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The Intra-Industry Effects of Going-Private Transactions

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ABSTRACT

We demonstrate that bids to take firms private generate significantly positive valuation effects for industry rivals of target firms. These valuation effects cannot reflect either synergy or monopoly since no consolidation of operating firms is involved in such transactions. Participation by buyout specialists in the bid does not significantly affect these gains. Bids by outsiders and bids by incumbent managers generate similar valuation effects for industry rivals. The effect on share prices of industry rivals is inversely related to the capitalized values of rival firms relative to the target firm. We also report valuation effects for target firms.

WE EXAMINE THE IMPLICATIONS of going-private bids for the valuation of horizontal rivals of target firms. We hypothesize that going-private transactions reflect, in part, private information held by the bidder about the target firm. We argue that if the financial market perceives that elements of this private information are industry-wide rather than firm-specific, the value of the target firm's horizontal rivals should change in response to the going-private bid announcement.[1] Unlike interfirm mergers and acquisitions, going-private transactions do not involve a consolidation of separate operating firms. Consequently, changes in the value of rival firms induced by going-private bids are due neither to the demonstration of synergies associated with a consolidation of operating firms nor to the effects of induced monopoly (or collusion).[2] We also report valuation effects on target firms.

We find that announcements of going-private bids generate statistically significant positive intra-industry effects. Industry rivals of targets of going-private bids receive a positive 2-day average excess return of 1.32% which is statistically significant. The average 2-day excess return to target firms is 17.35% and is statistically significant. We test whether participation of

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[1]For example, firms that go private often initiate a program of asset sales. Hite, Owers, and Rogers (1987) find that asset sale announcements increase value for buying and selling firms as assets are moved to higher valued uses. The anticipation of such sales may generate an increase in value to horizontal rivals who own similar assets.

[2]Stillman (1983) and Eckbo (1983) examine the impact of horizontal mergers on industry rivals and find little evidence for collusion.

buyout specialists influences these returns and also whether going-private bids initiated by incumbent managers generate different returns from bids initiated by outsiders. For targets, participation of buyout specialists in the bidding group is associated with significantly larger returns than bids without specialists. This difference in gains is not statistically significant for rival firms. Gains for targets of going-private bids initiated by incumbent managers are significantly larger than for bids by outsiders, but the difference in gains to rival firms is not statistically significant. Further, we examine the effect on share prices of rival firms with market values smaller than the relevant target compared to rivals with market values larger than the target. We find that the valuation effect on industry rivals is inversely related to the capitalized values of rival firms relative to target firms. This is consistent with Atiase's (1985) hypothesis that information dissemination is a function of firm value.

Our study is organized as follows. In Section I we discuss the potential for going-private transactions to generate intra-industry valuation effects. In Section II we discuss the role of buyout specialists in going-private transactions, and in Section III we consider manager-shareholder conflicts associated with bids by incumbent managers. In Sections IV and V we describe the sample and methodology and report the empirical results in Section VI. Section VII contains our conclusions.

I. Going-Private Buyout Bids: The Potential for Intra-Industry Effects

Transactions in which publicly traded corporations are acquired and taken private are a distinctive component of the market for corporate control. [3] In many going-private transactions, target firms are bought out by an outside investor who takes a dominant equity position in a reconstituted firm. If the resultant firm's capital structure has substantial debt, the transaction is referred to as a leveraged buyout (LBO). In other going-private transactions, referred to as management buyouts (MBO), incumbent management is the bidder for control, although equity interest may be shared with an outside investor. Previous evidence on going-private transactions parallels that for other corporate control events and indicates that shareholders of target firms receive substantial returns in response to announcements of going-private bids. DeAngelo, DeAngelo, and Rice (1984) and Lehn and Poulsen (1989) report average excess returns to target firms of 13% to 28%.

The source of gains generated by such transactions is controversial. Potential sources examined in the literature include private information, resolution of agency problems, redistribution of wealth from bondholders or employees, and tax savings related to interest deductibility or increased depreciation

[3]Evidence about the market for corporate control is reviewed in Jensen and Ruback (1983), Jarrell, Brickley, and Netter (1988), and Weston, Chung, and Hoag (1990).

allowances associated with a step-up in the book value of assets.[4] Lowenstein (1985) and Schipper and Smith (1989) find that tax gains to going-private transactions are significant but that these transactions are not motivated solely by tax considerations. Kaplan (1989b) finds tax benefits to management buyouts but indicates that a public company could obtain many of the tax benefits without going private. Lehn and Poulsen (1988) and Marais, Schipper, and Smith (1989) find minimal effects of going-private transactions on debt securities. However, Asquith and Wizman (1990) report losses to bondholders of target firms that are significant although small relative to gains to common stockholders. Kaplan (1989a) reports that value increases and operating performance improves subsequent to management buyouts and concludes that these benefits are generated by improved incentives.

Our central hypothesis is that bids to take a firm private reveal valuable information the bidder possesses about the target and that elements of this information apply to firms involved in similar economic activities. Thus, announcements of going-private bids should generate market valuation effects for industry rivals. Our work parallels evidence by Foster (1981) and Clinch and Sinclair (1987) that earnings announcements release valuable information about expected cash flows for other firms in the industry. We find that going-private bids generate statistically significant, positive, intra-industry valuation effects. Three potential factors may induce these positive returns: (i) buyout bids may reveal private information about expected future cash flows in the industry; (ii) rival firms may be more likely to become targets of future corporate control bids after a going-private bid occurs in the industry; and (iii) the market may conclude that an agency problem is industry-wide and that a going-private bid may induce managers of rival firms to improve management, possibly to preempt a future outside bid.

Going-private bids are made by agents who invest resources in acquiring information about a target. A bid reflects an assessment that the transaction has a positive net present value to the bidder, even with a bid in excess of the target's market price. Furthermore, a going-private bid engenders the expectation that after the target is taken private, the bidding team will enhance firm value, such as by implementing a higher valued operating strategy relative to pre-takeover plans. Hite and Vetsuypens (1989) explain how a change in the ownership structure of an operating division can lead to a more productive allocation of resources. If the market believes rival firms can achieve parallel gains, intra-industry share values should increase in response to the bid announcement.

Buyout bids entail the expenditure of resources by a bidder in researching potential targets and their managers and in assembling facilities necessary to implement a transaction. If rival firm shareholders also gain from such

[4]Lehn and Poulsen (1989) discuss sources of gains to these transactions. DeAngelo, DeAngelo, and Rice (1984) discuss gains arising from reduced disclosure. Shleifer and Summers (1988) argue that buyouts can transfer wealth from employees to shareholders by breaking implicit contracts with employees.

bids and free-ride on private information generated by the bidder, the incentive for economic agents to invest in acquisition activity is reduced relative to an environment in which bidders appropriate these industry gains. Thus, intra-industry effects imply underinvestment in acquisition activities, the severity of which is directly related to the size of intra-industry effects of bids to take firms private and to constraints on the ability of bidders to appropriate gains external to the target firm.

II. Buyout Specialists and Going-Private Bids

Some bids to take firms private involve sharing equity ownership with a buyout specialist who typically manages the transaction and arranges debt financing. From one perspective, the role of buyout specialist may be value enhancing as a result of expertise and reputation acquired in previous transactions. Alternatively, buyout specialists may weaken the signal content of buyout bids due to increased risk sharing.

If buyout specialists have valuable expertise, the financial market may ascribe distinctive reputational capital to them and expect that buyout bids in which they participate reveal more valuable information than do other bids. Beatty and Ritter (1986), Carter and Manaster (1990), and Slovin, Sushka, and Hudson (1990) report evidence that the reputation of outside agents ameliorates problems associated with securities issuance. Likewise, the market may expect a bid involving equity participation by a buyout specialist to have a higher probability of transacting and that the newly organized firm will be viable. For example, future unresolved problems would harm the specialist's reputation and reduce the cash flows a specialist could expect from future deals. Thus, participation in a going-private transaction by a buyout specialist may enhance the bid's credibility and induce a more favorable change in the value of rival firms relative to bids without such participation. Nevertheless, buyout specialist participation provides an element of risk sharing for bid participants, especially for a management buyout. From this perspective, a buyout specialist may weaken the bid's signal content so that the valuation effects would be weaker than bids without buyout specialist participation. Thus, the issue of the valuation effects of specialist participation in going-private bids is an empirical question.

III. Management Buyout Bids and Manager-Shareholder Conflicts

Bids by incumbent managers to take a firm private raise the possibility of managerial self-dealing at the expense of shareholders.[5] One factor in this

[5]Jensen and Meckling (1976) discuss how the separation of ownership from control can permit managers to act in ways inconsistent with wealth maximization and how market mechanisms can ameliorate this problem. Evidence reported by Lehn and Poulsen (1989), Kaplan (1989a), and Muscarella and Vetsuypens (1990) indicates that one source of gains associated with going-private transactions is the mitigation of agency problems arising from free cash flow.

agency conflict is that corporate executives have an incentive to purchase the firm at the lowest price. As a result, announcements of management buyout bids may have weaker information effects for targets and industry rivals than bids from outside investors. Managers who anticipate making a buyout bid may be able to manipulate public disclosures, such as accounting information, prior to the bid to reduce the transaction price, although DeAngelo (1986) finds no evidence of such behavior. A second factor is that the market may perceive the marginal costs of obtaining private information, preparing a buyout bid, and executing a transaction to be low for incumbent management relative to outside bidders. Thus, bids by outsiders may communicate more valuable private information about expected future cash flows than bids by incumbent managers and generate larger valuation effects, including those on the target's competitors. A third factor is the perception that, compared to outside bidders, incumbent managers may have greater negotiating power or ability to deter additional bidders from entering the auction. Bradley, Desai, and Kim (1988) report that competition among bidding firms increases returns to targets. Potential acquirers may be reluctant to gather costly information for generating a competing bid if they anticipate a difficult bidding war with incumbent management or that a white knight (friendly acquirer) may be invited by management to bid for the firm. Thus, buyout groups involving incumbent management may discourage bids by potential acquirers and be able to negotiate a lower purchase price. Consequently, the market may reduce the probability of a bidding contest and lower its assessment about the final transaction price so that shareholders of target and rival firms gain less from announcements of management buyout bids compared to outside buyout bids.

Alternatively, the market may perceive that incumbent managers possess more valuable inside information about firm value than outside bidders. In particular, these transactions are generally structured so that incumbent management has considerable wealth at stake in a way that makes managerial portfolios relatively undiversified. The willingness of managers to hold such undiversified portfolios may signal valuable favorable private information about the firm (Leland and Pyle (1977)). Thus, the positive signal associated with management buyouts would be larger than for bids made by relatively well-diversified outside investors. If financial market participants believe that some of this private information applies to other firms in the industry, management buyout bids would have a larger positive effect on returns for both target and rival firms than going-private bids initiated by outside investors. Thus, the issue of the magnitude of the valuation effects of buyout bids by incumbent managers relative to outside investors is an empirical question.

IV. The Sample

Our empirical work examines: (i) industry-wide information effects of bids to take firms private; (ii) valuation effects of buyout bids with specialist participation versus bids without specialist participation; (iii) the informa-

tion effects from management buyouts versus other going-private bids; and (iv) the influence of the capitalized value of industry rivals relative to the target on these valuation effects. We analyze share price reactions for targets and their horizontal rivals in response to announcements of initial bids to take firms private.

We first establish a sample of initial bids to take firms private over the period 1980–1988. We collect information reported in *Mergers and Acquisitions* for transactions for each year in our sample. We eliminate divestitures or interfirm mergers or acquisitions. We retain events involving target firms listed on the NYSE or AMEX. For these events, we examine the *Wall Street Journal* to identify cases in which the initial bid entails an attempt to convert a free-standing, publicly traded corporation into a privately held firm. We eliminate going-private transactions where the initial bid is an interfirm acquisition proposal. Thus, our sample is limited to going-private transactions for listed firms for which a going-private bid announcement is the first public corporate control bid. The sample consists of 128 announcements, 78 buyout bids by incumbent management and 50 by outsiders.

Additional requirements for including an event in our sample are as follows: (i) security returns must be available on the daily CRSP file for the target firm and for one or more listed horizontal rivals; (ii) there is an unambiguous date of a bid to take the firm private reported in the *Wall Street Journal*. (The initial bid announcements to take a firm private fall into three groups: a) reports that a proposal is being prepared or contemplated by a bidding group (26 events), b) disclosure that a proposal has been approved by a target firm (35 events), and c) announcements that a proposal is being presented to the target firm (67 events).); (iii) we eliminate cases in which the target firm received a prior bid for control that entailed an interfirm acquisition during the year preceding the announcement of the initial bid to take the firm private. (This criterion insures that any effect on rivals is the result of a going-private bid and not a response to prior corporate control events.); (iv) we exclude bids for conglomerate firms since the notion of industry rivals is ambiguous; and (v) we exclude bids for utilities and financial firms.

To develop a portfolio of industry rivals, we utilize the CRSP daily returns file to generate a list of all firms on the CRSP file that share each target firm's four-digit Standard Industrial Classification (SIC) code. We refine these lists using supplemental information on firm products obtained from Standard and Poor's and Value Line. This additional sorting procedure is necessary since some firms had previously divested the operations that established their SIC code. The rival portfolios comprise a total of 940 firms. The mean and median numbers of rival firms per target are 7.34 and 5, and the minimum and maximum numbers of rivals per target are 1 and 35, respectively. The mean market value of target firms prior to bid announcements is \$495.2 million, and the mean market value of the rivals in the industry portfolios is \$806.7 million. The diversity of industries in the sample is indicated by the fact that the 128 target firms cover 37 two-digit SIC codes.

V. Methodology

Average daily prediction errors are measured around the date the initial bid announcement is published in the *Wall Street Journal*, denoted as day 0, and are obtained using the market model. Adjusted returns for each security i and for each day t in the event period are:

$$A_{it} = R_{it} - \overline{R}_{it} \tag{1}$$

where R_{it} is the arithmetic return, A_{it} the adjusted (excess) return, and $\overline{R}_{it}$ is the conditional expected return derived as the prediction value:

$$\overline{R}_{it} = \hat{a} + \hat{b}R_{mt}. \tag{2}$$

The coefficients $\hat{a}$ and $\hat{b}$ are obtained from a least squares regression estimated over a pre-event period, days -215 to -96, and R_{mt} is the event day return on the CRSP equally weighted index. Adjusted returns are averaged over all securities for each day in the relevant event subperiod to obtain the average prediction errors APE_t. In testing for statistical significance, the null hypothesis is that the average prediction error is equal to zero for each event subperiod and for each portfolio. The test statistic is the ratio of the average prediction error to its estimated standard deviation, where the standard deviation is estimated from the time-series of average prediction errors for days -215 to -96. If the APE_t are independent, identically distributed, and normal, the test statistic is distributed as Student-t under the null hypothesis.

We generate forecast errors for portfolios of target firms and portfolios of industry rivals. The rivals of the target of each bid are pooled into an equally weighted portfolio, and a similar estimation and test procedure is utilized. For these purposes, subscript i in equation (1) refers to the portfolio of rival firms for the ith going-private bid. The empirical results are reported in Table I. To test the robustness of the results we also generate results in which all rival firms have equal weight, that is, not pooled into industry portfolios by event. In addition, we obtain results using a single, matched competitor for each target firm selected on the basis of the size of the firms and the nature of their operations. These results are reported in Panels A and B of Table II and Panel B of Table III. Overall, the pattern of the results is similar to that reported in Table I.

VI. Empirical Results of Going-Private Bids

In column 1 of Panel A in Table I we report average excess returns for the full sample of 128 target firms. Our results are similar to evidence reported in previous studies such as DeAngelo, DeAngelo, and Rice (1984). We find a positive average excess return of 17.35% for the 2-day event window ($t = -1$ and 0) where day 0 is the day of the published announcement of an initial bid to take the firm private. This return is statistically significant, given a t-statistic of approximately 65. Moreover, 95% of the

Table I

Cumulative Excess Returns for Target Firms and Industry Rivals Grouped into Portfolios by Event around Initial Announcements of Going-Private Bids

Cumulative excess returns (in percent) are the sum of excess returns over the relevant event period. Excess returns are calculated as the difference between realized returns and expected returns which are derived from market model parameters estimated by using daily returns from 96 days to 215 days prior to the announcement. The sample period is 1980–1988. Day 0 is the date the initial buyout bid is reported in the *Wall Street Journal*. The *t*-statistics are in parentheses, the proportion of returns positive in brackets, and N indicates the sample size. Excess returns to target firms are reported in Panel A and excess returns to industry rivals are grouped into portfolios by event in Panel B.

Interval	(1) Full sample	(2) First bid in industry	(3) Subsequent bids in industry	(4) Bids with buyout specialists	(5) Bids without buyout specialists	(6) Management buyout bids	(7) Buyout bids by outsiders
	$N = 128$	$N = 84$	$N = 44$	$N = 33$	$N = 95$	$N = 78$	$N = 50$
				Panel A. Target Firms			
[−15, − 2]	6.49	7.07	5.41	5.85	6.72	5.64	7.82
	(9.25)**	(8.70)**	(4.40)**	(4.86)**	(7.90)**	(5.60)**	(8.19)**
[−1, 0]	17.35	17.30	17.44	19.18	16.68	18.23	16.05
	(65.39)**	(56.32)**	(37.50)**	(42.11)**	(51.88)**	(47.91)**	(44.49)**
	[.95]	[.92]	[1.00]	[.91]	[.96]	[.95]	[.94]
−1	11.24	11.30	11.12	10.16	11.60	12.43	9.47
	(59.93)**	(52.04)**	(33.83)**	(31.55)**	(51.02)**	(46.20)**	(37.13)**
0	6.11	6.00	6.32	9.02	5.08	5.80	6.58
	(32.54)**	(27.61)**	(19.21)**	(28.00)**	(22.36)**	(21.55)**	(25.79)**
[+1, +15]	1.02	.13	2.74	− .69	1.62	.58	1.70
	(1.40)	(.15)	(2.16)*	(− .56)	(1.84)	(.57)	(1.72)
				Panel B. Industry Rivals Grouped into Portfolios by Event			
[−15, − 2]	.57	− .21	2.08	1.16	.37	.99	− .08
	(1.05)	(− .30)	(2.25)*	(1.09)	(.56)	(1.30)	(− .11)
[−1, 0]	1.32	1.42	1.14	1.50	1.26	1.42	1.17
	(6.40)**	(5.28)**	(3.28)**	(3.75)**	(5.04)**	(4.93)**	(4.43)**
	[.78]	[.82]	[.70]	[.88]	[.75]	[.78]	[.78]
−1	.81	.69	1.07	.58	.90	.97	.57
	(5.59)**	(3.61)**	(4.35)**	(2.04)*	(5.09)**	(4.78)**	(3.05)**
0	.51	.73	.07	.92	.36	.45	.60
	(3.46)**	(3.87)**	(.28)	(3.26)**	(2.04)**	(2.19)*	(3.21)**
[+1, +15]	.40	.79	− .34	.28	.44	.33	.51
	(.71)	(1.07)	(− .36)	(.25)	(.65)	(.42)	(.71)

*Significant at the 5% level.
**Significant at the 1% level.

returns are positive. The pre-event period ($t = -15$ through -2) return is 6.49% and is statistically significant, suggesting information leakage prior to the published announcement. During the post-event period, ($t = +1$ through $+15$), the excess return is 1.02% but is not statistically significant.

Table II

Cumulative Excess Returns for Equally Weighted Rival Firms and a Matched Sample of Rival Firms around Initial Announcements of Going-Private Bids

Cumulative excess returns (in percent) are the sum of excess returns over the relevant event period. Excess returns are calculated as the difference between realized returns and expected returns which are derived from market model parameters estimated by using daily returns from 96 days to 215 days prior to the announcement. The sample period is 1980–1988. Day 0 is the date the initial buyout bid is reported in the *Wall Street Journal*. The *t*-statistics are in parentheses, the proportion of returns positive in brackets, and *N* indicates the sample size. Excess returns to equally weighted rival firms are reported in Panel A and excess returns to a matched sample of rival firms in Panel B.

Interval	(1) Full sample	(2) First bid in industry	(3) Subsequent bids in industry	(4) Bids with buyout specialists	(5) Bids without buyout specialists	(6) Management buyout bids	(7) Buyout bids by outsiders
	Panel A. Equally Weighted Rival Firms						
	$N = 940$	$N = 471$	$N = 469$	$N = 214$	$N = 726$	$N = 520$	$N = 420$
[−15, − 2]	.58	.05	1.14	1.85	.21	1.30	−.29
	(1.86)	(.10)	(2.45)*	(3.15)**	(.56)	(2.86)**	(−.64)
[−1, 0]	1.24	1.32	1.16	1.35	1.21	1.16	1.33
	(10.47)**	(7.40)**	(6.61)**	(6.08)**	(8.45)**	(6.77)**	(7.72)**
	[.62]	[.63]	[.60]	[.63]	[.61]	[.60]	[.63]
−1	.70	.64	.77	.64	.72	.68	.72
	(8.41)**	(5.11)**	(6.18)**	(4.09)**	(7.15)**	(5.66)**	(5.92)**
0	.54	.68	.39	.71	.49	.48	.61
	(6.40)**	(5.36)**	(3.16)**	(4.52)**	(4.80)**	(3.92)**	(4.99)**
[+1, +15]	.78	.87	.69	.41	.89	.72	.86
	(2.41)*	(1.78)	(1.44)	(.67)	(2.28)*	(1.52)	(1.83)
	Panel B. Industry Rivals Matched by Size and Nature of Operations to Target Firms						
	$N = 128$	$N = 84$	$N = 44$	$N = 33$	$N = 95$	$N = 78$	$N = 50$
[−15, − 2]	.92	.45	1.83	−.45	1.40	1.46	.09
	(1.15)	(.45)	(1.35)	(−.28)	(1.58)	(1.30)	(.07)
[−1, 0]	1.81	1.88	1.68	2.42	1.60	1.92	1.63
	(5.97)**	(4.99)**	(3.29)**	(3.95)**	(4.74)**	(4.56)**	(3.43)**
	[.66]	[.69]	[.59]	[.79]	[.61]	[.64]	[.74]
−1	1.13	.87	1.62	1.11	1.14	1.15	1.09
	(5.27)**	(3.27)**	(4.49)**	(2.57)**	(4.77)**	(3.86)**	(3.25)**
0	.68	1.01	.06	1.31	.46	.77	.54
	(3.17)**	(3.78)**	(.16)	(3.02)**	(1.94)	(2.59)*	(1.59)
[+1, +15]	1.35	1.02	1.99	.14	1.78	.52	2.65
	(1.63)	(.99)	(1.42)	(.08)	(1.93)	(.45)	(2.04)*

*Significant at the 5% level.
**Significant at the 1% level.

Average excess returns to equally weighted portfolios of industry rivals are reported in column 1 of Panel B in Table I. The 2-day average excess return to rival firms is 1.32% with a *t*-statistic of 6.40. Moreover, 78% of the portfolios have positive excess returns. The pre-event and post-event period

Table III

Cumulative Excess Returns for Industry Rivals Grouped by Firm Size Relative to the Size of the Target around Initial Announcements of Going-Private Bids

Cumulative excess returns (in percent) are the sum of excess returns over the relevant event period. Excess returns are calculated as the difference between realized returns and expected returns which are derived from market model parameters estimated by using daily returns from 96 days to 215 days prior to the announcement. The sample period is 1980–1988. Day 0 is the date the initial buyout bid is reported in the *Wall Street Journal*. The *t*-statistics are in parentheses, the proportion of returns positive in brackets, and N indicates the sample size. Excess returns to industry rivals grouped into portfolios by event are reported in Panel A and excess returns to equally weighted rival firms in Panel B.

Interval	(1) Industry rivals with market values less than the target	(2) Industry rivals with market values greater than the target
	Panel A. Industry Rivals Grouped Into Portfolios by Event	
	$N = 96$	$N = 104$
[−15, −2]	−.29	1.48
	(−.39)	(2.48)*
[−1, 0]	1.80	1.10
	(6.34)**	(4.87)**
	[.72]	[.66]
−1	.95	.61
	(4.71)**	(3.81)**
0	.85	.49
	(4.25)**	(3.08)**
[+1, +15]	.77	.21
	(.99)	(.35)
	Panel B. Equally Weighted Rival Firms	
	$N = 500$	$N = 440$
[−15, −2]	−.24	1.47
	(−.51)	(3.81)**
[−1, 0]	1.55	.90
	(8.77)**	(6.17)**
	[.61]	[.62]
−1	.94	.45
	(7.50)**	(4.36)**
0	.61	.45
	(4.90)**	(4.37)**
[+1, +15]	1.33	.19
	(2.75)**	(.46)

*Significant at the 5% level.
**Significant at the 1% level.

returns are normal. Thus, the evidence suggests significant positive effects of buyout bids on industry rivals. An alternative explanation for these positive results is that arbitragers may purchase an industry portfolio in response to rumors of a possible control bid. To test this, we report individual day results for day -1 and for day 0. If arbitrager purchases of the industry portfolio just prior to the bid were the source of rival gains and no external information effects exist, there should be a positive return on day -1 but a negative return on day 0 when arbitragers would sell shares of those firms in the industry that are not the target. In contrast, positive and significant results are observed for each day. Moreover, gains to rivals are permanent, that is, not lost after the identity of the target becomes known.

Based on market values, the aggregate value added to industry rivals is \$8.6 billion compared to \$10.3 billion for target firms; that is, rival firm gains are 83% of the gains to shareholders of target firms. Thus, a substantial increase in aggregate industry shareholder wealth occurs in response to a going-private bid. Since these transactions do not entail the consolidation of separate operating firms, this value added is not due to expectations of synergy (through economies of scale or scope) or collusion, effects that could occur in interfirm acquisitions. Instead, we attribute these gains to information common to members of the industry that is released by the announcement of a going-private bid for a target.

Of the 128 buyout events in our sample, 44 occur subsequent to another buyout in the same industry. It is possible that subsequent bids have less information about industry valuation compared to a previous bid. We test for this possibility by disaggregating the 128 events based on whether or not there is a prior buyout event in the industry within the sample. The results are reported in columns 2 and 3 of Table I. For target firms, 2-day average excess returns are almost identical for the two groups, 17.30% for earlier bids and 17.44% for later bids. For industry rivals the 2-day average excess return to first bids is 1.42% with a t-statistic of 5.28 and 1.14% with a t-statistic of 3.28 for subsequent bids. A difference in means test for first bids compared to subsequent bids yields a calculated t-value of 0.25 for targets and 0.65 for rivals, so we cannot reject the null hypothesis of equality, and thus pooling the subsamples is appropriate.

A. Buyout Specialists, Management Bids, and Outside Bidders

For 33 transactions in our sample, the *Wall Street Journal* reports that a buyout specialist shares an equity participation in the bid. Our designation of buyout specialist includes both investment bankers and firms such as Kohlberg, Kravis, Roberts. For this subsample, the 2-day excess return for target firms, reported in column 4 of Panel A in Table I, is 19.18% (t-statistic = 42.11). The 2-day average excess return for the sample of 95 target firms with no specialist participation, reported in column 5, is 16.68% (t-statistic = 51.88). For rival firms, reported in Panel B, the comparable 2-day excess returns are 1.50% (t-statistic = 3.75) and 1.26% (t-statistic =

5.04). Thus, the 2-day average excess returns to bids involving buyout specialist participation are larger for both targets and rivals than bids without such participation. A difference in means test between these sets of figures yields a calculated t-value of 4.03 for target firms and 0.45 for rival firms. For target firms we reject the null hypothesis of equality at the 1% confidence level. This suggests that specialist participation in a buyout bid enhances shareholder value and is consistent with the evidence of Carter and Manaster (1990) and Slovin, Sushka, and Hudson (1990) on the role of investment bankers in equity issuance. Nevertheless, gains for rivals are not affected significantly by the presence of buyout specialists.

Next, we examine the effects of management-led buyout bids (78 firms) versus bids by outside agents (50 firms). The average 2-day excess return for targets of management buyout bids is 18.23%, column 6 of Panel A in Table I, compared to 16.05%, column 7, for targets of buyout bids by outside investors. The t-statistics for these returns are 47.91 and 44.49, respectively. A difference in means test yields a calculated t-value of 4.58, indicating that management-led buyouts induce significantly larger gains than buyouts by outsiders. The valuation effects of management and outside bids on industry rivals, reported in columns 6 and 7 of Panel B in Table I, are each positive and statistically significant. The 2-day average excess return is 1.42% for management buyouts and 1.17% for bids without management participation. Both figures are statistically significant at the 1% level. However, a difference in means test yields a calculated t-value of 0.71, so we cannot reject the null hypothesis of equality for the two samples.

B. Firm Size and the Effects of Buyout Bids on Industry Rivals

Atiase (1985) argues that information production and dissemination are a positive function of capitalized firm value. Thus, the expected change in value induced by public announcements should be inversely related to firm market value. Consistent with this hypothesis Atiase reports evidence that there is a larger share price reaction to earnings announcements for small firms than for larger firms. To test whether excess returns to industry rivals generated by announcements of going-private bids are a function of rival size relative to size of the target, we disaggregate industry rivals into two portfolios based on whether a rival's market value is greater or less than the target firm. The mean market value of rivals smaller than the relevant target is \$294.2 million and \$1,375.5 million for larger rivals. The number of portfolios with at least one rival smaller than the target in market value is 96, and with at least one rival larger than the target it is 104. The total number of rival firms in these samples is 500 and 440, respectively. The results are reported in Table III. For portfolios of rivals with market values larger than the relevant target, the 2-day average excess return is 1.10% (t-statistic = 4.87). For rivals with market values less than the relevant target, the 2-day average excess return is 1.80% (t-statistic = 6.34). A difference in means test yields a calculated t-value of 2.70, so we can reject the

null hypothesis of equality at the 1% confidence level. Thus, our results indicate that the valuation effect on industry rivals is inversely related to the relative capitalized values of rival and target firms.

VII. Conclusions

Our evidence indicates positive external information effects of bids to take firms private. Shareholders of firms with activities similar to target firms accrue significant gains as a result of these bids. Participation by buyout specialists in the bid significantly increases returns to target firms but does not significantly affect gains to industry rivals. For targets, the gains from bids by outsiders are significantly smaller than gains from bids by incumbent managers. For industry rivals, bids by outsiders and bids by incumbent managers generate positive valuation effects that are not statistically different. The effect on share prices of industry rivals is inversely related to the relative capitalized values of rival and target firms but not with respect to whether a buyout event occurs subsequent to a previous buyout in the industry. The magnitude of the intra-industry effects of going-private bids implies that economic agents who initiate buyout bids generate significantly larger economic benefits than have been recognized thus far. This suggests that shareholders of rival firms gain from the costly acquisition of information associated with buyout activities.

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