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LIFE AFTER TAKEOVER

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LIFE AFTER TAKEOVER

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I. Introduction

For the fourth time in this century, America has been caught up in merger mania. A distinguishing characteristic of the 1980s merger wave has been the high incidence of tender offer takeovers, that is, mergers effected following an offer from the acquirer directly to target company shareholders, bypassing target company management.

There is a substantial literature in economics, corporate finance, and law arguing that such tender offer takeovers play an important, or potentially important, role in purging inefficient managers and forcing incumbents to hew the profit maximization line or face displacement. In his pioneering article on the subject, Henry G. Manne [8, p. 113] wrote: "Only the takeover scheme provides some assurance of competitive efficiency among corporate managers and thereby affords strong protection to the interests of vast numbers of small, non-controlling shareholders." In their literature survey, Jensen and Ruback [7, p. 25] point to the negative abnormal stock price returns of target firms before takeover and find "[t]his below normal performance ... consistent with the hypothesis

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that inefficient target management caused target firms to perform badly." They add that "there is currently no evidence that directly links these negative pre-merger returns to inefficiency." Easterbrook and Fischel conclude [6, p. 1169] that "The most probable explanation for unfriendly takeovers emphasizes their role in monitoring the performance of corporate managers. The tender bidding process polices managers whether or not a tender offer occurs, and disciplines or replaces them if they stray too far from the service of the shareholders." The President's Council of Economic Advisers was more cautious [12, pp. 198-199]:

Takeovers of ... firms [disfavored by the market] can discipline managements and impose new corporate strategies in place of unsuccessful ones. These findings do not establish that all target firms are poorly managed, and they do not suggest that management efficiencies are the dominant source of gains from mergers and acquisitions. They do, however, suggest that poor management at target firms cannot be discarded as a motive for takeovers....

The received wisdom on tender offer takeovers implies two testable hypotheses. First, to the extent that a sizeable fraction of takeovers are directed toward displacing inefficient managers, the pre-takeover profitability of targets is expected to be lower than that of non-target peer firms, other things such as industry business conditions being held equal. Second, both the logic of inefficient management displacement and the possibility of gaining post-takeover "synergies" imply an improvement in post-takeover profitability relative to the pre-takeover situation. These are hypotheses that should be tested directly, and not merely given as one of many possible explanations for the movement of stock prices at the time of a takeover "event."¹

1. See [7] and the studies surveyed therein.

II. The Line of Business Data

An obstacle to evaluating post-merger performance is that the acquired entity normally ceases to publish income statement and balance sheet information once it is absorbed by the acquirer. The problem can be substantially overcome if one has financial performance data disaggregated to the level of individual operating units.² Such data were systematically gathered under the Federal Trade Commission's Line of Business program. For the years 1975-77, a panel of from 456 to 471 characteristically large corporations broke down their domestic financial reports by individual "LBs" geared to a list of 261 manufacturing and 14 (broader) nonmanufacturing industry categories. The average company reported in 1977 on 8.0 manufacturing LBs, with a range of from one to (averaging over the five leaders) 53. The Line of Business sample members were responsible for 75 percent of all manufacturing and minerals industry mergers, measured by volume of assets acquired, recorded on Federal Trade Commission lists [14] of acquisitions of companies with \$10 million assets or more over the years 1950-1976.

In addition to consummating approximately 6,000 "normal" (i.e., bilaterally negotiated) mergers, the Line of Business respondents made 82 tender offer acquisitions of manufacturing companies between 1958 and 1976, according to lists published by Douglas V. Austin [1]-[4]. Most were not opposed overtly by the target firms' management, but in 21 cases, the tender offer went through despite incumbent management opposition, and in 13 other cases, the acquirer was a "white knight"

2. For an early example, see [5].

3
favored by target management over a "hostile" tender offer from some other company. The median year of consummation was 1969, if all of the acquisitions are included, or 1968, if a 1974 terminal date is imposed, as we shall do in most of what follows.

III. Pre-Offer Performance

For 77 of the targets, it was possible to obtain information on profitability for at least two years prior to, or at most partially overlapping, the precipitating tender offer announcement. Consistent with the post-tender analysis that follows in Section IV, the profitability statistic used, OPINC:A, is the ratio of operating income (before deduction of interest charges, extraordinary items, and income taxes) to end-of-fiscal year assets. Because profit rates are sensitive to the business cycle and have drifted upward over time, each pre-tender operating income / assets ratio was divided by the ratio of OPINC:A for all manufacturing corporations in the relevant year to all manufacturers' OPINC:A for the years 1974-77.⁴ After this adjustment, an operating income / assets ratio of 12.50 percent means that the target corporation's performance was identical to that of its all-manufacturing peers, regardless of the year analyzed.

3. These classifications were made on the basis of information compiled by Austin [1]-[4], supplemented and sometimes amended by research in Wall Street Journal accounts.

4. The source was [13]. A few negative ratios were multiplied by the adjustment factor.

Averaging over the two pre-tender offer years, the simple average profitability ratios for the 77 targets and subsets thereof were as follows:

All 77 tender offer targets	12.04%
21 companies taken over by acquirers incumbent management opposed	11.93%
13 companies acquired by "white knights"	12.79
43 companies acquired in other tender offer situations	11.87

For all targets together, average pre-tender profitability was below the all-manufacturing benchmark, although insignificantly so ($t = 0.69$). Among the three classes of targets, the differences are small and statistically insignificant [$F(2,151) = 0.13$]. This nearly average pre-merger performance of target companies is difficult to reconcile with the supposition that targets are on average poorly-managed relative to the universe (in our analysis, all manufacturing corporations) from which they were selected for takeover.

Breaking down the data by years, one finds that target company profitability averaged 11.88 percent the year before (or in some cases, overlapping) the precipitating tender offer announcement and 12.21 percent in the preceding year. The difference between years is not statistically significant [$F(1,152) = 0.06$].

IV. Post-Tender Performance

The sample upon which our analysis focuses consists of 2,732 manufacturing lines of business (LBs) for which data satisfying quality control criteria over the three years 1975-77 were satisfied. Among

those lines, 119 had a tender offer acquisition history, including 32 LBs impacted by "hostile" offers unsuccessfully opposed by incumbent management and 28 LBs acquired by "white knights." Those lines came from 51 tender offer target companies. Twenty-six tender offer acquisition companies for which pre-merger profitability data were available (plus five others) were excluded from the main analysis because the acquired lines were sold off before 1975, because the tender offer acquisitions occurred only in 1975 or 1976, or because data quality criteria were not satisfied.⁵ The two-year average pre-acquisition profitability of the various included and excluded company cohorts was as follows:

	<u>Operating Income</u> Assets
51 companies included in the three-year analysis	11.35%
11 companies acquired in 1975 or 1976	12.44
4 companies whose lines were sold off before 1975	11.70
11 companies failing to meet quality control criteria	14.95

The profitability differences among groups are not statistically significant; $F(3,150) = 1.16$, with the 5% point being 2.67.

The principal dependent variable OPINC:A used in our analysis of post-acquisition performance is the operating income / assets ratio for an individual line of business (LB), expressed in percentage terms, and

5. Lines were excluded when they had extensive acquisition or sell-off activity in one or more of the years 1975-77 (which can cause estimation biases); when the company merger histories were incomplete, precluding an accurate assignment of mergers to LBs; and when the acquired assets were reported only in a miscellaneous (99.99) manufacturing category. For methodological details, see Ravenscraft and Scherer [10].

averaged across the three reporting years 1975-77. Inter-industry differences in profitability are taken into account by means of a "fixed effects" regression analysis. That is, each of the 257 four-digit manufacturing industry categories with LB observations was allowed to have its own profitability regression intercept term. Also controlled for are the following variables, each measured at the individual LB level:

SHR	Market share of LB in its four-digit industry category (scaled in ratio form).
POOL	Fraction of end-of-period assets traced to acquisitions treated under pooling-of-interests accounting.
PURCH	Fraction of end-of-period assets traced to acquisitions treated under purchase accounting.
EQUALS	Dummy variable with value of 1 if the line had a "merger of equals," defined as a pooling merger among firms whose pre-merger size differed by no more than a factor of two.
NEW	Dummy variable with value of 1 if the line entered the parent company's operations after 1950 and experienced no acquisitions.

The POOL and PURCH variables take into account not only the fraction of assets acquired, but also the type of accounting used in transferring the acquired assets to the acquirer's books. Under pooling of interests accounting, assets are recorded at their pre-merger book value. Under purchase accounting, assets are recorded in effect at the price actually paid, usually with a premium over pre-merger book value. Details on these measurements and other methodological matters are presented in Ravenscraft and Scherer [9] [10, Chapter 6].

Holding those other variables constant, the influence of a tender offer history is ascertained by means of a dummy variable TENDER, with

Breaking the tender offer set into three subsets (regression (2)) contributes no incremental variance explanation. The three coefficients cluster in the same general size range, but none passes a 5 % significance test owing to the relatively small number of LBs per subset.⁷

The TENDER coefficient value of equation (1) indicates that lines with a tender offer history were 2.94 percentage points less profitable on average than lines without such a history, but with similar industry membership, market share, and levels of (non-tender) acquired assets. Relative to the all-sample average of 13.34 percent, this is a substantial difference. In conjunction with our earlier finding that the 51 tender offer targets included in the three-year analysis had average pre-merger profitability of 11.35 percent, or 1.15 percentage points (and insignificantly) lower than that of their manufacturing sector peers, the - 2.94 point TENDER coefficient is inconsistent with the hypothesis that post-tender acquisition profitability improved. Indeed, the implication is even more severe. Seventy-eight percent of the tender offer acquisitions were treated under purchase accounting or "dirty pooling" (a blend of purchase and pooling accounting). To find the full impact on profitability of an acquisition that stemmed from tender offer and which contributed 100 percent of a line's assets under purchase accounting (PURCH = 1.0), one must add the -2.94 TENDER coefficient and the -3.08

7. When individual year regressions are run, there are two departures among the nine cases to the pattern of negative signs -- for OTHER in 1975 and WHITE in 1977. Neither was statistically significant.

PURCH coefficient. Together, the coefficients imply a 6.02 point degradation of returns. For a line with an average market share in an industry of average profitability, this means a drop from the all-sample average return of 13.34 percent to approximately 7.32 percent.

One reason for the depressed post-acquisition returns of tender offer mergers might be the characteristically high takeover premiums paid. Under the purchase accounting adopted following most tender offer acquisitions, acquired assets were written up to reflect the value of premiums paid over pre-acquisition book values. Such writeups increase the denominator of OPINC:A, and hence reduce the ratio. They may also affect the numerator by increasing depreciation charges, but this is less certain, since asset writeups charged to a goodwill account were seldom amortized before 1970 and were subjected to long (e.g., 40 year) amortization periods thereafter.

To test for the role of asset writeups, equation (1) was re-estimated with a dependent variable measured as the ratio of operating

8. Other coefficients in regression (1) are interpreted as follows. Moving from having an infinitesimal market share to controlling the whole market (SHR = 1) raises the operating income / assets percentage by an impressive 30.5 percentage points. Lines originating under pooling of interests mergers were slightly, but insignificantly, more profitable than their no-merger counterparts. Mergers of equals were 1.47 percentage points more profitable on average; new internal growth lines 0.83 points more profitable.

9. The mean 1975-77 operating income / assets value for the 119 tender offer lines was 9.90 percent, which is below both the all-sample average and the pre-merger target firm average of 11.35 percent. This 1975-77 average differs from the value predicted by regression analysis because only the latter controls for industry, market share, and accounting choice influences.

income to sales, which avoids the denominator inflation effect. The result was:

$$\begin{aligned}
 (3) \text{ OPINC:S}(75-77) &= [257 \text{ constants}] - 0.74 \text{ TENDER} + 21.98 \text{ SHR} \\
 &\qquad\qquad\qquad (0.87) \qquad\qquad\qquad (6.89) \\
 &+ 0.46 \text{ POOL} - 0.99 \text{ PURCH} + 0.86 \text{ EQUALS} - 0.08 \text{ NEW;} \\
 &\qquad (0.67) \qquad (1.33) \qquad (1.49) \qquad (0.14) \\
 &\quad 2 \\
 R &= 0.2123, N = 2,732, \text{ mean OPINC:S} = 7.54.
 \end{aligned}$$

Here the tender offer effect is statistically insignificant and indicates an average deviation from all-sample operating income / sales ratios of only 9.8 percent, compared to the 22.0 percent deviation in assets-based regression (1). Evidently, a substantial component of the post-acquisition depression of tender offer line profitability came from the asset writeups resulting from the premiums over book value paid in effectuating a takeover.

To purge the effect of such writeups from the numerator of profitability measures, a third variable, the ratio of cash flow (i.e., operating income before deduction of depreciation) to sales, was computed. With it as dependent variable, the result is:

$$\begin{aligned}
 (4) \text{ CASHFLO:S}(75-77) &= [257 \text{ constants}] - 0.47 \text{ TENDER} + 23.16 \text{ SHR} \\
 &\qquad\qquad\qquad (0.55) \qquad\qquad\qquad (7.30) \\
 &+ 0.43 \text{ POOL} - 1.11 \text{ PURCH} + 0.15 \text{ NEW} + 0.72 \text{ EQUALS;} \\
 &\qquad (0.63) \qquad (1.51) \qquad (0.25) \qquad (1.26) \\
 &\quad 2 \\
 R &= 0.2388; N = 2,732; \text{ mean CASHFLO:S} = 10.12.
 \end{aligned}$$

Now the tender offer coefficient and its t-ratio fade even more, suggesting the presence of some depreciation effect in regression (3). Since for the full sample the cash flow / sales ratios averaged 76

percent of the operating income / assets ratios, the - 0.47 TENDER coefficient in regression (4) is roughly equivalent to a - 0.62 operating income / assets effect.

It is generally believed that the Williams Act increased takeover premiums. If so, we should expect the negative effect of TENDER on OPINC:A to be greater for post-1968 takeovers than for those carried out before the Act took force. Seventy-three of the 119 tender offer lines came from acquisitions commenced (at least by the successful bidder) after most Williams Act provisions became effective July 29, 1968. When TENDER is multiplied by a dummy variable with a value of 1 for post-Williams Act cases, the resulting regression is:

$$\begin{aligned}
 (5) \text{ OPINC:A}(75-77) &= [257 \text{ constants}] - 2.84 \text{ TENDER} - 0.17 \text{ WILLIAMS} \\
 &\qquad\qquad\qquad (1.30) \qquad\qquad\qquad (0.06) \\
 &+ 30.48 \text{ SHR} + 0.66 \text{ POOL} - 3.07 \text{ PURCH} + 0.83 \text{ NEW} + 1.47 \text{ EQUALS}; \\
 &\quad (5.73) \qquad (0.58) \qquad (2.48) \qquad (0.82) \qquad (1.52) \\
 R^2 &= 0.1818, N = 2,732.
 \end{aligned}$$

There is a hint of even more negative profitability effects for post-Williams Act acquisitions, although neither tender offer coefficient is statistically significant. The basic TENDER coefficient fades to insignificance (with little change in its value) because of a 53 percent increase in its standard error relative to equation (1).

V. Conclusion

Tender offer targets of the 1960s and early 1970s entered their acquirers' organizations with a profit record nearly equal to that of all manufacturers. Eight years later on average, they performed significantly less well. An important reason for their sub-par post-

acquisition returns was the inflation of asset values stemming from the payment of acquisition premiums. But those premiums were supposedly paid in anticipation of enhanced profitability, which, our post-takeover operating income regressions indicate, did not materialize. This is an anomaly for the theory of takeovers as an efficiency-increasing mechanism. If improvements did occur, their impact must have been concentrated not on operating returns, but below the "bottom line" of our operating income measures -- e.g., in income taxes or interest costs. Tax savings are a zero-sum game against the Treasury. Since there are clear and persistent economies of scale in financing,¹⁰ interest cost savings may have been overlooked by our analysis. Yet they can scarcely have been large enough to justify the low average pre-interest returns on assets revealed by regressions (1) and (2), nor is tender offer takeover the only way to secure them.

At the very least, in view of the intense tender offer wave occurring during the 1980s, these results show a critical need for direct and affirmative evidence on whence the purported economic benefits of takeovers originate and whether tenderers have in fact succeeded in managing their acquisitions better than the displaced managers. Absent such evidence, the hypothesis that tender offer acquisitions are on average efficiency-increasing warrants much more skepticism than it has received thus far in the literatures of economics, corporate finance, and securities law.

10. See Scherer et al. [11, pp. 284-288], where a tenfold increase in company size was found to reduce interest rates by 0.46 percentage points during the mid-1960s.

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