

TARGET PROFITS AND MANAGERIAL DISCIPLINE DURING THE CONGLOMERATE MERGER WAVE*

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This paper takes a close look at the extraordinarily high pre-merger profit rates of target companies during the conglomerate merger wave. Both publicly-traded and privately-owned targets were significantly more profitable than other firms in their industries and size classes. This implies that managerial discipline was not a predominant takeover motive during the period. However, public targets were less profitable than private targets, and the largest public targets earned only average profits. This suggests that managerial discipline may have been important for the few takeovers that involved large publicly-traded targets.

I. INTRODUCTION

FOR A SAMPLE of 634 mergers in 1968, 1971 and 1974, Ravenscraft and Scherer [1987] documented that target firms were extraordinarily profitable prior to being acquired—the sample average profit rate before taxes was 20.2 percent compared to an industry average of 10.9 percent. This finding, on the face of it, indicates that the popular “managerial discipline” theory that takeovers are motivated to remove bad target management cannot explain most of the merger activity in this period. It is unlikely that firms that were vastly outperforming their industries had bad managers.

However, there were occasional takeovers of low-profit firms. Can these mergers be attributed to managerial discipline? It is not possible to answer this question from the Ravenscraft and Scherer (R&S) evidence alone. The problem is that the R&S finding is for a pooled sample of large and small public and private targets, while the discipline theory is only meant to explain takeovers of large public firms. Evidence that the unprofitable targets were predominantly large public firms would lend support to the idea that discipline was an important motive for a select group of takeovers.

This paper uses an extensive data set, based in large part on the R&S sample, to examine more closely the extraordinarily high profits of takeover targets during the 1968–1971–1974 period, which includes the peak of what is now called the conglomerate merger wave. The primary goal is to assess how important discipline was as a takeover motive.

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There are two main results. The first is that both publicly-traded and privately-owned targets had profit rates significantly greater than their industry averages. This implies that discipline was not the primary motive behind takeovers of publicly-traded or privately-owned firms. However, the average profit rate of public targets was less than the average profit rate of private targets, a consequence of the low profit rates of the very largest publicly-traded targets. It is shown that this relation cannot be explained by a general pattern of lower profit rates for large firms compared to small firms. The evidence suggests that while discipline was not an important motive for most of the takeovers during the conglomerate merger wave, it may have played an important role in a few specific takeovers, those involving large publicly-traded targets.

The plan of the paper is the following. Section II describes the data and defines the variables. Section III presents the evidence. Section IV concludes.

II. DATA AND DEFINITION OF PROFIT RATE

The data are 806 manufacturing sector acquisitions that took place in 1968, 1971 and 1974. The core data are the sample used by Ravenscraft and Scherer [1987, 1989] to study target profitability. They hand-collected their sample from New York Stock Exchange listing statements. I added 212 more observations from the 1968 listing statements. This resulted in a sample of 609 observations from 1968—the universe of 1968 acquisitions in the listing statements—117 from 1971, and 129 from 1974. The results do not differ in any important way by year, so observations from the three periods are pooled.

The R&S sample contains information on each target's pre-merger income, assets, primary two-digit SEC, and the profitability of its two-digit industry. For each observation in both samples I collected additional information on the target's ownership and the profitability of other firms in its size class. Minor corrections to the R&S data set were made, duplicate observations were deleted, and a small number of observations (where the target was being divested by another company or was already a subsidiary of the buyer) were dropped (the details are in Matsusaka [forthcoming]). This left 806 observations in the final sample.

Because antitrust enforcement was strict in the late 1960s and early 1970s, it can safely be assumed that the sample mergers were not motivated to increase market power (Ravenscraft and Scherer [1987]). This allows the investigation to focus on a narrow set of merger motives.

An important advantage of data drawn from the listing statements is that it allows an inside look at privately-owned targets (most of the sample): Corporations wishing to list securities on the NYSE in relation to a merger are required to submit a recent balance sheet and income statement for the target. Because it is difficult to acquire information about privately-held firms, most merger studies have examined large publicly-traded corporations;

perhaps the most studied are the Fortune 500 and CRSP firms. A possible drawback to the current sample is that by construction, all observations were in part equity-financed. This may be relevant to the extent that all-cash transactions had different motivations than security transactions (Carleton, Guilkey, Harris and Stewart [1983]).

The comprehensiveness of the data can be evaluated by comparing the number of acquisitions in the sample to the total number of manufacturing and mining acquisitions reported by the Federal Trade Commission in *Current Trends in Merger Activity, 1971* and *Statistical Report on Mergers and Acquisitions, 1973–1976* (which is close to the universe of acquisitions). The FTC reported 2,407 acquisitions in 1968, 1,011 in 1971, and 602 in 1974. The removal of 10 percent of the FTC acquisitions to account for mining takeovers indicates that the NYSE sample contains about $609/2166 = 28$ percent of all manufacturing sector takeovers in 1968. The coverage is 26 percent for 1971 and 24 percent for 1974. This is not complete but is much more extensive than other studies. For example, in a frequently cited profitability study, Boyle [1970] considered only 698 acquisitions for 1948–1968, less than 5 percent of the total.

Profitability throughout the study is measured as a rate of return on assets. The profit rate of firm i is defined to be r_i where

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

Income is figured before taxes and in most cases (95 percent) before interest adjustments.

Let r_i^I be the average profitability of assets in firm i 's industry. The supraindustry rate of firm i is defined to be I_i where

$$I_i = r_i - r_i^I.$$

For example, if a firm had a profit rate of 12 percent while the average in its industry was 10 percent, then its supraindustry profit rate was 2 percent. The r_i^I are computed from industry net operating revenues and book value of total assets as reported in the *Quarterly Financial Report*; they are broken down into 18 two-digit industries.

Similarly, let r_i^S be the average profitability of assets of companies in firm i 's asset size class. Firm i 's suprasize profit rate is S_i where

$$S_i = r_i - r_i^S.$$

The r_i^S are also computed from data published in the *Quarterly Financial Report*, which divides firms into nine size classes. The data do not exist to adjust for industry and size at the same time.

III. EVIDENCE ON THE MANAGERIAL DISCIPLINE MOTIVE

The managerial discipline theory has its roots in Berle and Means' [1932]

concern with the separation of ownership and control in large corporations. The basic argument is that stock ownership in some corporations is so diffuse that free-riding problems among shareholders prevent effective monitoring of managers. Each shareholder owns such a small fraction of the firm's stock that individually it doesn't pay for any of them to monitor and try to discipline errant managers. This allows managers to pursue activities that do not maximize value. A takeover, by concentrating equity ownership in a single hand, removes the free-rider problem. Effective monitoring presumably leads to improved performance.

The theory identifies two characteristics of mergers motivated to discipline target management. The first is that the target was underperforming its industry. The only reason to discipline the incumbent managers is if they were not maximizing profit, either because of incompetence or because they were pursuing their own objectives. Discipline-motivated takeovers were potentially valuable when target firms were not performing as well as they could have been—a plausible benchmark is that they were not performing as well as other firms in their industries.

The second characteristic of a discipline-motivated merger is that the target company had publicly-traded and diffusely-held stock. A corporation's shareholders could discipline management by themselves, if they wished, by electing an appropriate board of directors. A takeover was necessary to effect a change only when stock ownership was diffuse enough that free-rider problems prevented collective action by shareholders. Privately-owned firms are closely held; their owners can remove bad managers themselves. It is only large publicly-traded firms with diffuse ownership where managers can evade stockholder control, leading to a discipline-motivated takeover.

The basic evidence provided by R&S is that acquirers tended to buy extremely profitable firms. Table I expands on this basic point by demonstrating just how pervasive this tendency was. The table presents the pre-merger supraindustry profit rates of targets in 17 two-digit industries. Acquisitions are classified by SEC codes, in most respects the same as SIC codes; see the *Quarterly Financial Report* for exact definitions. Two different statistics are reported: \bar{I}_i , on average how much more profitable were targets in a given industry than the average firm in the industry; and the percentage of targets with $I_i > 0$. The latter statistic can suggest whether outliers are driving the means.

The pattern in the table is striking: targets in all industries were outperforming their industry averages and significantly so in 15 of 17 industries. Targets in the Apparel and Leather, Textiles, Transportation, Rubber and Plastics, Ordnance, Lumber, Wood and Furniture, and Food industries had profit rates more than 10 percent greater than their industry averages. In five industries over 80 percent of the targets had positive supraindustry profit rates; in ten industries over 70 percent had positive excess profits; and in all but one industry over 60 percent of the targets were outperforming their

TABLE I
TARGET SUPRAINDUSTRY PROFIT RATES BY INDUSTRY

Industry	N	\bar{I}_i	S.E.	$\%I_i > 0$
<i>Apparel and Leather Products</i>	48	15.32**	2.72	85.42
<i>Textile Mill Products</i>	24	13.93**	3.06	87.50
<i>Transportation Equipment</i>	43	12.68**	3.43	74.42
<i>Rubber and Plastics Products</i>	27	12.54**	3.39	88.89
<i>Ordnance and Miscellaneous</i>	19	12.10*	4.26	73.68
<i>Lumber, Wood and Furniture</i>	56	11.79**	2.25	82.14
<i>Food and Kindred Products</i>	72	10.36**	1.74	77.78
<i>Other Fabricated Metal</i>	81	9.05**	1.98	70.37
<i>Paper and Allied Products</i>	15	7.64*	3.21	66.67
<i>Other Machinery</i>	128	6.97**	1.71	66.41
<i>Primary Metals Industries</i>	44	6.68*	3.31	65.91
<i>Petroleum Refining and Related</i>	11	5.79**	1.37	90.91
<i>Printing and Publishing</i>	37	5.68*	2.43	70.27
<i>Chemicals and Allied Products</i>	57	5.25*	2.21	61.40
<i>Stone, Clay and Glass Products</i>	16	4.58	2.62	68.75
<i>Electrical Machinery</i>	78	4.35 ⁺	2.23	62.82
<i>Instruments and Related Products</i>	48	2.42	3.44	54.17

Note: The Tobacco Manufactures industry had only two acquisitions and is not reported. Significance levels are indicated as follows: "***" is 1%, "**" is 5% and "+" is 10%. N is the total number of acquisitions of firms in the industry.

industries. In no industry did buyers exhibit a preference for underperforming targets.

As noted in the introduction, these results make a prima facie case against the prevalence of managerial discipline as a takeover motive during the conglomerate merger wave. The important limitation of Table I is that it does not distinguish between targets that were privately-owned and those that were publicly-traded. Acquirers usually bought private firms—82.3 percent of the time in this sample—so any statistical analysis of the full sample is dominated by the private target mergers. Although managerial discipline cannot be an important explanation for these mergers, it may be important for the 17.7 percent of takeovers where the target had publicly-traded securities. Evidence that public targets were unprofitable prior to acquisition would constitute support for the conjecture that the opportunity to impose discipline drove these takeovers.

Table II reports separately the pre-merger profit rates of private and public targets. A target is defined to be public if its securities were traded on the NYSE, AMEX, a regional exchange, or over-the-counter. The primary source for this information was *Moody's Industrial Manual, 1968, 1971, 1974*. Additional public firms were identified from the *Wall Street Journal* and the listing statements.

Private targets were earning 9.14 percent in excess of their industries prior to acquisition compared to 4.64 percent for public targets. The difference in the two supraindustry profit rates is significant at better than the 1 percent

TABLE II
SUPRAINDUSTRY PROFIT RATES FOR PUBLIC AND PRIVATE TARGETS

	\bar{I}_i	S.E.	Min	Max	N	$\%I_i > 0$	\bar{r}_i
Private targets	9.14**	0.77	-104.90	85.86	663	71.95	21.01
Public targets	4.64**	0.88	-39.50	34.02	143	66.43	16.58
All targets	8.34**	0.65	-104.90	85.86	806	70.97	20.22

Note: Profit rate is defined as net operating income divided by the book value of assets for a period preceding the merger. Significance levels are indicated as follows: "***" is 1%, "**" is 5% and "+" is 10%.

level ($t = 3.86$). The raw returns (unadjusted for industry profit rates) show that acquirers bought private firms with pre-merger profit rates of 21.01 percent and public firms with profit rates of 16.58 percent. This difference is also significant at better than the 1 percent level ($t = 3.78$), which indicates that the difference in supraindustry profit rates is not because bidders chose to buy public targets in high profit industries. The fraction of private targets outperforming their industries, 0.7195, exceeded the fraction of public targets, 0.6643, but the difference is not significant ($z = 1.27$). Buyers chose targets with supraindustry profit rates of 8.34 percent for the sample as a whole.

There are two important results in Table II. First, even when buying a public firm, acquirers preferred to purchase businesses that were outperforming their industries. This suggests that managerial discipline was a minor factor even in explaining takeovers of public firms. The second result is that bidders were less insistent on extraordinary profit rates when they bought public firms than when they bought private firms. Thus, the discipline motivation may have been important for some of the mergers involving publicly-traded targets. More compelling evidence on this is provided by the next set of tables.

Table III presents the size distribution of private and public targets. It shows that public targets were larger on average than private targets. The mean book value of assets was \$81.6 million (median \$23.8 million) for public

TABLE III
SIZE DISTRIBUTION OF PRIVATE AND PUBLIC TARGETS

Size in millions	Private	Public	All
< \$1	223	1	224
\$1-\$5	316	16	332
\$5-\$10	67	19	86
\$10-\$25	36	36	72
\$25-\$50	19	29	48
\$50-\$100	0	21	21
> \$100	2	21	23

Note: Size is defined to be the book value of the target's consolidated assets. The entries indicate the number of targets which fell in each cell.

firms compared to \$4.3 million (median \$1.9 million) for private firms; the difference is significant at better than the 1 percent level ($t = 4.02$). The smallest public target had assets worth \$214,000, while the smallest private target had assets worth \$29,000. The largest public target, on the other hand, had assets worth \$1.8 billion (Sinclair Oil) while the largest private target had assets worth \$204.2 million (Jeffrey Galion).

The central point of Table III is that public targets were larger than private targets. This suggests an alternative explanation for the difference in profitability between public and private targets: perhaps large firms had lower profit rates than small firms in general. If this were the case, then the (larger) public targets would have had lower profit rates even after adjusting for industry averages.

This possibility is investigated in Table IV. The table presents the same information as Table II with the exception that suprasize profitability, S_i , is reported instead of supraindustry profitability. Recall that suprasize profitability is the target's profit rate adjusted by the average profit rate of firms in the same size class. If public targets had lower profit rates simply because large firms had lower profit rates, then the difference between public and private targets should disappear using suprasize profitability.

It can be seen that the pattern is essentially unchanged using suprasize profitability. Both public and private targets were significantly outperforming their size classes, by 4.52 percent and 9.37 percent respectively. In addition, the mean profit rate of private targets remains significantly greater than the mean profit rate of public targets ($t = 4.17$). The percentages give consistent results. In short, the hypothesis that private targets outperforming public targets was simply a size effect can be rejected. By extension there is more support for the idea that the managerial discipline motive was important for some acquisitions in the public target subsample.

There is one more way to look at the data that can shed some light on the importance of discipline as a takeover motive for public targets. Recall that the discipline motive is more likely to be important for target firms with diffusely held stock—this is what exacerbates the free-riding problem. The size of a firm is a proxy for the diffuseness of its ownership. Small public firms are usually closely held. As a result they may really be like private firms in

TABLE IV
SUPRASIZE PROFIT RATES FOR PUBLIC AND PRIVATE TARGETS

	\bar{S}_i	S.E.	Min	Max	$\%S_i > 0$
<i>Private targets</i>	9.37**	0.76	-101.59	82.78	72.55
<i>Public targets</i>	4.52**	0.88	-37.85	36.23	62.94
<i>All targets</i>	8.51**	0.65	-101.59	82.78	70.84

Note: Profit rate is defined as net operating income divided by the book value of assets for a period preceding the merger. Significance levels are indicated as follows: "****" is 1%, "*" is 5% and "+" is 10%.

TABLE V
SUPRANORMAL PROFIT RATES OF PUBLIC TARGETS BY SIZE

Size	\bar{I}_i	$\%I_i > 0$	\bar{S}_i	$\%S_i > 0$
\$1-\$5	4.58 (3.97)	81.25	4.27 (4.01)	75.00
\$5-\$10	7.27** (2.92)	68.42	6.23* (2.82)	68.42
\$10-\$25	7.14** (1.69)	72.22	6.81** (1.71)	69.44
\$25-\$50	3.84* (1.67)	65.52	4.41** (1.67)	65.52
\$50-\$100	2.33 (1.60)	57.14	2.93+ (1.55)	52.38
> \$100	0.08 (0.84)	52.38	-0.56 (0.84)	42.86

Note: Standard errors are in parentheses beneath the means. Significance levels are indicated as follows: "***" is 1%, "**" is 5% and "+" is 10%.

terms of having no need to resort to the corporate control market for managerial discipline. This suggests that if the lack of managerial discipline is behind the lower profit rates of public targets, it should be the case that supranormal profit rates of public targets declined with size.

The evidence on this is presented in Table V. The table reports the mean (and percent positive) supraindustry and suprasize profit rates for seven size classes of public targets. The size classes correspond to those used in Table II, except the smallest class is omitted because it includes only one public target observation.

The pattern in the table is consistent with a managerial discipline explanation of lower profit rates for public targets. The most extraordinarily profitable targets were those with assets worth less than \$25 million. The supranormal profit rates of targets in the \$25 million to \$50 million size range were also positive, but lower in magnitude, and the rates for targets in the \$50 million to \$100 million size class were even lower. The largest targets, those with assets worth more than \$100 million dollars, were doing no better than the mean of their industry or size. Thus, buyers were more likely to purchase poorly-performing firms as target size increased.

It is unlikely that accounting biases can explain this pattern. The alleged propensity of small business owners to distribute dividends in the form of salaries to avoid taxes may explain why the targets in the \$1 million to \$5 million size class were less profitable than larger targets, but if this bias were operating overall it would generate the reverse of what is observed: profitability would be increasing with size. Intangible assets may not be correctly valued on balance sheets, but industry-specific intangibles should be cancelled by the industry average profit rate when I_i are constructed.

It seems that when buyers went after small public firms they chose the stars,

and when they went after big public firms they looked for the mediocre. In addition to providing additional evidence that managerial discipline was a factor in a number of takeovers of public firms, this finding sheds some light on the results of other studies. Boyle [1970], Conn [1976], Harris, Stewart and Carleton [1982], and Morck, Shleifer and Vishny [1988] reported that targets were no more and possibly less profitable than other firms in their industries. Because these studies restricted examination to only very large firms (bigger than \$50 million on average), they picked up the zero and negative profit rates in the large size classes.

IV. CONCLUSION

This paper establishes several empirical facts about the extraordinarily high profit rates of takeover targets between 1968 and 1974. One finding is that targets had extremely high profit rates prior to acquisition compared to their industries and size classes, regardless of whether they were public or private. This is evidence that takeovers motivated to discipline target managers were not predominant during the conglomerate merger wave. The finding is consistent with anecdotes about conglomerate mergers (Sobel [1984]; Holland [1989]) and with event study evidence that the market reacted negatively to bidders who made discipline-motivated acquisitions during the conglomerate merger wave (Matsusaka [forthcoming]).

A second finding is that public targets were not quite as extraordinarily profitable as private targets. It is shown that the pattern cannot be explained by the fact that public targets were larger than private targets because the pattern remains even when target profit rates are measured relative to similar-sized firms. It is also shown that the largest public targets had the lowest profit rates. A plausible interpretation of the evidence is that managerial discipline may have been important for the small set of acquisitions that involved large publicly-traded targets. R&S's finding that tender offer targets were not outperforming their industries on average is also consistent with this conclusion.

The findings also call for caution when generalizing about merger motives from studies that focus exclusively on large publicly-traded targets. Such samples, which include the Fortune 500 and CRSP firms, are likely to give an exaggerated view of the importance of discipline-motivated takeovers. (This echoes Morck, Shleifer and Vishny's [1988] conclusion that studies that fail to distinguish between friendly and hostile takeovers can be misleading.) This study shows that discipline was a plausible motive for no more than 5 percent of acquisitions during the conglomerate merger wave.¹ Whether this is a

¹ These 5 percent compromised a healthy fraction of the total value of mergers during the period, however.

general merger pattern or specific to the late 1960s and early 1970s cannot be determined without comparable studies from other time periods.

The paper leaves unexplained the bigger question of why buyers consistently sought high profit targets during the conglomerate merger wave. The simple explanation that high quality assets are generally preferred to low quality assets is insufficient because high quality assets are more expensive; why should the benefit/cost ratio favor high quality assets? Existing merger theory provides little guidance on this question, although some promising explanations have recently been proposed (Shleifer and Vishny [1991]). Elsewhere, as a first step to answering it, I show that the tendency to buy high-profit firms can be rationalized by a sorting model where mergers and divestitures are used to redeploy assets to take advantage of asset complementarities (Matsusaka [1991]). In addition to explaining why firms seek high-profit targets, an asset complementarity theory implies that firms tend to divest their low-profit divisions, and is consistent with the class of hierarchical models that have been used to explain the size distribution of firms and the allocation of talent within firms (Rosen [1982]; Lucas [1978]).

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