons of announcement returns to post-acquisition outcomes are closest in spirit to, although somewhat different from those of Ravenscraft and Pascoe (1989). They find that acquisitions with lower changes in operating margins and acquisitions ultimately divested have significantly lower target abnormal returns, similar acquirer returns, and slightly, but not significantly, lower combined returns. There are two potential reasons our results differ from theirs. First, they do not impose a relative size criterion which increase the noise in their abnormal return measures. Second, they do not explicitly consider the ultimate success of divested acquisitions. Operating margins may not accurately reflect the value of a company's assets.

Our results also complement recent work on the cross-sectional determinants of stock market reactions to acquisition announcements. Morck, Shleifer, and Vishny (1990) find that acquirers in diversifying mergers have negative abnormal returns in the 1980s but not in the 1970s. The high divestiture rate of unrelated acquisitions to related buyers in the 1980s in our sample is consistent with targets having a higher value to the related buyers.

Asquith, Bruner, and Mullins (1987) and Travlos (1987) find that negative acquirer returns are associated with stock financing but not with cash financing. In our sample, acquirer returns are negatively related to the use of stock financing, but this relation is independent of acquisition success. This is consistent with the argument that the form of financing in an acquisition provides a signal about the value of the acquirer. It is also consistent with tax benefits (through interest deductions and asset write-ups) as a source of value in acquisitions. The independence of the ex post success of the divestitures to the form of financing is, however, less supportive of the theory presented by Fishman (1989) in which bidders offer cash to acquire more highly valued targets.

## V. Conclusion

This paper documents that a substantial fraction, almost 44%, of a sample of large acquisitions completed in the 1970s and early 1980s have been divested in the 1980s. Given the commonly held view that divestitures represent failure, the high frequency of divestitures appears to contradict event-study evidence that finds positive combined acquirer and target returns in acquisitions. Our results, however, suggest that many divested acquisitions are not failures. Only 44% of the acquirers who report an accounting outcome for the divestiture incur a loss on sale. The remaining 56% report a gain or no loss. Similarly, when we can compare a sale price to a purchase price for a divested unit, we find that most units are sold for more than they cost. Deflated by the S&P 500, the average sale price of these divested units is 90% of the purchase price—negative, but apparently not the failure suggested by previous work. Furthermore, the sale price (deflated by the S&P 500) averages 143% of the target's pre-takeover market value. Targets appear to be worth less than the bidders pay, but more than the target is worth before the takeover occurs. The results for gain and loss on sale as well as the sale price, therefore, are consistent with event-study findings of small negative returns to acquirers and positive combined returns to acquirers and targets. Because our sample is limited to one time period, however, this evidence is also consistent with the alternative explanation that sellers of assets received fortuitously high prices for those assets in the 1980s.

Our cross-sectional results further reconcile the high divestiture rates with the event-study evidence. Acquirer returns and combined (acquirer and target) returns at the acquisition announcement are significantly lower for

divestitures we classify as unsuccessful than for divestitures we classify as successful and for acquisitions that are not divested. This last result has two implications. First, in a setting where the nature of the news being revealed is not initially obvious, our results suggest that stock market prices do react to fundamentals. Second, the cross-sectional relation is consistent with managerial or hubris-related motives for acquisitions. When they complete acquisitions with negative acquirer returns, managers ignore signals that the acquisitions decrease acquirer shareholder value. We present some evidence supportive of managerial motives: acquirers in unsuccessful acquisitions have higher levels of estimated free cash flow than acquirers in successful acquisitions.

Diversifying acquisitions are divested much more often than related ones. Almost 60% of those acquisitions in which the acquirer and target are not related have been divested. In contrast, fewer than 20% of the related acquisitions have been divested over the same time period. The evidence on the success of diversifying versus related acquisitions, however, is mixed. We classify 2 of 15 (13%) related acquisitions as unsuccessful compared to 35 of 93 (38%) diversifying acquisitions. At the same time, we find that 43% of diversifying and 40% of related divestitures registered a gain on sale. Finally, the stock market reactions to the announcements of diversifying and related acquisitions are not significantly different.

Although the majority of diversifying acquisitions in the 1970s and early 1980s have been sold by the late 1980s, our results are consistent with these acquisitions having increased the combined value of the target and acquirer relative to their next most highly valued use. Possible sources of that value would include tax benefits, reduced corporate overhead, improved management systems, and undervaluation. As the 1980s progressed, however, it appears that new acquirers were able to bring more value to these targets than the original acquirers.

## REFERENCES

- Alexander, Gordon, P. G. Benson, and J. Kampmeyer, 1984, Investigating the valuation effects of announcements of voluntary corporate selloffs, *Journal of Finance* 39, 503-517.
- Asquith, Paul, Robert Bruner, and David Mullins, 1987, Merger returns and the form of financing, Working paper, Harvard Business School.
- Bhagat, Sanjay, Andrei Shleifer, and Robert Vishny, 1990, Hostile takeovers in the 1980s: The return to corporate specialization, *Brookings Papers on Economic Activity: Microeconomics* 1-72.
- Bradley, Michael, Anand Desai, and E. Han Kim, 1988, Synergistic gains from corporate acquisitions and their division between the shareholders of target and acquiring firms, *Journal of Financial Economics* 21, 3-40.
- Comment, Robert and Gregg Jarrell, 1991, Corporate focus and stock returns, Working paper, Simon School of Business, University of Rochester.
- Eckbo, B. Espen and H. Langohr, 1989, Information disclosure, method of payment, and takeover premiums: Public and private tender offers in France, *Journal of Financial Economics* 24, 363-404.
- Fishman, Michael, 1989, Preemptive bidding and the role of medium of exchange, *Journal of Finance* 44, 41-57.

- Healy, Paul, Krisha Palepu, and Richard Ruback, 1990, Do mergers improve corporate performance? Working paper, Sloan School, Massachusetts Institute of Technology.
- Jain, Prem, 1985, The effect of voluntary sell-off announcements on shareholder wealth, *Journal of Finance* 40, 209-224.
- Jensen, Michael, 1986, Agency costs of free cash flow, corporate finance and takeovers, *American Economic Review* 76, 323-29.
- and Richard Ruback, 1983, The market for corporate control: The scientific evidence, *Journal of Financial Economics* 11, 5-50.
- Klein, April, 1986, The timing and substance of divestiture announcements: Individual, simultaneous, and cumulative effects, *Journal of Finance* 41, 685-97.
- Lang, Larry, René Stulz, and Ralph Walkling, 1989, Managerial performance, Tobin's q, and the gains from successful tender offers, *Journal of Financial Economics* 24, 137-154.
- , René Stulz, and Ralph Walkling, 1991, A test of the free cash flow hypothesis: The case of bidder returns, *Journal of Financial Economics*, 29, 315-336.
- Lichtenberg, Frank, 1990, Industrial de-diversification and its consequences for productivity, Working paper, Columbia University Graduate School of Business.
- Marris, Robin, 1963, A model of the managerial enterprise, *Quarterly Journal of Economics* 77, 110-120.
- Mitchell, Mark and Kenneth Lehn, 1990, Do bad bidders become good targets? *Journal of Political Economy* 98, 372-398.
- Morck, Randall, Andrei Shleifer, and Robert Vishny, 1990, Do managerial motives drive bad acquisitions? *Journal of Finance*, 45, 31-48.
- Patell, James, 1976, Corporate forecasts of earnings per share and stock price behavior: Empirical tests, *Journal of Accounting Research* 14, 246-276.
- Porter, Michael, 1987, From competitive advantage to corporate strategy, *Harvard Business Review* 43-59.
- Ravenscraft, David and George Pascoe, 1989, Can the stock market predict merger success? Working paper, University of North Carolina.
- and F. M. Scherer, 1987, *Mergers, selloffs and economic efficiency* (The Brookings Institution, Washington, D.C.).
- and F. M. Scherer, 1988, Divisional sell-off: A hazard function analysis, Working paper, University of North Carolina.
- Roll, Richard, 1986, The hubris hypothesis of corporate takeovers, *Journal of Business* 63, 197-216.
- Schipper, Katherine and Abbie Smith, 1983, Effects of recontracting on shareholder wealth: The case of voluntary spin-offs, *Journal of Financial Economics* 12, 437-468.
- and Abbie Smith, 1986, A comparison of equity carve-outs and seasoned equity offerings: Share price effects and corporate restructuring, *Journal of Financial Economics* 15, 153-186.
- Servaes, Henri, 1991, Tobin's q and the gains from takeovers, *Journal of Finance*, 46, 409-420.
- Seyhun, H. Nejat, 1990, Do bidder managers knowingly pay too much for target firms? *Journal of Business*, 63, 439-464.
- Shleifer, Andrei and Robert Vishny, 1989, Managerial entrenchment: The case of firm-specific assets, *Journal of Financial Economics* 25, 123-139.
- and Robert Vishny, 1990, The takeover wave of the 1980s, *Science*, 249, 745-749.
- Travlos, Nicholas, 1987, Corporate takeover bids, methods of payment, and bidding firms' stock returns, *Journal of Finance* 42, 943-964.
- Warner, Jerold, Ross Watts, and Karen Wruck, 1988, Stock prices and top management changes, *Journal of Financial Economics* 20, 461-492.
- Weisbach, Michael, 1988, Outside directors and CEO turnover, *Journal of Financial Economics* 20, 431-460.
- 1991, The CEO and the firm's investment decisions, Working paper, University of Rochester.
- Weston, J. Fred, 1989, Divestitures: Mistakes or learning, *Journal of Applied Corporate Finance* 2, 68-76.