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Takeover motives during the conglomerate merger wave

John G. Matsusaka*

This article examines the stock market response to acquisition announcements during and immediately after the conglomerate merger wave of the late 1960s. The main finding is that acquirer shareholders benefited from diversification acquisitions, which implies that diversification was not driven by managerial objectives. It is also shown that the market responded positively to bidders who retained the management of target companies and negatively to bidders who replaced target management. This is consistent with the hypothesis that the market favored acquisitions intended to exploit managerial synergies. It suggests that the market disliked takeovers that were motivated to discipline target management. Evidence on buyer and target price-earnings ratios is presented that is inconsistent with the conjecture that conglomerates were able to mislead investors by earnings-per-share manipulation.

1. Introduction

■ One of the major business developments of the last half century has been the diversification of American firms. The process reached its zenith during the merger wave of the late 1960s and was carried to its logical extreme by the conglomerate firms that rose to prominence at that time. Recent research has suggested that the postwar movement toward increased diversification has ended and a return to specialization has begun (Comment and Jarrell, 1991; Liebeskind, Opler, and Hatfield, 1992). The 1980s saw a wave of consolidating mergers aimed at undoing the conglomeration of the previous two decades (Shleifer and Vishny, 1990). It was not uncommon in the 1980s for the assets of a diversified target company to be sold off to management or firms in related industries (Bhagat, Shleifer, and Vishny, 1990) or for a firm to divest unrelated businesses (Kaplan and Weisbach, 1992).

Understanding what drove managers to diversify during the conglomerate merger wave is important in evaluating the 1980s merger wave. If diversification was motivated by managers' desires to found corporate empires or entrench themselves, then deconglomeration was a good thing, reversing the value-reducing actions of previous managers. On the other

* University of Southern California.

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hand, if conglomeration was pursued to maximize shareholder wealth, then deconglomeration is more difficult to explain and evaluate.

There are theoretical reasons to suspect that managers may have pursued a diversification strategy even when it hurt shareholders. They may have entered new lines of business to protect their organization-specific human capital (Amihud and Lev, 1981) or entrench themselves (Shleifer and Vishny, 1989). Alternatively, they may have been pursuing size as an end and because of strict antitrust opposition to horizontal and vertical mergers had to expand by buying into unrelated industries (Baumol, 1967; Mueller, 1969; Ravenscraft and Scherer, 1987).

Perhaps the most direct way to evaluate whether a manager was diversifying for his own benefit or in the interest of shareholders is to examine the effect of diversification on the value of his firm's equity. The premise of this article is that if the value of a firm declined upon announcement of an acquisition, then its management was not acting to maximize shareholder wealth. The article's most striking finding is that during the conglomerate merger wave, bidder shareholders earned significantly positive announcement-period returns from diversifying acquisitions and negative returns from related acquisitions. This evidence is inconsistent with the hypothesis that managers diversified to achieve personal objectives. Together with the findings of Morck, Shleifer, and Vishny (1990), it documents a dramatic reversal in investor sentiment toward diversification—positive in the 1960s, neutral in the 1970s, and negative in the 1980s.

If managers were diversifying to maximize shareholder value, where did they (and the market) think the increased value was going to come from? The men who founded the conglomerates were sometimes considered the vanguard of a new generation of managers. It was thought that these "supermanagers" were experts in general concepts of management and their skills could be applied to any business—detailed knowledge of a firm's particular products and industry was not essential.

One possible explanation for conglomeration, then, is basically a reworking of the familiar managerial-discipline theory: firms were taken over to discipline or replace their bad managers. A second explanation is the flip side of managerial discipline, call it the "managerial synergy" theory: bidder management wanted to work with target management, not replace it. According to this explanation, acquirer management believed it had valuable managerial expertise that would be complementary to the skills of target management. For example, the buyer would provide expertise at raising capital, and the target would provide product development and manufacturing talents.[1]

Takeovers in which the target's management was replaced are consistent with a managerial-discipline motive—one way to discipline managers is to fire them. Takeovers in which the target's management was retained are consistent with a managerial-synergy motive—target management is the key asset in a managerial-synergy acquisition. A second, perhaps surprising, finding is that the market reacted positively to bidders who retained target management and negatively to bidders who removed target management. This evidence suggests that the market subscribed to the managerial-synergy theory. In addition, it suggests that buyers who replaced target management were believed to have overpaid or overestimated their own abilities.

The premerger profitability of the target firm potentially can shed some light on the takeover motive. Managerial-discipline targets were likely to have had low profits—why discipline a good firm?—while managerial-synergy targets were likely to have had high

[1] The idea that conglomerates exploited capital market inefficiencies has received considerable attention, with mixed results (McCutcheon, 1991). The idea of general managerial synergies, however, has enjoyed more popularity in the business press than in the economic press, for example, Berg (1969), Sobel (1984), and Holland (1989). Matsusaka (1991) is an attempt to formalize the managerial synergy theory.

profits—talented managers are better able to exploit complementarities. However, the evidence indicates that the market did not attach a premium to bidders depending on the profitability of their targets.

In addition to determining why the market liked certain acquisitions, it is instructive to investigate why the market disliked others. In particular, why did some firms make acquisitions that reduced shareholder value? A third finding of the article is that governance structure matters: the market reaction to a takeover announcement was negatively related to the ratio of insiders to outsiders on the bidder's board of directors. This is consistent with the hypothesis that insider-dominated firms had been captured by managers, freeing them to pursue non-value-creating objectives. The market's reaction to acquisitions by family-run firms is also considered.

A different explanation for conglomeration is that buyers were driven by earnings-per-share (EPS) manipulation. This explanation plays off the observation that conglomerates tended to have a high price-earnings ratio (P/E). It is an algebraic fact that when one firm acquires another with a lower P/E, its EPS rises—called "bootstrapping." If the market sets the price of a stock at a constant multiple of EPS, then a firm can increase its stock price by buying firms with lower P/Es than its own. According to this explanation of conglomeration, bidder management was playing a bootstrapping game by buying firms with low P/Es; diversification was largely coincidental.

There are logical objections to this explanation—in particular, it assumes that investors could be manipulated with accounting numbers. A simple way to evaluate this explanation is to observe the returns to bidders who appeared to be playing the bootstrapping game. If it worked, bidders should have earned positive returns when they bought firms with lower P/Es than their own. Another finding of the article is that there is no evidence that bidders profited from EPS manipulation. Although not statistically significant, high-P/E buyers of low-P/E firms earned negative returns, while other buyers earned positive returns.

The remainder of this article takes an in-depth look at these and other issues pertaining to takeover motives during the conglomerate merger wave. The next section discusses construction of the dataset and defines the variables. Section 3 reports the returns to diversifying and related acquisitions, and investigates the source of the diversification premium. Section 4 evaluates the returns to EPS manipulation. Section 5 presents evidence on the returns to managerial-discipline and managerial-synergy takeovers. Section 6 summarizes and offers some conclusions.

2. Data and variables

■ Construction of the dataset began with a list of mergers from the sample of 1968, 1971, and 1974 manufacturing sector acquisitions used to study premerger target profitability by Ravenscraft and Scherer (1987, 1989). Ravenscraft and Scherer identified their sample of takeovers from New York Stock Exchange listing statements. Corporations wishing to list securities on the stock exchange in relation to a merger are required to submit a recent balance sheet and income statement for the target. An advantage of this data source, as opposed to the Federal Trade Commission's large-merger series and Center for Research in Security Prices (CRSP) delistings, is that it allows an inside look at privately owned targets (most of the sample). By construction, all observations are in part equity-financed. This may be relevant to the extent that all-cash transactions have different motivations than security transactions (Carleton et al., 1983). An additional 212 mergers were identified from the listing statements, which increased the basic list to 855 observations, 71.2% from 1968, 13.7% from 1971, and 15.1% from 1974.[2]

[2] Ravenscraft and Scherer collected observations in these three years to look for systematic variations in merger behavior in different periods. The 1974 observations occur after the conglomerate merger wave, so I considered

Once the basic set of mergers was identified, detailed information about each takeover was hand-collected from a variety of sources. The *Wall Street Journal Index* and various unindexed issues of the *Wall Street Journal* were searched for articles discussing the sample mergers. Announcement articles were found for 429 of them, and the date of the article was linked to the appropriate observation. The dataset was then carefully cleaned; each observation was examined for its quality, and 131 were dropped for one of the following reasons: the same acquisition appeared twice in the dataset; subsidiaries of the target that had been entered as separate observations in the Ravenscraft and Scherer sample were consolidated with the parent; the target was a majority-owned subsidiary of the buyer; the *Wall Street Journal* story was not the first public announcement of the merger; other news more important than the merger concerning the acquirer was reported in the announcement article;[3] the acquirer announced another acquisition in the preceding or following week; or there was not enough CRSP information on the acquirer to compute bidder returns (for example, Zurn Industries was not listed when it made its first acquisition announcements). One observation was dropped because the target was not in manufacturing. Finally, acquisitions where the book value of the target's assets was less than $5 million (68.3% of the targets) were dropped.[4] Inclusion of very small acquisitions only adds noise to the estimates. The Appendix lists the sources of the data and indicates how many observations were deleted for each reason. It also discusses some minor changes and corrections to the Ravenscraft and Scherer sample.

□ **Measuring the return to the bidder's shareholders.** There are several ways to measure the announcement-period return to the acquiring firm's shareholders. The measure that seems to be most appropriate for the following tests is the "dollar return," the cumulated residual rates of return from a market model weighted by the value of the firm (Malatesta, 1983). If r_t is the abnormal rate of return on the firm's common stock on day t and V_t is the firm's value at the start of day t, then the dollar return over a T-day event window is defined to be $\sum_{t=1}^{T} r_t V_t$. Price changes were calculated from five days before the announcement to five days after.[5] Market-model coefficients were estimated in the usual way over a 240-day interval beginning 300 days before the event using an equally weighted market portfolio with dividends (Bradley, Desai, and Kim, 1988). Dollar returns were then normalized to 1968 dollars using the consumer price index. The mean announcement-period return for the sample using this measure was −$0.517 million, insignificantly different from zero ($t = 0.179$). Thus, the sample conforms to other event studies that find zero abnormal returns to bidders on average.

A more common way to measure the stockholder return is as a percentage return on the acquirer's equity; the change in the bidder's price is divided by its preannouncement

excluding them from the estimates. In the end I retained them for the following reasons: (1) their inclusion or exclusion has substantive effects only on the standard errors, not the signs or magnitudes, of the estimates; (2) although the overall number of mergers peaked in 1968–1969, the percentage of conglomerate mergers remained high into the mid-1970s; (3) Ravenscraft and Scherer do not find systematic differences between mergers in the three periods; (4) in the final event study sample, 1974 provides only 15% of the observations.

[3] To be specific, I consulted the earliest mention of each merger in the *Wall Street Journal*. If the story mentioned the acquisition *after* mentioning something else about the buyer—for example, resignation of its CEO or introduction of a new product—the observation was dropped. If the acquisition led the story, the observation was retained.

[4] I also tried cutoff points based on the ratio of the target's assets to the value of the buyer's equity, with essentially the same results.

[5] The results did not differ in substance when a [−4, +4] event window was used, but the standard errors were much larger with a [−1, +1] window.

price, usually approximated as $\sum_{t=1}^{T} r_t$. This is sometimes called the cumulative abnormal residual, here simply the "percentage return." An undesirable feature of this measure is that if a large and a small corporation acquire identical firms and each experiences a $1 million increase in value, the percentage return to the small corporation exceeds the percentage return to the large corporation, implying the small company made a better acquisition. In addition, the percentage return reflects the payoff to investment strategies that are not, in general, feasible to the firm's shareholders as a group (Malatesta, 1983).

Morck, Shleifer, and Vishny (1990) use a third measure: the change in the value of the bidder is divided by the purchase price, in effect treating each acquisition as an investment equal to the purchase price and computing the return on the project. According to this "investment" measure, the two acquisitions above are equally good. However, suppose a firm makes two acquisitions, one that costs $10 million and results in a $1 million value increase and another that costs $100 million and increases value by $5 million. The investment measure rates the takeovers at 10% and 5%, respectively, but the latter adds more value and is a better acquisition for the stockholders. Because the change in the buyer's value impounds the purchase price, it seems redundant to rescale by the purchase price. The dollar measure does not have this problem; according to it, a takeover that increases shareholder wealth by $\$X$ is equally good for all sizes of buyer and seller. However, it tends to weight large acquisitions heavily.

There is some disagreement about which of these measures is appropriate. Accordingly, although I concentrate on the dollar return throughout the article, I also report estimates using the percentage return and the investment return for the main results. All three measures generally tell the same story.

□ **Relatedness of the buyer and target.** To determine which acquisitions were diversifying moves and which were not, the industries of each buyer and target were identified. Industry classifications were drawn from product-line descriptions in the listing statements and from *Poor's* (later *Standard and Poor's*) *Register of Corporations, Directors, and Executives* for 1968 and 1974 and Dun and Bradstreet's *Million Dollar Directory* for 1971 and 1974. I have four-digit SIC codes for about 85 percent of the targets and the primary two-digit industry for all of them. Many of the corporations operated multiple divisions that *Poor's* and the *Million Dollar Directory* reported separately. Entire product lines were not attributed to the parent in such cases. Subsidiaries were found either with the 1974 *Directory of Corporate Affiliations* or by searching the original volumes.

For most of this article, a takeover is defined to be a "diversification acquisition" if the buyer and the target did not have a two-digit SIC code in common. An acquisition is defined to be "related," then, if the buyer and target shared a two-digit SIC code.

Morck, Shleifer, and Vishny (1990) call a merger related if the buyer and target shared a four-digit SIC among their top three activities. This article's relatedness measure differs from their measure by examining whether the buyer and target were related in *any* activity and by measuring relatedness at the two-digit level. A large diversified corporation like Textron may have done only a small fraction of its business in a given industry, say, zippers. As a result, zippers would not have appeared as one of its top three SICs. If it acquired another zipper maker it should be considered a related acquisition, but this would be classified as unrelated by the Morck, Shleifer, and Vishny measure. This problem is especially acute in my sample because the average target was fairly small (the median target in the final sample had assets worth $20 million).

Second, goods defined at the four-digit level are fairly specific. For example, SICs 3721, 3722, 3723, and 3729 are Aircraft, Aircraft engines and engine parts, Aircraft propellers and propeller parts, and Aircraft parts and auxiliary equipment not elsewhere classified, respectively. It is probably not overstating things to view mergers of firms in these four-

digit industries as related. The main advantage of measuring relatedness broadly, as this article does, is that we can be reasonably confident that "unrelated" mergers are in fact unrelated.

If anything, the requirement that firms have a two-digit industry in common is probably too restrictive. For example, SIC 3537 is Industrial trucks, tractors, trailers, and stackers, while SIC 3713 and 3715 are Truck and bus bodies and Truck trailers, respectively. Both relatedness measures would classify mergers of 3537 and 3715 as unrelated. Similarly, it is not hard to imagine production complementarities between Guided missiles and space vehicles (SIC 1925) and Aircraft (SIC 3721), but they are unrelated even with the two-digit definition.

Information was also collected on vertical relationships. First, the flow of goods in the economy in 1972 was identified with the Census Bureau's input-output matrices of the United States. These tables report what fraction of each industry's input was purchased from each industry and what fraction of output was sold to each industry. Industries were classified at roughly the three-digit level (the classification system featured 52 manufacturing industries). Following other researchers, I classified two industries as vertically related if they either bought 5% of their input or sold 5% of their output to each other.[6] This roughly parallels the recent comprehensive study by McGuckin, Nguyen, and Andrews (1992), with the difference that they looked at the input-requirements side but not at the output-sales side.

A merger was classified as vertically related if the buyer and target operated in any SIC industries that were vertically related as defined above. If the only vertical relation was between a manufacturing SIC and a wholesale trade or retail trade SIC, it was not coded as vertically related. The wholesale and retail trade industries are classified so broadly that almost every manufacturing firm would have been classified as vertically related to any wholesale or retail firm.

□ **Retention of the target's management after the merger.** For each acquisition I attempted to ascertain the fate of the target's top managers after the merger. Top management is said to have been "retained" if either (i) the *Wall Street Journal* reported an announcement that the company would continue to be operated under the same management, (ii) the buyer's listing statement indicated the target's management would be retained, or (iii) at least one of the top three executives of the target firm in the year of the merger was still managing the firm three years later or was associated with the acquirer (as either a vice president or director), according to *Poor's* or the *Million Dollar Directory*. According to this definition, 61.8% of the managers in the sample were retained. For a subset of the sample I compared the cases where the buyer announced that the target's management would be retained with *Poor's* and the *Million Dollar Directory* to see if the announcements were credible; I failed to find any discrepancies.

When the *Wall Street Journal* announced that the managers were to be replaced or the same two corporate registers revealed that the managers were different three years later, the management is listed as "replaced." Only 3.5% of the acquisitions fell in this category. This number is drastically lower than the 37.5% reported by Comment (1985) and the 60.9% reported by Martin and McConnell (1991).

One reason for the difference is that both Comment and Martin and McConnell look at turnover of individuals, while this article tries to focus on teams. Martin and McConnell show that many mergers occur when the target's CEO is near retirement. I use the retention variable to capture the buyer's confidence in the target's top management team—not natural

[6] Specifically, the "5% of input" was taken from the commodity-by-industry direct requirements table (Table 3), and the "5% of output" was taken from the use table (Table 1) in Ritz (1979). SIC codes for 1968 were converted to 1972 according to the 1972 *Standard Industrial Classification Manual.*

attrition or departures due to merger-related job redundancies—so as long as any of the top three officers continued to run the company, the management is said to have been retained. This seems to be appropriate for studying the managerial-discipline and managerial-synergy theories.

The fate of management could not be determined for 34.7% of the sample. The main reason was that the target was so small relative to the buyer that its management could not be determined after the merger.

□ **Profitability of the target before the merger.** The target's premerger performance is proxied by its operating profit. Specifically, the target's net operating revenue before interest and federal income taxes, drawn from its income statement, is divided by the book value of its assets, drawn from its balance sheet, as reported in the listing statements:

OPERATING PROFIT

$$= (\text{NET OPERATING REVENUE})/(\text{BOOK VALUE OF ASSETS}).$$

Target operating profit ranged from a low of −2.87% to a high of 54.7%, with a mean of 17.2%.

It is useful to adjust for the profitability of the target's industry. The "excess" operating profit is calculated by subtracting the average operating profit earned by all firms in the target's primary two-digit industry in the appropriate quarter from the target's operating profit:

EXCESS OPERATING PROFIT

$$= (\text{OPERATING PROFIT}) - (\text{INDUSTRY OPERATING PROFIT}).$$

For example, a firm that had a 12% profit rate in an industry with an average profit rate of 10% had a 2% excess operating profit. Because this measure nets out industry-specific influences, it proxies for the quality of the underlying management and assets and is well-suited for examining the managerial-discipline and managerial-synergy theories. If the market liked discipline it should have reacted positively to acquisitions of firms performing below their industry average. The industry averages were computed from two-digit information in the *Quarterly Financial Report.* The excess operating profit ranged from a low of −14.8% to a high of 44.9%, with a mean of 5.4%.

□ **Price/earnings multiples.** EPS values were collected from *Moody's Industrial Manual* for the years 1967 through 1974 and Compustat for both bidders and publicly traded targets. The analysis below uses primary (undiluted) EPS where earnings are measured after taxes but before extraordinary items and, for comparison, primary EPS after extraordinary items and diluted EPS before extraordinary items. The numbers are EPS before the merger, usually taken from the previous year's income statement. Unfortunately, reported EPS sometimes used year-end shares outstanding and sometimes used average shares.

Prices were drawn from CRSP when possible. Because most of the targets ceased to be traded in 1968, CRSP information on many of them is incomplete; in these cases I use the stock's high price from the previous year as reported in *Moody's.* Care was taken to adjust reported EPS for stock splits that occurred between filing of the income statement and the merger announcement.

□ **Inside directors and family-run firms.** Two variables are considered to control for the effect of corporate governance. One variable is equal to the number of inside directors on the board divided by the number of outside directors, following Baysinger and Butler (1985). The mean insider/outsider ratio was .87 and ranged from a low of .09 to a high of 13. The second variable, which tries to capture Chandler's (1980) idea of family-run firms, is a

dummy variable set equal to one if one of the top three executives had the same last name as the company, if the top executive founded the company, or if more than two people with the same name were top executives and directors. According to this definition, 26.6% of acquisitions were made by family-run firms. The information on executives and board members was taken from *Poor's* and the *Million Dollar Directory*. Board members who were listed with a title were defined to be inside directors (this usually included the chairman of the board), while untitled directors were defined to be outside directors.

3. Bidder returns to diversification

■ **Diversification and managerial objectives.** Diversification was the salient fact of the conglomerate merger wave. A primary objective of this article is to document the market's response to determine whether managers diversified to maximize value or to achieve personal goals. If diversifying acquisitions resulted in negative announcement-period returns to acquirers, it can be concluded that diversification was driven by managerial objectives.

Table 1 presents the central evidence on this question. Each column reports the results of a regression of bidder returns on two dummy variables, one for diversification acquisitions and the other for related acquisitions. Of the 199 sample acquisitions, 67 were diversification acquisitions and 132 were related acquisitions. Diversification here implies that the buyer and the target did not have a two-digit SIC code in common. The coefficient estimates represent the mean returns to the given type of takeover. All regressions here and below are corrected for heteroskedasticity using White standard errors.

Column (1) presents a regression using the dollar-return measure, which, as is argued in the previous section, is the best way to measure the consequences to bidder shareholders. The main finding is that the return to a diversification acquisition was significantly positive. When bidders made a diversification acquisition, on average their shareholders enjoyed an \$11.0 million value increase in value after correcting for market movements. This rejects the hypothesis that diversification hurt shareholders and is thus inconsistent with the idea that diversification was driven by managerial objectives.

In contrast, bidders who made related acquisitions cost their shareholders \$6.4 million on average, statistically significant at the 10% level. If anything, it appears that managerial objectives were driving horizontal expansion during the conglomerate merger wave. The hypothesis that the market's reaction to diversification and related acquisitions was the same can be rejected at better than the 1% level, suggesting that there was a market "premium" to diversification.

TABLE 1 Mean Bidder Returns to Diversification and Related Acquisitions

Type of Acquisition	(1)	(2)	(3)	(4)
Diversification	11.036**	1.233**	61.86	12.95
	(4.960)	(.673)	(39.41)	(12.79)
Related	−6.380***	.354	−34.09***	−36.72
	(3.422)	(.662)	(20.57)	(28.58)
p-value for the hypothesis that coefficients are equal	.004	.351	.031	.113
Observations	199	199	199	71

Note: Each column in this table reports coefficient estimates from a regression of bidder returns on two dummy variables, one for diversification and one for related acquisitions. A merger is coded "diversification" if the buyer and target did not have a two-digit SIC code in common, otherwise it is coded "related." The regressions are corrected for heteroskedasticity using White standard errors. The dependent variables are the dollar return (1), percentage return (2), dollar return divided by the book value of target assets (3), and dollar return divided by target stock value (4).

** Significant at the 5% level.

*** Significant at the 10% level.

To check the robustness of the dollar-return measure, column (2) reports estimates for the same regression using the percentage-return measure. Under this measure, bidder stock prices increased 1.2% over the announcement period after adjusting for market movements when they made diversification acquisitions. This value is significant at the 5% level. Thus, the hypothesis that bidder shareholders suffered from diversification can be rejected with the percentage-return measure as well. The return to a related acquisition under this measure was positive and cannot be statistically distinguished from zero.

Column (3) reports regression estimates using a return measure similar to Morck, Shleifer, and Vishny's (1990) investment return—the dollar return divided by the book value of the target's assets. The big limitation of this measure is that the book value of target assets is only tenuously related to the purchase price. The effect of this should be to introduce additional noise, making the estimates less precise. Indeed, although the bidder return to diversification is still estimated to have been positive with this measure, the standard error is too large for the estimate to achieve statistical significance. Even so, the return to a diversification acquisition was larger than the return to a related acquisition at the 5% level.

Column (4) reports estimates for the regression using a measure virtually identical to Morck, Shleifer, and Vishny's investment return—the dollar return divided by the market value of the target's stock five days after the announcement. Because most of the targets were not publicly traded, the denominator of this return measure can be computed for only 71 observations. Nevertheless, the general pattern is the same: bidders earned positive returns when they diversified and negative returns when they bought in their own industry. The coefficients are not too far from being statistically different ($p = .113$).

A consistent return pattern is visible no matter how returns are measured: the market liked diversification. Bidders who made diversification acquisitions helped their shareholders, and the market attached a premium to diversification acquisitions. There is no evidence for the theory that diversification was driven by managerial objectives and pursued at shareholder expense.[7]

Some theoretical work suggests that there may be opportunities for value creation in vertical mergers that are not present in other mergers. It is natural to ask if the observed positive reaction to diversification mergers is driven by vertical diversification. Table 2 gives evidence on this question. In this table and all subsequent tables, bidder returns are measured with the dollar measure.

As in Table 1, the regression column reports coefficient estimates of bidder dollar returns on dummy variables. Separate dummies are included for diversification acquisitions, where the buyer and target operated in vertically related industries, and "pure" diversification, where there was no apparent vertical or horizontal link between the buyer and seller. In addition, the related acquisitions are broken down into those where the buyer and target had a three-digit SIC code in common[8] and those where they had only a two-digit SIC code in common. Presumably, the former were more closely related than the latter. The last three columns of the table report the chi-squared statistic for tests of equality between the coefficients. For example, the chi-squared statistic for the hypothesis that the return to pure diversification and vertical diversification was the same is .073, which is not statistically significant.

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[7] Elgers and Clark (1980) find that returns to conglomerate acquirers exceeded returns to nonconglomerate acquirers in the 1957–1975 period, the most analogous evidence. They do not distinguish between related and unrelated acquisitions, and half of their sample lies outside the conglomerate merger wave. In addition, they consider only acquisitions where the buyer made no other takeovers in the previous and subsequent two years, in effect deleting all the conglomerating acquisitions. Related estimates have been made in the strategy literature, for example, Seth (1990).

[8] More precisely, the 52 approximately three-digit industries from the input-output tables are used rather than true three-digit industries.

TABLE 2 Mean Bidder Returns to Subdivided Diversification and Related Acquisitions

Type of Acquisition	Regression	Diversification, Vertical	Related, 2-digit	Related, 3-digit
Diversification, pure	9.774	.073	4.952**	4.152**
(N = 36)	(6.118)			
Diversification, vertical	12.502	—	4.958**	3.839***
(N = 31)	(8.019)			
Related, 2-digit	−13.409	—	—	.869
(N = 24)	(8.433)			
Related, 3-digit	−4.819	—	—	—
(N = 108)	(3.722)			

Note: The Regression column reports coefficient estimates from a regression of bidder dollar returns on four dummy variables, one each for pure diversification, vertical diversification, related (2-digit), and related (3-digit). A merger is coded pure diversification if the buyer and target did not have a two-digit SIC code in common and were not vertically related, vertical diversification if they did not have a two-digit SIC code in common but had SIC codes in vertically related industries, related (2-digit) if they had a two-digit SIC code but not a three-digit SIC code in common, and related (3-digit) if they had a three-digit SIC code in common. N is the number of mergers of a given type. The regression is corrected for heteroskedasticity using White standard errors. The regression has 199 observations. The table also reports the chi-squared values for tests of equality between coefficients.

** Significant at the 5% level.

*** Significant at the 10% level.

The estimates indicate that the market's enthusiasm for diversification extended to both vertical and pure diversification—as long as the bidder was entering a new industry, the market reacted favorably. The return to both types of diversification acquisition was positive, and the coefficients are not statistically different from each other. Both types of diversification acquisition earned bidder shareholders significantly greater returns than both types of related acquisition. In short, the positive return to diversification was not driven by vertical relations. It can also be seen that both of the related-acquisition coefficients are negative, and they cannot be statistically distinguished from each other. Neither the diversification nor the related subdivisions add much information.

Morck, Shleifer, and Vishny report that bidder returns to diversification acquisitions were significantly negative in 1980–1987 and not different from zero in 1975–1979. Their evidence supports the idea that deconglomeration was beneficial to shareholders. Table 3 pieces together a long view of the returns to diversification from their estimates and the estimates above. For each of the three time periods it is reported whether returns were statistically positive, negative, or not different from zero for related and unrelated acquisitions. The table documents what appears to be a dramatic reversal in the market's reaction to diversification over the last two decades. In the late 1960s and early 1970s the market looked favorably on diversification. By the late 1970s it was indifferent. In the 1980s it reacted negatively to unrelated acquisitions. I offer this as a puzzle awaiting resolution, and make some speculative comments regarding it in the conclusion.

□ **The diversification premium.** The preceding section establishes that the market reacted favorably to diversification acquisitions. This section investigates whether the market liked diversification per se, or if the buyers who made these acquisitions were just doing something better. For example, did diversifying buyers choose better-run targets?

One way to address this question is to determine if the firms that made diversifying acquisitions and their targets were different from the firms that made related acquisitions and their targets. Table 4 presents statistical summaries of diversification and related mergers. The mean value of variables characterizing the acquirer and the target are calculated for the sample of diversification mergers and the sample of related mergers, and the t-value is given for the test that the means are the same.

TABLE 3 Summary of Bidder Returns to Diversification over Time

Period	Diversification Return	Related Return	Significant Difference?	Source
1968–1974 (N = 199)	*POSITIVE*	*ZERO*	Yes	This article
1975–1979 (N = 154)	*ZERO*	*ZERO*	No	MSV
1980–1987 (N = 172)	*NEGATIVE*	*ZERO*	Yes	MSV

Note: This table reports the returns to acquirers when they bought related and unrelated firms using the results in Morck, Shleifer, and Vishny (1990) (MSV) and this article. "*POSITIVE*" indicates the average return was positive and statistically different from zero at the 5% level; "*NEGATIVE*" indicates it was negative and statistically different from zero; "*ZERO*" indicates it was not statistically different from zero. The sample sizes are indicated beneath the years.

Consider first the characteristics of targets. Both diversifying and horizontal buyers preferred to buy profitable firms. The average operating profit for targets of both types of acquisition was 17%, more than 5% in excess of the target's industry average. The popularity of high-profit targets argues against the importance of a managerial-discipline motive for both types of acquisition and in favor of a managerial-synergy motive. Managerial-discipline takeovers should have been directed at low-profit firms, which were to be cleaned up and restored to profitability. Managerial-synergy takeovers should have been directed at high-profit firms because synergy-motivated managers were looking for good partners (Matsusaka, 1993).

A second variable linked to the managerial-discipline and managerial-synergy theories is whether or not the target's management was retained. The quality of management is a crucial consideration in a merger motivated by managerial synergies. Under the synergy hypothesis, top management, as a valuable resource, was retained after a merger. The discipline hypothesis predicts that target managers were replaced.

TABLE 4 Mean Characteristics of Diversification and Related Acquisitions

Variable	Diversification	Related	t-value
Target operating profit	17.007	17.312	.228
	(1.001)	(.891)	
Target excess operating profit	5.726	5.257	.347
	(1.017)	(.891)	
Dummy = 1 if the target's management	.872	.988	2.299**
was retained after the merger	(.049)	(.012)	
Insiders/outsiders on bidder's board	.807	.882	.524
	(.096)	(.106)	
Dummy = 1 if bidder was family-run	.299	.250	.724
	(.056)	(.038)	

Note: This table reports the mean value of each variable for diversification and related acquisitions. In parentheses below each mean is the standard error of the estimate. The rightmost column gives the t-value for the test of equality between the means. There are 67 diversification observations and 132 related observations for all variables except managerial retention, for which there are 47 diversification observations and 83 related observations. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

** Significant at the 5% level.

Table 4 reveals that firms which bought in their own industry were more likely to retain target management, a difference significant at the 5% level. This suggests that managerial discipline may have been more important in diversification acquisitions, although it should be noted that removal of target management was rare in either case; 87.2% of target management teams in diversification takeovers and 98.8% in related takeovers were retained. Again, managerial discipline does not appear to have been an important factor in most of these takeovers.

Turning to bidder characteristics, it can be seen that related buyers tended to have higher insider/outsider ratios and were less likely to be family-run. However, neither of these differences is significant. As far as this set of variables goes, acquisitions by diversifiers were basically the same as horizontal acquisitions, except when it came to the fate of target management.

It is not possible to test directly whether the positive return to diversification is a response to diversification per se or whether diversification was a proxy for some other variable. But Table 5 addresses the related issue of the diversification premium, that is, the premium bidders enjoyed from diversification compared to related acquisitions. The table presents a series of regressions where the dependent variable is the bidder dollar return. A dummy variable equal to one for diversifying acquisitions is included as an explanatory variable, and a series of other explanatory variables is then introduced. If the diversification premium vanishes when a control variable is included, it can be concluded that the diversification premium is actually a proxy for the control variable.

Both the managerial-discipline and managerial-synergy theories offer an explanation for the diversification premium and guide the choice of controls. The first variable examined is the target's premerger profitability. Column (1) presents a regression including the diversification dummy, a constant, and the target's operating profit. Column (2) is the same except that the target's excess operating profit is used to measure profitability. In both

TABLE 5 **Regressions of Bidder Returns on Diversification, Target Characteristics, and Buyer Characteristics**

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Constant	−8.771	−7.207***	−23.750*	−1.259	−18.508***	−20.189**
	(7.004)	(3.974)	(8.813)	(3.538)	(11.047)	(9.344)
Dummy = 1 if diversification	17.459*	17.343*	13.734***	11.103***	13.502***	13.483***
	(6.040)	(5.984)	(7.032)	(6.710)	(7.053)	(7.039)
Target operating profit	.138	—	—	—	−.143	—
	(.314)				(.341)	
Target excess operating profit	—	.157	—	—	—	−.078
		(.293)				(.325)
Dummy = 1 if the target's management was retained	—	—	22.765*	—	23.831*	23.383*
			(8.387)		(8.801)	(8.897)
Insiders/outsiders on bidder's board	—	—	—	—	−5.138*	−5.146*
					(2.010)	(1.969)
Dummy = 1 if the bidder was family-run	—	—	—	—	3.980	4.205
					(5.529)	(5.629)
R^2	.042	.042	.043	.023	.077	.076
Observations	199	199	130	130	130	130

Note: Each column of the table reports coefficient estimates of a regression where bidder dollar returns are the dependent variable. Standard errors are in parentheses beneath each estimate. Regressions are corrected for heteroskedasticity using White standard errors. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

* Significant at the 1% level.

** Significant at the 5% level.

*** Significant at the 10% level.

regressions the diversification premium remains and is significant at the 1% level. Target profitability does not appear to affect the bidder's return. The R^2's are low in these and the following regressions, in part because most of the explanatory variables are dummies while the dependent variable is continuous.

The second variable examined is managerial retention. Column (3) presents a regression that includes a dummy variable equal to one if the target's management was retained after the merger and zero if the management was removed. Because the fate of the target's management could not be determined in 69 cases, the number of observations falls to 130.

In contrast to target profitability, the managerial-retention variable is a highly significant predictor of bidder announcement-period returns. The coefficient estimate indicates that shareholder value rose $22.8 million more for bidders who retained target management compared to bidders who removed target management. Evidently the market preferred that target managers continue to run their companies.

When the managerial-retention variable is included, the diversification premium falls to $13.7 million but remains significantly greater than zero. There is still a diversification effect after controlling for the fate of the target's management. A natural question is whether the premium is lower in regression (3) because of the inclusion of the managerial-retention variable or because of the 69 deleted observations.

Column (4) reports a regression designed to answer this question. The regression is run on the same 130 observations used in column (3), but the managerial-retention variable is excluded. A statistically significant diversification premium can be observed, but it is smaller than in regressions (1) and (2). This implies that the smaller premium in regression (3) is a consequence of the managerial-retention sample, not the managerial-retention variable. If anything, it appears that the diversification premium is larger after controlling for the fate of management.

Columns (5) and (6) present regressions that include both target profitability and managerial retention. Column (5) uses target operating profit and column (6) uses excess operating profit. In addition, the two governance controls are included. These controls are not linked to theories of diversification but to theories of acquisition in general, and they are not expected to remove the diversification effect.[9]

It can be seen that a positive and significant diversification premium remains even after the controls are included. The additional controls also have no effect on the managerial-retention variable. The market's preference for retention of target management remains large and statistically significant. Another interesting finding is that the market assessed a penalty to bidders whose boards were dominated by inside directors. This is consistent with the idea that insider-dominated boards represent entrenched managers who are able to pursue acquisitions for reasons other than maximization of shareholder value.

To summarize, this section investigates whether there was a premium to diversification per se, or if diversifying bidders were simply doing something else the market liked. I examine a set of variables describing the target and the buyer that, while not exhaustive, is closely linked to factors that theory suggests might be driving bidder returns. I show that diversification and related mergers were similar, and that a diversification premium remains even after controlling for these variables. Thus, until additional variables are explored it can be tentatively concluded that the market was favorably disposed to diversification per se.

□ **Which diversification acquisitions did the market like best?** The regressions in Table 5 suggest that the market subscribed to a managerial-synergy theory and rejected a managerial-

[9] The regressions were also estimated with controls for whether the acquisition was hostile or made by a white knight, and for choice of accounting technique (pooling versus purchase). Neither variable had a significant effect, so for ease of exposition they are not included in the final regressions.

discipline theory. However, the regressions lump together diversification and related acquisitions. Perhaps the market used different criteria to evaluate the two types of takeovers.

Table 6 presents a set of regressions addressed to the question "What kind of diversification acquisition did the market like best?" Columns (1)–(4) present the usual regressions for the subsample of diversification acquisitions. Columns (1) and (2) include target profitability and the governance variables. The managerial-retention variable is added to the regressions in columns (3) and (4), which are reported separately because of the smaller managerial-retention sample size.

The only variable that has a statistically significant effect on the return to diversification acquisitions is managerial retention. As in the full regressions, retention of target management is associated with an announcement-period premium to bidder shareholders in excess of $20 million. This is strong evidence that the market evaluated diversification through the lens of a managerial-synergy theory, not a managerial-discipline theory. The market's reaction to a diversification announcement was not significantly related to the insider/outsider ratio or the presence of family influences. It cannot be determined whether the effect is absent for diversification or the sample size is too small to detect it. Schipper and Thompson (1983) have given evidence that the market reacted to announcements of acquisition *programs;* if the diversifiers were the firms that announced acquisition programs, then we might expect to see bidder-specific factors taken into account when the program was announced, so that the response to actual acquisitions depended only on target-specific factors.

Columns (5) and (6) are the analogs to columns (1) and (2) for related acquisitions. It is not possible to run these regressions including the managerial-retention variable because there is only one case of a related acquisition where target management was removed. This attenuates but does not completely negate what can be learned about how the market evaluated related acquisitions.

Columns (5) and (6) contain an interesting finding. As opposed to diversification acquisitions, the bidder return to a horizontal acquisition was heavily influenced by the

TABLE 6 Explaining Bidder Returns to Diversification and Related Acquisitions

	Diversification				Related	
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Constant	1.534	11.596***	−26.248	−12.513	−4.839	−5.482
	(11.605)	(6.398)	(17.570)	(9.425)	(7.983)	(4.758)
Target operating profit	.788	—	1.122	—	−.014	—
	(.642)		(.891)		(.344)	
Target excess operating profit	—	.583	—	.629	—	.098
		(.578)		(.851)		(.331)
Dummy = 1 if the target's management was retained	—	—	21.505**	23.891**	—	—
			(9.747)	(9.924)		
Insiders/outsiders on bidder's board	−5.646	−5.313	.020	.199	−5.511*	−5.613*
	(5.321)	(5.519)	(8.092)	(8.378)	(1.753)	(1.687)
Dummy = 1 if the bidder was family-run	2.193	1.299	−9.991	−10.068	14.247**	14.143*
	(11.264)	(11.535)	(10.826)	(11.357)	(6.306)	(6.296)
R^2	.029	.018	.102	.069	.042	.042
Observations	67	67	47	47	132	132

Note: Each column of the table reports coefficient estimates of a regression where bidder dollar returns are the dependent variable. Standard errors are in parentheses beneath each estimate. Regressions are corrected for heteroskedasticity using White standard errors. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

* Significant at the 1% level.

** Significant at the 5% level.

*** Significant at the 10% level.

bidder's governance. On average, insider-dominated firms imposed $5.5-million costs on their shareholders when they announced acquisitions. The market responded positively to family-run firms, resulting in $14-million value increases from their acquisitions. A possible reason the market liked horizontal acquisitions by family-run firms is that a large fraction of the equity of these firms remained in the hands of top management or relatives of top management, reducing agency problems. While intriguing, without data on actual equity holdings this is speculation.

Bearing in mind the data contraints, Table 6 suggests that the market's reaction to an acquisition announcement during the conglomerate merger wave can be summarized in the following way. First, diversification acquisitions were evaluated on the basis of how they were operationalized—if management was retained, consistent with a managerial-synergy motive, the market reaction was positive. Second, related acquisitions were evaluated on the basis of the buyer—insider-dominated buyers were disliked and family-run firms were favored.

4. EPS manipulation

■ The basic idea behind EPS manipulation can be seen with an example. Suppose firm A has $1 million in earnings, 1 million shares outstanding, and a price of $20. Its EPS is $1.00. Firm B has $1 million in earnings, 1 million shares outstanding, and a price of $10. Firm A has a P/E of 20 and firm B has a P/E of 10. Firm A plays the game by buying firm B. Firm A exchanges one of its shares for two of firm B's, increasing its outstanding shares to 1.5 million. However, its total earnings rise to $2 million, for a new EPS of $1.33. If investors watch EPS, so the argument goes, they observe a 33% increase and bid up the price of firm A. Lynch (1971) provides an extensive discussion of this idea and useful background information. He cites the CEOs of "Automatic" Sprinkler, Whittaker, City Investing, and TRW as saying they would never make acquisitions that diluted EPS. In effect, they claimed never to buy firms with higher P/Es than their own.

Table 7 reports the mean P/E ratios for the 111 observations where target price data was available (with two exceptions, the rest of the targets were privately owned). The table reports mean bidder P/E ratios, mean target P/E ratios, and the fraction of acquisitions where the bidder's P/E exceeded the target's P/E.

The numbers are reported with three different measures of EPS. Measure (a) is earnings per common share before extraordinary items, measure (b) is earnings per common share after extraordinary items, and measure (c) is earnings before extraordinary items assuming full conversion of common stock equivalent securities (fully diluted EPS). The price of the buyer is the market price five days before the acquisition announcement. The target's price is the market price five days after the announcement; this is the relevant price for computing the purchase P/E. When I could not find the target's price on this day (usually because it traded over the counter), I used instead its high price for the previous year. Comparing the previous year's high price with the five-day-later market price for the subsample where both are available indicates this is not a bad approximation. At any rate, the results do not change if the previous year's low or average price is used instead.

The first thing to note is that diversification buyers were more willing to dilute EPS than horizontal buyers. Bidder P/E ratios exceeded target P/E ratios in roughly 50% of the diversification acquisitions and over 70% of the related acquisitions. This difference is statistically significant.

The reason for this pattern was that targets of related takeovers had significantly lower P/E ratios (the mean was roughly 15) than targets of diversification takeovers (the mean was roughly 21). Bidder P/E ratios averaged about 20 for both related and diversification acquisitions. This is not the pattern that would be predicted by the EPS-bootstrapping explanation for conglomeration. Taking related acquisitions as the normal case, the boot-

TABLE 7 Mean P/E Ratios for Diversification and Related Acquisitions

Variable	Diversification	Related	*t*-value
Dummy = 1 if bidder P/E > target P/E (a)	.528	.720	1.937***
	(.084)	(.052)	
Dummy = 1 if bidder P/E > target P/E (b)	.556	.733	1.805***
	(.084)	(.051)	
Dummy = 1 if bidder P/E > buyer P/E (c)	.472	.773	3.091*
	(.084)	(.049)	
Bidder P/E (a)	19.654	21.957	.958
	(1.464)	(1.907)	
Bidder P/E (b)	20.660	22.697	.813
	(1.631)	(1.900)	
Bidder P/E (c)	19.354	20.748	.728
	(1.479)	(1.216)	
Target P/E (a)	21.000	15.447	2.342**
	(2.201)	(.881)	
Target P/E (b)	21.000	15.541	2.301**
	(2.201)	(.886)	
Target P/E (c)	20.959	15.045	2.517*
	(2.190)	(.852)	

Note: This table reports the mean value of each variable for diversification and related acquisitions. In parentheses below each mean is the standard error of the estimate. EPS are calculated as follows: (a) primary earnings before extraordinary items, (b) diluted earnings before extraordinary items, and (c) primary earnings after extraordinary items. The rightmost column gives the *t*-value for the test of equality between the means. There are 36 diversification observations and 75 related observations. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

* Significant at the 1% level.

** Significant at the 5% level.

*** Significant at the 10% level.

strapping explanation predicts that firms that bought outside their industries had higher P/E ratios than firms that bought within their own industries, and were less likely to buy firms with high P/E ratios.

But ultimately the proof is in the pudding: Did bidders who played the bootstrapping game increase the price of their stock? Table 8 reports a set of regressions to answer this. Columns (1)–(3) report regressions of bidder dollar returns on two dummy variables. One dummy is for acquisitions where the bidder's P/E exceeded the target's P/E—the candidate bootstrappers—and the other is for acquisitions that diluted bidder EPS. According to the

TABLE 8 Bidder Returns Regressed on Relative P/E Dummies

Variable	(1)	(2)	(3)	Diversification (4)	Related (5)
Dummy = 1 if bidder P/E was	−3.549	−3.595	−3.493	5.611	−6.773
greater than target P/E	(4.656)	(4.533)	(4.583)	(4.476)	(6.033)
Dummy = 1 if bidder P/E was less	4.125	4.647	4.434	11.389	−1.756
than or equal to target P/E	(6.027)	(6.345)	(6.194)	(11.884)	(4.764)
p-value for the hypothesis that	.314	.291	.304	.649	.514
coefficients are equal					
Observations	111	111	111	36	75

Note: Each column of the table reports coefficient estimates of a regression of bidder dollar returns on two dummy variables, one if the bidder's P/E was greater than the target's P/E, and the other if it was less than or equal to the target's P/E. Standard errors are in parentheses beneath each estimate. Regressions are corrected for heteroskedasticity using White standard errors.

bootstrapping theory, the candidate bootstrappers should have experienced positive returns while the diluters experienced negative returns. Column (1) measures EPS as primary earnings before extraordinary items, column (2) uses primary earnings after extraordinary items, and column (3) uses diluted earnings before extraordinary items (as in Table 7).

There is no evidence in support of the bootstrapping explanation. In all three regressions, candidate bootstrappers earned negative returns while diluters earned positive returns, contrary to predictions. Bidders who bought firms with lower P/E ratios than their own lost about $3.5 million on average. Bidders who bought firms with higher P/E ratios than their own gained over $4.1 million on average. None of the coefficients is significantly different from zero, nor can they be distinguished from each other. Because the results are nowhere significant it is not possible to reject the bootstrapping hypothesis in a statistical sense, but it appears to have no explanatory power.

It is possible that EPS manipulation might have some explanatory power for diversification acquisitions that cannot be detected in the full sample (or there may be an effect only for the related acquisitions). Columns (4) and (5) investigate this possibility by running the regressions separately for the diversification and related samples. In these regressions EPS is primary earnings before extraordinary items. In both cases the mean returns are inconsistent with the hypothesis that EPS bootstrapping increased bidder value. Indeed, it is still the case that acquisitions which diluted EPS were more beneficial to bidder shareholders than acquisitions which inflated EPS, although again the coefficients are not statistically different at conventional levels of significance.

5. Managerial discipline and managerial synergy

■ The regressions in the preceding sections suggest that the market did not reward bidders who made acquisitions in order to discipline target management. This is a surprising finding, to some extent, in light of the academic literature's emphasis on discipline as a value-creating takeover motive.

In this section I address the managerial-discipline theory more directly by focusing on takeovers of publicly traded firms. It is not always appreciated that the managerial-discipline theory would seem to apply only to acquisitions of publicly traded firms. The heart of the managerial-discipline theory is the idea that shareholders may fail to discipline managers because of free-riding problems (the basic idea goes back to Berle and Means (1968)). In a firm with many shareholders and diffuse ownership, the argument goes, each individual captures only a fraction of the benefit to disciplining managers and so is willing to pay only a fraction of the monitoring and enforcing cost. In such a situation it may pay for an outside investor to buy a majority of the firm's stock and effect a change in management. The conditions that lead to a breakdown in shareholder monitoring in public companies are not present in private companies, which tend to have concentrated ownership and a small number of shareholders. If there are managerial-discipline effects, then, they will be observed only in the subsample of publicly traded targets.

Following this logic, this section looks for systematic differences between acquisitions of public and private targets that might support the managerial-discipline theory. Targets are defined to be public if they were traded on the NYSE, AMEX, a regional exchange, or over the counter. The primary source was *Moody's Industrial Manual.* Additional public firms were identified from the *Wall Street Journal* and the listing statements. A decision was made to classify targets that were divisions or subsidiaries of another company as private. They were similar to private firms in two respects: first, they were not subject to a hostile takeover, and second, they had few (usually only one) shareholders.

Table 9 presents mean target and buyer characteristics for takeovers of public and private firms. The *t*-value is reported for the test of equality between means. The managerial-discipline theory predicts that public targets had low profits and their managers were unlikely

TABLE 9 Mean Characteristics of Public and Private Acquisitions

Variable	Public Target	Private Target	*t*-value
Target operating profit	16.578	18.037	1.043
	(.843)	(1.117)	
Target excess operating profit	4.668	6.396	1.226
	(.828)	(1.140)	
Dummy = 1 if the target's management was retained	.943	.953	.244
	(.025)	(.032)	
Insiders/outsiders on bidder's board	.911	.785	.872
	(.123)	(.077)	
Dummy = 1 if bidder was family-run	.212	.337	1.944***
	(.039)	(.051)	
Dummy = 1 if diversification	.319	.360	.601
	(.044)	(.052)	
Mean bidder dollar return in millions	−.549	−.475	.013
	(3.689)	(4.615)	

Note: This table reports the mean value of each variable for diversification and related acquisitions. In parentheses below each mean is the standard error of the estimate. The rightmost column gives the *t*-value for the test of equality between the means. There are 113 public-target observations and 86 private-target observations for all variables except managerial retention, for which there are 87 public-target observations and 43 private-target observations. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

*** Significant at the 10% level.

to be retained, at least compared to private targets. The mean operating profit, excess operating profit, and rate of managerial retention all conform to this pattern, but none of the public-private means are significantly different from each other. Moreover, even within the class of public targets, buyers tended to purchase highly profitable firms (the mean excess operating profit was 4.7%) and rarely removed target management (only 5.7% were removed).

The firms that bought public targets had higher insider/outsider ratios on average, and fewer of them were family-run. The family-run difference is significant at the 10% level, but the insider/outsider difference is not significant at conventional levels. The table also shows that private targets were more often involved in diversification acquisitions than public targets were, but again the difference is not significant. Finally, the mean announcement-period returns to acquisitions of both target types were not significantly different from zero or each other. The impression left by Table 9 is more one of similarity between public and private takeovers than difference.

Table 10 reports a set of regressions in which, as above, the dependent variable is the bidder dollar return. The regressions in columns (1)–(3) are run on only the public-target subsample, which should provide a more congenial environment for detection of managerial-discipline effects. A diversification dummy is included in all regressions as a control because the preceding sections show that it is an important independent factor contributing to the bidder return. Only the excess-operating-profit measure of target profitability is included—both measures lead to the same conclusions.

The regression reported in column (1) includes excess operating profits and the controls. Discipline targets should have had low profits, so if the market liked discipline-motivated buyers there should be a negative coefficient on this variable. The estimated coefficient is negative, but it is quantitatively trivial and statistically insignificant.

The regression reported in column (2) adds managerial retention to the list of explanatory variables. This is done in a separate regression because of the reduction in sample size when managerial retention is included. If the market liked managerial discipline, then the coefficient on managerial retention should be negative. To the contrary, the managerial-retention coefficient is large and significantly greater than zero at the 5% level. The market

TABLE 10 Bidder Returns from Acquisitions of Publicly Traded Targets

Variable	(1)	(2)	(3)	(4)
Constant	.166	−20.345***	−20.711***	−20.647**
	(5.903)	(11.581)	(11.279)	(9.439)
Target excess operating profit	−.079	−.230	—	—
	(.376)	(.370)		
Dummy = 1 if the target's management was retained	—	25.284**	—	—
		(11.476)		
Dummy = 1 if target's management was retained and excess profit was greater than zero	—	—	22.914**	22.009*
			(11.047)	(9.097)
Dummy = 1 if target's management was retained and excess profit was less than zero	—	—	28.572**	26.100**
			(14.330)	(11.011)
Dummy = 1 if diversification	12.007	11.500	11.766	13.939***
	(7.551)	(8.547)	(8.491)	(7.134)
Insider/outsiders on bidder's board	−6.152*	−6.633*	−6.592*	−5.023*
	(1.155)	(1.314)	(1.255)	(2.039)
Dummy = 1 if the bidder was family-run	6.747	11.562	11.152	4.314
	(6.910)	(7.441)	(7.723)	(5.704)
R^2	.066	.108	.110	.078
Observations	113	87	87	130

Note: Each column of the table reports coefficient estimates of a regression where bidder dollar returns are the dependent variable. Standard errors are in parentheses beneath each estimate. Regressions are corrected for heteroskedasticity using White standard errors. Columns (1)–(3) include only acquisitions of public targets while column (4) includes acquisitions of public and private targets. A merger is coded "diversification" if the buyer and seller did not have a two-digit SIC code in common.

* Significant at the 1% level.

** Significant at the 5% level.

*** Significant at the 10% level.

clearly preferred that target management be retained, even for public targets. This finding leaves little to commend the managerial-discipline theory. Rather, it adds to the support for the managerial-synergy theory. The coefficient on excess operating profit remains insignificant.

There is one more possibility to consider. Mergers where the target firm was underperforming its industry, that is, where its excess profit was less than zero and where the target's managers were subsequently removed, were the most likely to be intended to discipline bad managers. If the market subscribed to the discipline theory, such takeovers should have earned acquirer shareholders positive announcement-period returns. Suppose the market liked managerial discipline when the target was doing poorly and liked managerial synergy when the target was doing well. If true, then the regressions in columns (1) and (2), which treat all managerial retention the same, would not be able to detect a managerial-discipline effect.

Column (3) reports a regression that allows for this possibility. In the regression, two managerial-retention dummies are included, one for targets whose excess operating profit was positive and one for targets whose excess operating profits were negative. This comes close to providing an ideal environment for observation of a positive market response to managerial discipline. If the market liked bidders who replaced managers of poorly performing firms, then the coefficient on managerial retention for low-profit firms should be negative. As can be seen, even this attempt to isolate a managerial-discipline effect meets with failure. The coefficient of interest is positive and significant at the 5% level. The message is clearly that the market liked retention of target management regardless of whether the target was profitable or losing money. The conclusion that the market rewarded managerial retention and punished managerial removal appears to be fairly robust. The last column

(4) reports the same regression for the full (public and private) sample. The results are unchanged.

These estimates argue against the managerial-discipline theory and in favor of the synergy theory. They show that the market disliked buyers who removed target management. Whether this pattern holds for other time periods remains to be seen. Lang, Stulz, and Walkling (1989) report positive event-window returns for bidders who acquired a target with a low Tobin's Q, which they argue is a proxy for management quality, and they take this as evidence for the managerial-discipline hypothesis. The results from Table 10 lead to a different conclusion and suggest that a low Q may not mean that management was bad.

The magnitudes of the managerial-retention coefficients indicate that bidders who replaced target management tended to reduce their shareholders' value. Why would they do this? One explanation is that they were pursuing managerial objectives, perhaps empire building. A second possibility is that they overpaid, or almost equivalently, that they overestimated their own ability to make improvements in the target, at least in the eyes of the market. This is consistent with the hubris hypothesis proposed by Roll (1986). It may be that the negative returns to related mergers on the whole are attributable to hubris rather than empire building.

6. Conclusion

■ The rise and (possible) decline of corporate diversification is one of the major business developments of the last 50 years. Even so, our understanding of the motives and consequences of diversification is very incomplete. This article makes three contributions to the study of diversification: it directly tests and refutes one popular explanation for the conglomerate merger wave, it provides some indirect evidence on three other explanations, and it presents an empirical puzzle concerning the market's changing sentiments over time.

The main finding is that buyers earned significantly positive announcement-period returns during the conglomerate merger wave when they made diversifying acquisitions. The hypothesis that conglomerates were driven by empire building or some other managerial objective can be rejected because such explanations imply value decreases to unrelated acquisitions. The simple view that the 1980s "bust-ups" were a corrective to past managerial excesses is untenable.

It appears the market expected diversification to increase value. A natural question is, "What did the market think would be the source of the value increase?" The evidence suggests the market was following a managerial-synergy theory and not a managerial-discipline theory: buyers who retained target management earned the highest returns.

Another explanation of the conglomerate merger wave is that mergers were driven by an accounting gimmick rather than anticipated efficiencies. According to this explanation, investors watched EPS; when they saw EPS go up they bid up the price of the stock. Conglomerates, according to this argument, tended to buy companies with lower P/E ratios than their own in order to increase their EPS and boost their stock prices. I find no evidence that firms which inflated EPS in this way earned positive returns.

The empirical puzzle is the time pattern of investor sentiment regarding diversification (Table 3). In conjunction with the estimates of Morck, Shleifer, and Vishny (1990), it can be seen that buyers who diversified earned significantly positive returns in 1968–1974, approximately zero returns in 1975–1979, and significantly negative returns in 1980–1987. There is a dramatic reversal in market sentiment over the last 20 years. This is an interesting empirical finding that begs explanation. By way of concluding, I sketch out three possible explanations that would seem to be worth pursuing.

First, it may be that something in the world changed between the 1960s and the 1980s. Some have pointed to antitrust regimes—there was tight enforcement in the 1960s and lax enforcement in the 1980s under the Reagan administration. According to this explanation,

diversification was always a second-best choice, but in the constrained world of the 1960s it was the best available option (Shleifer and Vishny, 1991). Another suggested change is financial innovation. One theory of conglomerates is that they served to internalize certain capital market transactions. If capital markets are now much improved, then the need for businesses to internalize them may be gone (Comment and Jarrell, 1991). Still others have pointed to "globalization" as a factor, although the links between this and the return to unrelated acquisitions have yet to be clearly spelled out.

A second explanation for the change in market sentiment has to do with first-mover advantages and learning. It may be that the early conglomerators earned significantly positive returns simply because they were first; they may have captured some rents to organizational innovation that were subsequently driven to zero. Perhaps the men who built the first conglomerates had a special talent for diversification, which the market rewarded, but they were followed by a second wave of imitators who saw the big gains but did not really understand the mechanics of the form.

A third and final explanation is that the market simply made a mistake about diversification. This need not imply irrationality or less-than-efficient use of information. (Indeed, there is some evidence the market is right about mergers on average: see Healy, Palepu, and Ruback (1992) and Ravenscraft and Pascoe (1988).) In the 1960s, the conglomerate was considered a radical innovation in corporate organization. We expect that investors made rational forecasts based on their information, but because there was no historical precedent, their information was very limited and their estimates correspondingly noisy. In support of this, compare the generally favorable attitude of the business press[10] and the conventional wisdom in many of the top business schools in the late 1960s with the current opinion of both that diversification is bad—that businesses should "stick to their knitting."

Once we entertain the possibility that the market's enthusiasm for an innovation may bear little relation to the innovation's eventual success, we are forced to entertain a discouraging hypothesis about today's situation. It may be that the market's enthusiasm for a return to specialization in the 1980s was excessive as well. The positive returns from dismantling the companies of the 1960s may just reflect the latest fad.

Appendix

■ **Construction of the dataset.** This table lists the number of observations by source and gives the number of observations that were deleted for various reasons.

Observations used in Ravenscraft and Scherer (1987, 1989)	634
Collected but not used by Ravenscraft and Scherer	9
Added by the author from NYSE listings	212
Basic dataset	855
No announcement in the *Wall Street Journal*	−426
Duplicate, consolidated with parent, or target not in manufacturing	−16
Target was a subsidiary of the buyer	−11
Wall Street Journal story was not the first announcement	−58
Other important announcement during event window	−34
Not enough CRSP information	−12
Target assets were less than $5 million	−99
Final dataset	199

[10] For example: "Like the men who run them and staff them, the newer-type corporation is cocky. At first, timidly, it was called 'diversification.' Later on, somewhat scornfully, it was called 'conglomerization.' It now appears that the cross-industry corporation is in some ways the most efficient sort" (from a September 15, 1967, *Forbes* story entitled "The Changing Nature of the Corporation"). Or the *Wall Street Journal*'s citation of a comment by an investment research service that the quintessential conglomerate Gulf & Western was "the prototype of what the American corporation of the future is all about" (from a front-page story entitled "The Conglomerates: Antitrusters, Investors Eye Combines Warily, But Firms Still Grow," July 25, 1968).

Changes in the Ravenscraft and Scherer sample.

1. Industry average operating profit was recomputed for the Food and Kindred Products industry for the three quarters 72:IV–73:II to account for data revisions.
2. Target industries were reclassified to conform to *Poor's Register* or the *Million Dollar Directory* for 50 observations.
3. Data-entry errors were corrected for three observations.
4. When computing target excess operating profit, Ravenscraft and Scherer consolidated the Furniture and Fixtures, Lumber and Wood Products, and Miscellaneous Manufacturing and Ordnance Industries. For 1968 and 1971 I computed Miscellaneous Manufacturing and Ordnance separately from the other two industries. The *Quarterly Financial Report* does not report the industries separately in 1974.
5. The Amphenol–Bunker Ramo merger was recoded so that Bunker Ramo was the (white knight) acquirer and Amphenol the target.

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