



American Finance Association

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Source: *The Journal of Finance*, Vol. 44, No. 4 (Sep., 1989), pp. 953-970

Published by: Blackwell Publishing for the American Finance Association

Stable URL: <http://www.jstor.org/stable/2328618>

Accessed: 26/11/2009 07:29

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Management Buyouts of Divisions and Shareholder Wealth

GAILEN L. HITE and MICHAEL R. VETSUYPENS*

ABSTRACT

This paper examines the wealth effects to parent company shareholders around the announcement of divisional management buyouts. Despite the relative absence of "arm's-length" bargaining between buyer and seller, there is no evidence that divisional management buyouts result in reductions in parent company share prices. Instead, small but statistically significant wealth gains are found during the two-day period surrounding the buyout announcement. This evidence suggests that divisional buyouts reallocate ownership of corporate assets to higher valued uses and that parent company stockholders share in the expected benefits of this change in ownership structure.

It has been argued that the separation of ownership and control characterizing the modern publicly held corporation permits management of such organizations to pursue objectives that are inconsistent with shareholder wealth maximization.¹ Other writers, however, have pointed out the existence of contractual and market control mechanisms designed to reduce the costs of this manager-shareholder conflict.² The effectiveness of these control mechanisms in reducing the costs of managerial opportunism is an unresolved empirical issue. Existing research on the shareholder wealth effect of a variety of changes in corporate control initiated by management indicates that, on average, shareholder wealth is not reduced by these transactions.³ However, there is mixed evidence on the shareholder wealth effect of management-initiated interfirm takeover offers⁴ and managerial resist-

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¹ Berle and Means (1932) were early proponents of this view. In their opinion, the widely held corporation offers no effective control rights to its owners. Managers are alleged to operate the firm in their own best interest and use corporate assets for personal benefit.

² See, for instance, Manne (1965), Jensen and Meckling (1976), Fama (1980), and Smith and Watts (1983).

³ See Jensen and Ruback (1983) for a review of this evidence.

⁴ See Dodd (1980) and Asquith, Bruner, and Mullins (1983).

ance to outside takeover bids, e.g., targeted large block repurchases, standstill agreements, defensive asset and ownership restructuring, and poison pills.⁵

This paper investigates another area of potential manager-shareholder conflict by examining the returns to shareholders around changes in corporate control resulting from management buyouts of divisions from parent companies. A divisional buyout is defined as the sale of a division, subsidiary, or other operating unit of a parent firm to members of the management of either the parent or the subunit being divested. In a typical management buyout, a newly formed shell corporation which is privately owned by the acquiring management team acquires the divested unit from the original parent company. Equity ownership in the new firm is often shared with a buyout specialist who contributes equity capital and arranges debt financing for the balance of the purchase price. The physical assets and future cash flows of the new firm secure the loans just as in traditional leveraged buyouts of entire firms.

In many respects, divisional buyouts are similar to interfirm divestitures in that the buyer, who can presumably put the assets to a higher valued use, acquires control of the assets in exchange for consideration paid to the parent company. One feature of management buyouts which distinguishes them from interfirm divestitures is the absence of "arm's-length bargaining" between buyer and seller which raises the possibility of "managerial self-dealing" at the expense of parent company shareholders. The purpose of this paper is to assess the wealth effects on parent company shareholders from management buyouts. For a sample of 151 divisional management buyout announcements in the period 1973–1985, we find that shareholders gain a statistically significant 0.55 percent, on average. Although we are unable to estimate the total gains from these buyouts and the proportion of the gains captured by acquiring managers, we find that this point estimate of the gains to selling stockholders is similar to that of a comparable sample of interfirm divestitures.

The plan of the paper is as follows. In Section I, we discuss potential sources of gains from management buyouts and the pricing of such transactions. Section II presents the sample of management buyouts and the empirical methods we use. Our findings are contained in Section III along with a discussion of the factors which may influence the size of the gains. In Section IV, we summarize and interpret our findings.

I. The Wealth Effects of Management Buyouts of Divisions

There are two important factors which determine whether or not the shareholders of the divesting company will benefit when a division is sold either to parent company management or to managers of the division. First, there must be productive gains associated with the transfer of ownership and control to the buyout group. Second, even if there are potential gains arising from the reorganization, the nature of the bargaining process will determine whether selling

⁵ See Dodd (1980), Kummer and Hoffmeister (1978), Bradley and Wakeman (1983), Dann and DeAngelo (1983, 1988), DeAngelo and Rice (1983), Linn and McConnell (1983), Malatesta and Walking (1988), and Mikkelsen and Ruback (1985).

shareholders participate in these gains. In this section, we first identify potential sources of productive gains. Then we consider factors which determine how the buyouts will be priced and how the gains will be shared between shareholders as sellers and managers as buyers. Finally, we outline our research design.

A. Productive Gains from Divisional Buyouts

Management buyouts of divisions alter the ownership structure of corporate assets in a way that can lead to a more efficient and profitable allocation of resources. In the terminology of Fama and Jensen (1983), productive gains from management buyouts can arise from increased efficiency in the decision management function and the decision control function. Decision management refers to the initiation and implementation of decisions, whereas decision control refers to the ratification and monitoring of decisions.

After a management buyout, the division becomes a free standing unit no longer under the layers of bureaucracy in most large business organizations. The decision management function is concentrated in managers closer to the day-to-day operations of the unit. Under the former parent-subsidiary relationship, the management of the division would be responsible for recognizing new business opportunities and communicating the appropriate information to parent company management to gain approval for the resources necessary to exploit the opportunities. After a buyout, the management team will no longer require time-consuming approval from above. For example, when Avon Corporation announced the sale of its Tiffany unit, a member of the acquiring management group stated, "...taking Tiffany private will allow [the acquiring management] to focus all its time and attention on its business to be what it wants to be" (*Wall Street Journal*, 8/31/84).

Furthermore, with the new owners being closer to the operations, there may be reductions in the cost of accurately communicating information across hierarchical management layers. For instance, when AMF announced the sale of its Harley Davidson unit, members of the acquiring management group were reported as saying, "We'll manage our money more tightly since we aren't playing with AMF dollars anymore. . . . When you make decisions locally and don't have to depend on people far away, you can react more promptly to a situation" (*Wall Street Journal*, 3/2/81).

Divisional buyouts can also lower the costs of the decision management function to parent company managers by reducing the number and diversity of decisions to be made under one management. By allocating divisional decision-making authority to the acquiring manager group, subsidiary buyouts reduce the complexity of the transactions under the oversight of parent company executives. This may eliminate possible diseconomies of scope in decision making among diverse activities and may allow managers to improve the allocation of their time.

Perhaps more important than the potential efficiency gains in the decision management function are the improvements in the decision control function from modifications in the incentive compensation contracts facing the new owner-managers. By restructuring the claims to the divested unit to give a greater equity participation in the residual cash flows to the unit's managers, buyouts alter management's incentives. By having claims more closely tied to the per-

formance of the unit under their control, managers can be expected to improve their performance.⁶ Shirking becomes more costly to the individual with a share in the net cash flow. Furthermore, the incentives for mutual monitoring by members of the management team improve as they become residual claimants. For example, when B. F. Goodrich Co. sold most of its tire stores to a new company headed by a Goodrich executive, the president stated, "We recognize the ability of . . . individual owners to operate these businesses more profitably than a large company such as Goodrich" (*Wall Street Journal*, 10/15/85).

Productive gains resulting from improved management performance can also be expected when the acquiring managers share equity ownership in the division with outside investors often led by a buyout specialist. Because it lowers the cost of managerial shirking, outside equity participation might not appear to be as efficient a form of reorganization as full ownership by the acquiring management team alone. Yet, in addition to the risk-sharing benefits to managers, there are at least three factors which suggest that the active participation of third-party investors may contribute to the potential gains associated with taking the division private.

First, since the buyout specialist controls a large block of equity in the new organization, he or she has better incentives to monitor more closely management of the division than managers or stockholders of the original parent company. Second, the buyout specialist must provide adequate monitoring to ensure that debt servicing problems do not arise. Problems with bondholders will damage his or her reputation and reduce the stream of expected cash flows from arranging future deals. Hence, the buyout specialist has an interest in effectively monitoring the management team. Third, the buyout specialist often invests in both the debt and equity securities of the new unit, thus mitigating some of the potential agency conflicts between lenders and equity claimants. This should reduce his or her willingness to allow managers to expropriate lenders and, in the event of bankruptcy, reduce the costs of financial distress. On net, the participation of the specialist should support a higher level of debt, resulting in increased tax shields. Furthermore, higher leverage under private ownership will increase the sensitivity of the value of the equity claims to changes in asset values and cash flows, providing additional incentives to improve management performance.⁷

Finally, the buyout specialist may bring to the new unit additional management expertise acquired in previous transactions in which he or she has participated. It is common for buyout specialists to appoint these managers as advisers to new buyouts if they have appropriate specialized expertise.⁸ This "cross-utilization"

⁶ Similar arguments have been presented in trying to explain motivations for spin-offs (Hite and Owers (1983) and Schipper and Smith (1983)), going-private transactions (DeAngelo, DeAngelo, and Rice (1984)), and equity carve-outs (Schipper and Smith (1986)). See also Williamson (1983) for a discussion of the role of the internal organization on corporate performance. In principle, more efficient compensation systems tying divisional managers' compensation to the net cash flow of the unit could have been implemented by the parent before the buyout. In practice, however, large organizations may evolve into bureaucracies with few incentives to structure efficient compensation contracts. (See Baker, Jensen, and Murphy (1988).)

⁷ See Jensen (1986) for an analysis of the role of debt in motivating organizational efficiency.

⁸ See Diamond (1985).

of managerial talent can represent a valuable and not otherwise readily available resource to the buyout unit.

B. Factors Affecting the Pricing of Divisional Buyouts

Up to this point we have discussed the potential gains from divisional management buyouts without speculating on the distribution of the gains between the acquiring management team and the stockholders of the selling parent corporation. For stockholders to benefit from such sales, they must share in the productive gains from these transactions. At least two factors reduce the probable share of any wealth gains captured by the parent company stockholders: (i) the unit-specific managerial expertise developed by division managers and (ii) the non-arm's-length nature of the bargaining process.

B.1. Unit-Specific Management Expertise

Previous studies of interfirm divestitures indicate that announcements of the intention to sell a subsidiary or division are associated with wealth gains to selling firm stockholders. For example, Hite, Owers, and Rogers (1987) examine sellers in both completed and terminated interfirm divestiture bids. They find that the announcement period gains are maintained only if the divestiture is successfully completed. When sell-off plans are later cancelled and potential synergies do not materialize, the initial gains are lost. Their interpretation of this evidence is that divestitures are motivated by potential synergies between the acquiring firm and the division being purchased. Furthermore, the fact that selling firm shareholders in the Hite, Owers, and Rogers sample capture a significant fraction of the expected gains is consistent with active competition in the market for interfirm asset sales.

Divisional management buyouts, by contrast, do not offer the potential synergies that may arise from combining complementary assets of the acquiring firm and the divested unit, since the division will now stand alone as an independent entity. To the extent that the acquiring managers possess specialized expertise and managerial skills in operating the division, the market for divisional buyouts would more closely resemble a bilateral monopoly situation than a competitive acquisitions market. In this particular case, acquiring managers may therefore be able to capture a significant fraction of the total gains available from restructuring ownership of the division.

B.2. Absence of Arm's-Length Bargaining

Another factor which may tend to reduce the fraction of the potential gains from management buyouts captured by parent company shareholders is the relative absence of arm's-length bargaining. To see this point, it is best to distinguish between buyouts in which parent company management is part of the acquiring group and transactions in which the buyout group includes only divisional managers. The buyers in these two types of transactions are likely to face differences in their ability to influence the purchase price received by the parent.

When divisions are sold to managers of the parent company, these top level

executives are representing both the buying and selling sides of the deal. As sellers, parent company managers have an obligation to shareholders to realize the highest possible price for the divested unit in question. On the other hand, as buyers they have incentives to try to acquire the assets at a lower price. This potential conflict of interest has been the focus of a number of shareholder lawsuits claiming evidence of managerial "self-dealing." For example, a Lehigh Valley shareholder filed suit challenging an agreement to sell certain operations to a corporation controlled by Lehigh's chairman and president. The complaint alleged that the sale "served no corporate purpose" and constituted "waste" of Lehigh's assets (*Wall Street Journal*, 5/15/82). A similar complaint filed against International Diversified Corporation attempted to block the sale of several of its units to a new corporation 50 percent owned by its current chairman on the grounds that the purchase price was "inadequate" (*Wall Street Journal*, 7/30/79). In other instances, the acquiring management group seems to be aware of its vulnerability to allegations of misconduct. For example, the former vice-chairman of Fuqua Industries resigned his position several weeks before buying Fuqua's Martin Theatres unit because, as he stated, "I just wanted to avoid any conflict of interest in the purchase" (*Wall Street Journal*, 2/27/82).

Divisional buyouts are, in this respect, similar to "going-private" transactions or "minority freezeouts," which have been criticized on the grounds that they result in public shareholders being treated unfairly.⁹ Unlike going-private bids, management buyouts of divisions are characterized by the lack of an observable, predivestiture market value for the unit to serve as an impartial benchmark against which to measure the attractiveness of the offer price. As a result, managers involved in divisional buyouts may have greater opportunity for negotiating a favorable price in the absence of an objective appraisal mechanism provided by the market.¹⁰

In addition to conflicts of interest that arise from sales of assets to parent company managers, there is the potential for expropriation of stockholders even when the acquiring group consists of divisional managers only. First, because of their relationship with parent company executives, divisional managers may be able to negotiate a favorable price. This possibility has been raised by Carl Ferenbach, a buyout specialist and former head of Mergers & Acquisitions for Merrill Lynch, who, in discussing the determinants of divisional buyout prices, commented, "If you hired an investment bank and told them to get the best price that they can get, it would be a high price. But if you said, 'I like my management team and I am going to try to negotiate a fair deal with them and get somebody to tell me it is a fair deal,' then it won't be such a big price" (*Midland Corporate Finance Journal*, Summer 1984, p. 68).

Second, divisional managers may be in a position to negotiate a purchase price which does not fully reflect the intrinsic value of the division if they possess favorable inside information about their unit that parent company managers do

⁹ For a discussion of these criticisms, see DeAngelo, DeAngelo, and Rice (1984).

¹⁰ In the absence of observable market prices, accounting values and sales and earnings data may be used as valuation substitutes (DeAngelo (1986)). When Fisher Foods sold its Dominick's Finer Foods unit to members of its own management, the vice-chairman declared, "[T]he fact that the price is at a substantial premium over book value is . . . evidence that it is a fair arrangement for Fisher shareholders" (*Wall Street Journal*, 9/1/81).

not have or if they have the ability to manipulate divisional accounting information reported to the parent.¹¹

C. Research Design

The remainder of this paper analyzes the wealth effect on parent company shareholders from divisional management buyouts for a sample of 151 transactions that occurred during the period 1973–1985. Before presenting the data, it is important to make clear what interpretations we can reasonably expect to support and the limitations of our approach. Our event study allows us to test the joint hypotheses 1) that restructuring the ownership claims of the division produces real productive gains and 2) that parent company shareholders participate in these gains. Failure to detect positive returns to parent company stockholders may indicate either that there are no gains to be achieved or that acquiring managers are able to negotiate prices that allow them to capture all the gains for themselves. Finally, a finding of negative returns to stockholders would be consistent with management being able to acquire the assets at a price lower than the current use value to the parent or lower than the expected value of an outside bid.¹²

Unfortunately, our procedures do not allow us to determine the distribution of the total gains between selling shareholders and acquiring managers. Even positive abnormal returns do not rule out the possibility that management, acting on the basis of private information, was able to acquire the assets at a price which was substantially less than the present value based on this superior information about future divisional performance. A positive finding could indicate that the offer price is above the market's current valuation of the division and that parent shareholders receive part of the increased value.¹³ Of course, positive returns may also reflect the elimination of certain diseconomies of scope at the parent level, as mentioned previously. With these caveats in mind, we proceed to a discussion of the data and our findings.

II. Data and Empirical Methods

A. Data

The primary data source for this study is the “Roster of Mergers and Acquisitions”, which is published quarterly by *Mergers and Acquisitions*. The Roster

¹¹ Unfortunately, the lack of published divisional accounting information precludes our further investigation along these lines. We note, however, that DeAngelo (1986) examines accounting decisions of managers of sixty-four firms who proposed to take their entire firms private during 1973–1982 but finds no evidence that they systematically manipulated accounting numbers to understate reported earnings prior to the going-private proposal.

¹² Zero abnormal returns may, of course, also indicate that the sell-off was perfectly anticipated. Furthermore, negative abnormal returns are consistent with the sale communicating to the market that the division was worth less than previously thought.

¹³ In other words, gains to shareholders do not rule out the possibility of opportunistic behavior on the part of the acquiring managers. By the same logic, even the very large gains documented by DeAngelo, DeAngelo, and Rice (1984) for going-private transactions simply indicate that shareholders received large offer premiums relative to the pre-offer market values but do not rule out the possibility of “self-dealing” by managers.

reports completed mergers and acquisitions involving U.S. firms for which the transaction is valued at \$1 million or greater.¹⁴ From each quarterly Roster during the period 1973–1985, we collected all divestitures which met the following criteria:

- (i) The acquiring party included one or more managers of the divested unit or the divesting parent corporation.
- (ii) The selling company's shares were traded on the New York or American Stock Exchanges at the time of the transaction.
- (iii) The *Wall Street Journal* published at least one reference to the transaction confirming that it was a management buyout.

For each transaction, the *Wall Street Journal Index* was searched for the earliest published report of the buyout. Transactions with disclosures of potentially confounding information in the two days surrounding the management buyout proposal announcement date were excluded from the sample.¹⁵ This procedure netted a sample of 151 divisional management buyouts. More than half (81 of 151) of the total sample came from the latter part of our sample period, 1983–1985. Of the total 151 buyouts, there were 23 cases (15 percent) in which the acquiring group included one or more top executives of the parent company and 128 cases (85 percent) in which the acquiring group included only divisional executives. Finally, the *Wall Street Journal* reported the purchase price for only 70 of the 151 transactions.

For purposes of comparison, we also collected a sample of interfirm divestitures that were identified over the same period. This sample was compiled from the "Roster of Mergers and Acquisitions" and the "Sell-Off" sections of *Mergers and Acquisitions*. To economize on data collection, the sample of interfirm divestitures was restricted to transactions for which the purchase price was disclosed, yielding 468 announcements with complete data in the CRSP daily files surrounding the disclosure date. To the extent that disclosure of the purchase price proxies for the materiality of the divestiture, this selection criterion may result in an upward bias in the measurement of the gains to selling stockholders relative to the population of interfirm asset sale announcements.¹⁶ Consequently, comparisons between the two samples must be interpreted with care.

Table I reports descriptive statistics for both the management buyout sample and the interfirm divestiture sample. The two samples appear to be very similar.

¹⁴ It is important to note that the Roster reports only completed transactions. Our sample selection method may bias the results against finding shareholder wealth losses since buyout attempts that are most detrimental to shareholders may be more likely to be cancelled after the initial announcement if stock prices react negatively.

¹⁵ The confounding announcements which caused deletion from the sample included simultaneous sale of other divisions (ten firms), quarterly earnings announcements (seven firms), share repurchase (two firms), a fifty percent dividend cut (one firm), restructuring of other operations (two firms), a shareholder lawsuit (one firm), and capital structure changes (two firms).

¹⁶ Klein (1986) divides her sample of interfirm asset sales according to whether the *Wall Street Journal* reports the transaction price. She concludes that larger stockholder abnormal returns are associated with transactions for which the price is reported. This may simply reflect the fact that the editors chose to report more details of events that are associated with larger share price reactions. See Hite (1986).

Table I
Characteristics of Divisional Management Buyouts and Interfirm Divestitures

This table provides comparative statistics on the market value of equity of the selling corporation and the price of the divested unit, for divisional management buyouts and interfirm divestitures over the period 1973–1985. Data are from “Mergers and Acquisitions”.

	Mean	Median	Minimum	Maximum	Number of Observations
A. Divisional Management Buyouts					
Market value of equity of seller ^a (in millions of dollars)	\$1,116.7	\$544.2	\$3.0	\$12,436.8	151
Price of divested unit (in millions of dollars)	\$68.5	\$25.0	\$2.2	\$700.0	70
Sale price as percentage of market value of equity of seller	16.6%	10.2%	0.49%	103.1%	70
B. Interfirm Divestitures					
Market value of equity of seller ^a (in millions of dollars)	\$1,170.3	\$410.3	\$3.7	\$26,159.6	468
Price of divested unit (in millions of dollars)	\$87.2	\$33.0	\$1.7	\$2,400.0	468
Sale price as percentage of market value of equity of seller	29.0%	10.0%	0.08%	435.9%	468

^a Market value of equity of selling firm at the end of the month before the first announcement of the sale.

The firms are about the same size, as can be seen by comparing the group mean and median market values of equity computed at the end of the month preceding the divestiture announcements. Also, the mean and median transaction prices are virtually identical for the two samples. For the interfirm divestitures, the mean sales price as a percentage of equity value of 29.0 percent is larger than the mean of 16.6 percent for divisional buyouts, but the medians are virtually identical. In general, the relative transaction sizes appear to be of the same order of magnitude for each of the two samples.

Finally, it is interesting to note that the size of the typical unit taken private in a divisional buyout is similar to the size of companies going private studied by DeAngelo, DeAngelo, and Rice (1984) for the period of 1973–1980. In that study covering 72 initial proposals to go private, the mean and median values of all outstanding shares 40 days prior to the proposal were \$46.7 million and \$13.1 million, respectively. These numbers are comparable to the mean of \$68.5 million and median of \$25.0 million in the divisional buyouts.

B. Empirical Methods

The method used to estimate the effect of divisional buyouts on parent company shareholder wealth is the conventional event-time technique developed by Fama, Fisher, Jensen, and Roll (1969). For each firm j , we calculate the

prediction error for day t as

$$PE_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}),$$

where

R_{jt} = the rate of return on stock j for event day t and

R_{mt} = the rate of return on the CRSP value-weighted index for event day t .

The coefficients $\hat{\alpha}_j$ and $\hat{\beta}_j$ are the ordinary least squares estimates of the intercept and slope of the market model regression. The market model regression was estimated for each firm from day $t = -120$ to day $t = -20$ relative to the buyout proposal announcement on day $t = 0$.

To test for the significance of the prediction errors around the announcement date, we follow a procedure discussed by Dodd and Warner (1983). First, we standardize each daily prediction error for each firm by dividing the calculated prediction error by its estimated standard error for that day. We then aggregate the standardized prediction errors for each firm for days -1 and 0 . These cumulative standardized prediction errors are then averaged across the sample. The test statistic derived from the average of the individual firm cumulative standardized prediction errors will be distributed approximately unit normal under the null hypothesis of no abnormal returns.

III. Empirical Results

A. Overview of the Wealth Effects of Divisional Buyouts

Table II reports the average announcement-period abnormal returns for the 151 management buyouts and the 468 interfirm divestitures having adequate returns in the CRSP daily return files around the divestiture announcements.¹⁷ In addition, we report various summary statistics describing the cross-sectional variation in the two samples.

In the two-day period around the announcement of management buyouts of divisions, the mean cumulative prediction error is 0.55 percent (test statistic, 2.48), which is significantly different from zero at the 0.05 level. The median announcement-period abnormal return is 0.25 percent, and eighty-one out of 151 observations (fifty-four percent) are positive. Neither the binomial-signs test (assuming equal likelihood of positive and negative) nor the Wilcoxon signed-ranks test on the announcement-period prediction errors is significant at conventional levels. Thus, the parametric test statistic may be sensitive to several outlier observations. Consequently, we conclude that there is weak evidence to support the claim that shareholders of parent firms benefit from management buyouts of divisions. Although the gains are relatively small, we find no evidence

¹⁷ The empirical tests presented in Table II were replicated using the market-adjusted returns model, the mean-adjusted returns model, and raw returns without affecting the qualitative conclusions. Furthermore, prediction errors were computed for wider pre-event windows ranging as far back as three years prior to the divestiture announcement. There was no evidence of abnormal return behavior prior to the event being examined.

Table II

Stock Price Reaction around Buyouts and Divestitures

This table presents a frequency distribution and summary statistics of shareholder wealth changes in the two days around the announcement date of 151 divisional management buyouts and 468 interfirm divestitures in the period 1973–1985. Data are from “Mergers and Acquisitions”.^a

Percentage Rate of Return R	Number of Divisional Buyouts with Two-Day Prediction Errors in Specified Interval	Number of Interfirm Divestitures with Two- Day Prediction Errors in Specified Interval
$10 < R$	2	24
$5 < R \leq 10$	13	43
$1 < R \leq 5$	42	130
$0 < R \leq 1$	24	60
$-1 < R \leq 0$	28	73
$-5 < R \leq -1$	34	110
$-10 < R \leq -5$	8	21
$< R \leq -10$	0	7
Mean	0.55%	1.12%
Median	0.25%	0.45%
Maximum	17.69%	43.84%
Minimum	-9.63%	-21.62%
Standard deviation	3.67%	6.02%
Z-statistic	2.48*	9.13**
Percent positive	53.6%	54.9%
Binomial-signs test	0.90	2.13*
Wilcoxon signed-ranks test	1.64	3.56**

^a Shareholder wealth changes are defined as prediction errors determined using market model parameters estimated for each firm over the period (-120, -20) relative to the buyout announcement date.

* Significant at the 0.05 level.

** Significant at the 0.01 level.

to support the hypothesis that shareholders are harmed by such divestitures, on average.¹⁸

To put the magnitude of the gains from management buyouts in perspective, we present the abnormal returns for our sample of interfirm asset sales in the right-hand column of Table II. The mean two-day prediction error is 1.12 percent (test statistic, 9.13), and the median is 0.45 percent. In addition, the proportion of positive observations is 55 percent, and both the binomial-signs test and the Wilcoxon signed-ranks test are significant at conventional levels. Thus, it appears that the sample of interfirm asset sales is associated with somewhat larger mean

¹⁸ As reported previously, twenty-five transactions were deleted from our sample because of confounding announcements. It is conceivable that buyouts that are detrimental to shareholder interests may be announced simultaneously with the disclosure of other information in an attempt to “hide” the bad news. If this is the case, the wealth changes we report in the paper will be larger than what one would expect for the contaminated announcements. To examine this point, we computed the two-day prediction error for the subsample of excluded buyout announcements. For the twenty-three of these cases with sufficient data in the CRSP daily return files, the mean two-day prediction error is -0.60 percent (test statistic, -1.24) with a median of 0.08 percent.

abnormal returns than the sample of management buyout announcements. Nevertheless, when we perform a conventional test for the difference of two sample means (1.12 percent versus 0.55 percent), we find that the two point estimates are not significantly different from each other (t -statistic, 1.39). Furthermore, the chi-squared statistic for testing for equality of the median abnormal returns of the management buyout and interfirm divestiture samples is 0.53, insignificant at conventional levels (p -value, 0.47). In summary, we find no evidence that management buyouts of divisions are harmful to parent company shareholders, on average; nor do we find that management buyouts produce significantly smaller average gains to shareholders than traditional divestitures to unrelated buyers.

B. A Closer Look at the Wealth Effects of Divisional Buyouts

There are several reasons to believe that the announcement-period abnormal returns for management buyouts reported in Table II may be understated. First, 25 firms in the sample reportedly had announced an intention to divest the divisions prior to the subsequent disclosure that the actual buyer was to be current management. For these 25 firms, the date of publication of the first article mentioning the identity of the acquiring party was taken to be the "event day" for the purposes of Table II. However, one would expect market participants to capitalize the expected value of the divestiture at the time of the earliest announcement. Consequently, the second disclosure identifying the buyer as management should produce only a minor stock price adjustment, reflecting the resolution of uncertainty about the success of the sale and the purchase price. Hence, aggregating these 25 firms with the 126 corporations with a single announcement may obscure the total gains associated with divisional buyouts by management.

We partitioned the sample according to whether the management buyout disclosure announcement made reference to an earlier announcement indicating that the firm was attempting to sell the unit. For the twenty-five transactions with a reference to an earlier intention to sell, we were able to identify in the *Wall Street Journal* the announcement date for this intention to divest in only fourteen cases. Focusing on the two-day prediction errors at this earlier announcement date, we found mean and median abnormal returns for these fourteen firms of 1.55 percent (test statistic, 1.40) and 1.56 percent, respectively. For the other 126 cases, the management buyout announcement was associated with an abnormal return of 0.65 percent (test statistic, 2.69). The difference between the mean abnormal returns for these two subgroups is insignificant.

However, if we use as the "event date" the date of the announcement identifying management as buyer (as was done in Table II), then, in the twenty-five cases with an earlier reference to the intention to sell, the management buyout disclosure produced mean and median abnormal returns of 0.04 percent (test statistic, 0.06) and 0.68 percent, respectively. Thus, this subsequent disclosure that the assets were to be sold to the management group had no detrimental effect on shareholder wealth.

Contrasting the two types of buyout disclosures suggests two important find-

ings. First, by using the second announcement date identifying management as buyer, we may be understating the overall magnitude of the gains associated with divisional management buyouts. Thus, the earlier announcement of the intention to divest may contain the better measure of the full benefits of the asset sale. Second, there was no adverse reaction to the eventual identification of management as the buyer. If interfirm divestitures are generally regarded as benefitting shareholders but management buyouts are regarded as harmful, then we might expect the intention to divest to be associated with positive abnormal returns which will later be reversed when it is disclosed that management is the buyer. We find no evidence of reversals of earlier gains for the twenty-five cases for which day 0 was taken to be the disclosure of the identity of the buyer.

A second factor making abnormal returns more difficult to detect is that many of the divisional buyouts do not involve the transfer of ownership of a material fraction of the assets of the parent company. This will result in average prediction errors that are likely to be small in absolute value. In order to isolate material divisional buyouts and uncover potential size effects that are concealed by sample averages, we focused on a subsample of seventy selling firms for which we could identify the purchase price of the buyout. For this subsample, the parent company two-day announcement-period prediction errors were generally positively related to the ratio of the sale price to the seller's market value of equity (as of the month prior to the buyout announcement). If the sample is partitioned at the median ratio of 10.2 percent, those below the median experienced gains of 0.58 percent (test statistic, 1.68), whereas the larger proportionate buyouts were associated with average gains of 0.97 percent (test statistic, 2.06). For the twelve firms in the sample for which the selling price was greater than thirty percent of the pre-buyout equity value, the two-day mean prediction error around the buyout announcement was 2.72 percent (test statistic, 3.77).

To identify a more precise relationship between the fraction of the parent company divested and the excess returns, we ran OLS cross-sectional regressions using the two-day prediction errors as the dependent variable for the seventy firms for which the sale price was reported. The regression produced an intercept coefficient of 0.0011 (*t*-value, 0.22) and a statistically significant slope coefficient on the fraction of the parent company divested of 0.0406 (*t*-value, 2.29). Thus, the relative size of the divisional buyout seems to be a significant factor in explaining the cross-sectional abnormal returns.¹⁹

Overall, the data suggest that, when firms sell a material fraction of their assets to members of the incumbent management team, shareholders on average experience statistically significant wealth gains in the two-day period around the announcement of the transaction. This evidence supports the hypothesis that management buyouts of divisions lead to the creation of productive gains and that parent company stockholders share in these expected gains.

The wealth changes experienced by shareholders around management buyouts are also similar to the gains associated with the interfirm divestitures we examined and those reported in previous studies. Linn and Rozeff (1984), summarizing

¹⁹ We also used the two-day standardized prediction errors as the dependent variable and found a similar significantly positive relationship (*t*-value, 2.14).

the findings on voluntary sell-offs, report that interfirm divestitures are, in general, associated with statistically significant abnormal returns to selling firm stockholders of about one to 2.5 percent in the two or three days around the announcement of the sale. These numbers are not markedly different from the numbers reported here, particularly for large management buyouts. Nevertheless, the wealth effect of divisional buyouts seems small in comparison to the 22.27 percent two-day announcement-period prediction errors for going-private proposals examined by DeAngelo, DeAngelo, and Rice (1984). This is to be expected since a going-private transaction involves one hundred percent of the parent company equity whereas divisional buyouts are associated with a much smaller relative size transaction.²⁰

C. Outside Equity Participation

For 65 transactions in the sample, the *Wall Street Journal* reported that the acquiring group shares outside equity ownership in the newly organized private corporation with third-party investors. When outside investors are reported as participants in the deal, the mean two-day prediction error is 0.93 percent (test statistic, 3.40) and the median is 0.99 percent. When no outside investors are reported, the gain averages 0.27 percent (test statistic, 0.32) with a median of 0.09 percent. The point estimate is somewhat larger for the outside equity group, indicating, perhaps, that marginally larger gains are associated with the participation of a buyout specialist. This conclusion, however, must be viewed with caution since the difference between the two means is not significant at conventional levels (*t*-values, 1.09).

It is important to note that outside equity participation is not necessarily a proxy for the *relative* size of the transaction even though the *absolute* size of the transaction is associated with third-party participation. We found seventy transactions for which the *Wall Street Journal* reported the transaction price. For 35 of these cases with reported outside equity participation, the average purchase price of \$110 million is significantly larger (*t*-statistic, 3.18) than the mean price of \$27 million for the other thirty-five deals, with ownership confined to the buyout management. However, the relative size variable averages 18.1 percent for the former group and 15.1 percent for the latter. The difference in the means of the relative transaction sizes has a *t*-value of 0.59, indicating that outside equity participation is not significantly associated with the relative size variable, at least for the seventy cases with a reported price.

In summary, we do not find any statistically significant difference in the

²⁰ One way to "gross up" the parent company prediction errors around divisional buyouts is to divide them by the ratio of the division purchase price to the parent company equity value. The quotient represents an estimate of the premium paid for the division "as if" it were a stand-alone unit. The mean value of this "premium" for the subset of seventy firms with reported purchase prices is 27.4 percent, which is not appreciably different from the wealth changes for going-private proposals. However, the median of this grossed-up measure is only 1.5 percent. Thus, it is difficult to say whether divisional management buyouts provide shareholders with premiums that are proportionally similar to those observed in total company management buyouts. (Furthermore, since this premium applies only to those transactions where the price was reported, these numbers may not be generalizable to the entire sample if disclosure of the price proxies for the relative size of the buyout.)

abnormal returns to parent company shareholders arising from the participation of outside equity investors. Thus, on average, we find no evidence that involvement of the buyout specialist leads to larger parent shareholder wealth gains. On the one hand, this may indicate that our earlier discussion overstated the potential gains from including a buyout specialist in the arrangement, or it may indicate that the buyout specialist is able to capture the additional gains as a rent to the specialized resources he or she possesses.²¹ In any case, the presence of outside equity participation is incapable of explaining the cross-sectional differences in abnormal returns within our sample.

D. Divisional Buyouts and Managerial Discretion

Despite the relative absence of “arm’s-length bargaining” which characterizes management buyouts, there is no evidence in Table II that parent company shareholders are harmed by these transactions. Nevertheless, it is possible that the aggregation procedure in sample averages hides specific subsamples in which shareholder expropriation does occur. In this section, we disaggregate the sample to detect possible differences among subgroups and to examine factors that may explain cross-sectional differences in the gains to parent company shareholders.

D.1. Participation of Parent Company Executives

We partitioned the sample according to whether parent company executives participate in the divisional buyout. Because the potential conflict of interest is greatest when parent company management acts as both buyer and seller, we might expect the gains to shareholders to depend on the composition of the buyout group. In 128 cases, only divisional executives were reported to be participating in the acquisition. For this subset, the mean two-day prediction error is 0.58 percent, which is significant at the five percent level (test statistic, 2.03). In the twenty-cases for which the buyout group includes parent company executives, the mean abnormal return is 0.40 percent (test statistic, 1.57).²² The small difference between the two groups is not significant.²³ Thus, we find no evidence that shareholders fare worse when parent company executives participate in the negotiations as both buyer and seller than when the purchasing group is restricted to divisional executives only.

²¹ Perhaps a third explanation is that those buyouts with outside equity participation differ in some fundamental way from those for which members of the acquiring management group supply all the equity. If so, then our subsamples may not really be comparable. Without a more complete understanding of why some acquiring management groups employ the services of a buyout specialist and others don’t, we cannot provide much evidence beyond the mere comparison of the two means.

²² Note that, when parent company executives participate in the purchase, there is a possible confounding event in that the buyout indicates that the executive’s services will be lost to the parent company as he or she leaves the firm to manage the acquired unit.

²³ The participation of parent company management is not likely to be capturing merely the relative size effect (purchase price divided by market value of equity) mentioned previously. The *Wall Street Journal* reported seventy transaction prices. For the twelve cases which include parent company management participation, the relative size variable averages 20.3 percent, compared to the mean of 15.9 percent for the fifty-eight cases which do not include parent executives. The difference in means produces a *t*-value of 0.64, indicating no significant association between parent company management participation and the relative size variable, at least for the seventy cases with a reported price.

Table III
Managerial Equity Ownership and Prediction Errors

This table presents results of the regression of the two-day prediction errors (PE_j) on the percentage of managerial equity ownership in the parent company ($MGREQ_j$) for 94 divisional management buyout announcements in the period 1973–1985. We estimate the following model:

$$PE_j = \gamma_0 + \gamma_1 MGREQ_j + \gamma_2 D_j + \epsilon_j,$$

where $D_j = MGREQ_j$ if the buyout group includes parent company executives, zero otherwise. Data on managerial equity ownership were compiled from the most recently available *Value Line Investment Survey* issue prior to the buyout announcement and were available for 94 transactions out of 151. *t*-Statistics are in parentheses. Data are from “Mergers and Acquisitions”.

$\hat{\gamma}_0$	$\hat{\gamma}_1$	$\hat{\gamma}_2$	Adjusted <i>R</i> -Squared	<i>F</i> -Statistic
0.0044 (1.13)	0.0675 (2.40)*	−0.0115 (−0.16)	4.2% *	3.03**

* Significant at the 0.05 level.

** Significant at the 0.10 level.

D.2. Managerial Ownership of Parent Equity

The potential conflicts of interest arising from management buyouts of divisions are likely to be related to the amount of stock parent company managers hold in their own firm. Top level executives have strong incentives to negotiate the highest possible prices for surrendering control of corporate assets to divisional managers when their wealth is sensitive to overall firm value. On the other hand, when parent executives are at the same time members of the acquiring manager group, the losses on their parent company holdings from the sale at a reduced price may be more than offset by their direct gain on the buying side of the transaction. If this reasoning is correct, then we should expect to observe a positive relationship between managerial ownership of parent equity and shareholder wealth changes when parent executives do not participate in the buyout and a weaker, if any, relationship when they are members of the buyer group.

Table III reports results of regressions of the two-day announcement-period prediction errors on the fraction of parent company equity owned by management. We were able to obtain ownership data for 94 of the 151 firms in the sample.²⁴ In addition, we include a dummy variable on the slope coefficient for the thirteen cases in which parent company management participates in the buyout. Inclusion of this variable should allow us to detect a change in incentives in the bargaining process resulting from parent company executives being included in the buyout.

²⁴ Data on managerial ownership were obtained from the *Value Line Investment Survey*. Because management ownership data are not always reported on a consistent basis, there are potential measurement errors in the independent variable. See Malatesta and Walkling (1988) for a description of the management ownership data in *Value Line* and a discussion of the quality of these data.

²⁵ We reported the regressions in Table III using standardized prediction errors as the dependent variable and found a positive but weaker statistical association between abnormal returns and *MGREQ*. The dummy slope coefficient was positive but not significantly different from zero.

For the full sample, there is a positive and significant coefficient of 0.0675 on *MGREQ* (*t*-value, 2.40), the percentage of managerial ownership of parent company equity in the year of the buyout. Thus, the gains to shareholders are positively related to management's ownership interest. In addition, the dummy slope coefficient for the interaction of *MGREQ* and top executive participation is -0.0115 and insignificant (*t*-statistic, -0.16). Parent company management participation has no detectable effect on the statistical association between management's ownership percentage and the gains to stockholders.²⁵ Thus, it appears that the two-day prediction errors are positively related to the fraction of managerial equity ownership, and this relationship is not diminished by parent company management's participation in the buyout. In other words, we are unable to detect with our test procedure any evidence of the conflict of interest between management as owner-seller and management as owner-buyer.

IV. Summary and Conclusions

Because the separation of ownership and control characterizes the modern public corporation, it has been argued that managers of such firms can pursue objectives that are inconsistent with shareholder wealth maximization. In this paper we examine shareholder wealth effects associated with asset sales to corporate insiders, a transaction in which management and shareholder objectives are likely to be widely divergent. Management buyouts of divisions are similar to going-private transactions in that they are characterized by the relative absence of "arm's-length bargaining" between the buyer and seller. Yet, the evidence we present for a sample of 151 management buyouts of divisions during the period 1973–1985 indicates that, on average, parent company shareholders do not lose from such asset sales.

In the two-day period around divisional buyout announcements, parent company shareholders experience statistically significant abnormal returns of 0.55 percent, on average. While these gains are relatively small, they are not significantly smaller than the average gains of 1.12 percent we report for a sample of 468 interfirm divestitures over the same time period. These results are consistent with the hypotheses that, much like other sell-offs, management buyouts of divisions 1) represent an efficient reallocation of corporate resources to higher valued uses and 2) allow parent company stockholders to share in the expected benefits from this ownership change.

The privately held corporations emerging from management buyouts of divisions represent new organizational forms which compete with publicly traded corporations. This paper suggests that the potential reductions in the costs of the decision management and decision control functions within the public corporation create productive gains which make this change of ownership structure desirable and allow the closely held corporation to be a viable alternative to the public corporation.

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