



OFFICE OF
THE CHIEF
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

MEMORANDUM

January 29, 1986

TO : Chairman Shad
Commissioner Cox
Commissioner Peters
Commissioner Grundfest
Commissioner Fleischmann
Daniel Goelzer
John Huber ✓
Linda Quinn

FROM : Annette Poulsen *A. Poulsen*

RE : Sources of Value in Corporate "Going Private"
Transactions.

Attached is a first draft of our study examining possible explanations for the substantial increase in the value of publicly traded corporations that have converted to private status. We find that, on average, the going private announcement is accompanied by an 18% share price appreciation. In our paper, we test four possible explanations:

1. Management Incentive Hypothesis. Going private transactions create value by better aligning managerial incentives, thereby improving the productive efficiency of the firm.
2. Asymmetric Information Hypothesis. The value created by going private announcements derives from the management's belief that the firm is undervalued in the public market.
3. Tax Incentive Hypothesis. Substantial tax benefits accrue to firms that convert from public to private status.
4. Regulation Hypothesis. Premiums paid in going private transactions largely reflect cost savings associated with substantially reduced regulatory requirements for private firms.

Ken Lehn and I would appreciate receiving any comments you might have on this work. Thank you.

First Draft
November 26, 1985

Sources of Value in Corporate
"Going Private" Transactions

Kenneth Lehn and Annette Poulsen

During the past several years there has been a substantial increase in the value of publicly traded corporations that have converted to private status. In "going private" transactions, shareholders of a publicly held corporation are bought out, typically at a large premium, by a bidder who wishes to take a concentrated ownership position in the reconstituted, privately held firm. Frequently, these transactions are referred to as "management buyouts," since incumbent management often is the bidder, or "leveraged buyouts," since these transactions usually are financed heavily by debt.

A puzzling feature of going privates is the source of value created by these transactions. Unlike other corporate control transactions, going private transactions do not involve a combination of previously separate assets. Consequently, the value created by these transactions cannot be attributed to synergies associated with the integration of two previously separate firms.^{1/} Although several hypotheses concerning the source of value in going privates have been offered, to our knowledge, no empirical evidence has yet been advanced in their support.

This paper empirically investigates the source of value associated with 108 going private transactions during the period 1980-1984. Consistent with results found by DeAngelo, DeAngelo and Rice (1984) for an earlier sample of going privates,^{2/} we find that firms which went private during 1980-1984 were revalued substantially. To probe the source of value in these transactions, the following four hypotheses are tested:

(1) Management Incentive Hypothesis (MIH). Going private transactions create value by better aligning managerial incentives, thereby improving the productive efficiency of the firm.

(2) Asymmetric Information Hypothesis (AIH). The value created by going private transactions largely derives from management's belief that the firm is undervalued in the public market.

(3) Tax Incentive Hypothesis (TIH). Substantial tax benefits accrue to firms that convert from public to private status. These tax benefits account for the principal source of value in going private transactions.

(4) Regulation Hypothesis (RH). Premiums paid in going private transactions largely reflect cost savings associated with substantially reduced regulatory requirements for privately held firms.

To test these hypotheses, we empirically address the following question: since value is created in going private transactions, why have some firms chosen to go private, while seemingly similarly situated firms have not? Before addressing this question, we first describe the structure of going private transactions and discuss the four hypotheses in more detail.

Structure of Going Private Transactions

There are several ways in which going private transactions can be structured. Typically, the investor group wishing to take the firm private, hereafter referred to as the bidder, forms a shell corporation which becomes the legal entity making the acquisition. In reverse mergers, the shell corporation is merged into the target firm and, in forward mergers, the target firm is merged into the shell corporation. Shareholder approval of mergers generally is required under state law, with the minimum percentage approval varying by state. Some states have short-form merger statutes that allow the owners of a "large" percentage of the outstanding shares of a corporation to enter into a merger without the approval of the other shareholders. As an alternative to a merger, the shell corporation can make a tender offer for the target firm's shares, or it can simply buy the target firm's assets and issue a liquidating dividend to the target firm's shareholders. However the transaction is structured, shareholders in the target firm receive cash, debt securities, or some combination of the two in exchange for their shares.

Typically, the financing of a going private transaction entails the use of senior debt, subordinated debt, and common equity. The proportions of each type of security vary from case to case, but usually senior debt accounts for the largest proportion

of financing in these transactions. The senior debt typically is advanced by a commercial bank, insurance company, leasing company or limited partnership that specializes in venture capital investments and leveraged buyouts. Frequently, commercial banks enter into a revolving credit agreement with the going private firm, and secure their loans against the firm's accounts receivables, plant and equipment, and inventories. Senior debt held by insurance companies and leasing companies typically is secured against the firm's fixed assets and has a fixed repayment schedule, usually five to seven years.

Subordinated debt, referred to as "mezzanine money," is provided most frequently by pension funds, insurance companies, venture capital/leveraged buyout limited partnerships, venture capital subsidiaries of commercial banks, and foundations and endowments. Generally considered to be important in explaining the recent increase in going private activity there have been two legal changes that have fostered the growth in funds available for the financing of going privates. First, the 1978 change in capital gains tax that encouraged the formation of venture capital limited partnerships led to the creation and expansion of numerous funds that specialize in going private transactions. These funds have become the principal vehicle by which pension funds, insurance companies, and foundations and endowments have invested in going private transactions. Second, the U.S.

Department of Labor, by its authority under the Employee Retirement Income Security Act of 1974 (ERISA), has promulgated regulations that classify leveraged buyout investments as "prudent" and thus eligible for investment by pension funds. This decision, along with the significant growth of pension funds, undoubtedly facilitated the financing of going-private transactions.

The equity capital used in going-private transactions is most often provided by the managers of the target firm and/or the outside investor group that provides some of the debt financing in the transaction. Inevitably, the common equity in all going private firms is more tightly held after the transaction than it was before the transaction; indeed some scholars argue that the raison d'etre of these transactions is to concentrate most, if not all, of the residual claims in the hands of the firms' managers so that the wealth consequences of their decisions are more effectively internalized. Similarly, in nonmanagement going privates, it is often argued that the equity will be tightly held by a specialist who will closely monitor the firm's activities, efficiently structure executive compensation, and thereby improve the productive efficiency of the firm.

Sources of Value in Going Private Transactions

Previous research by DeAngelo, DeAngelo and Rice (1984)^{3/} and the empirical results that follow indicate that significant wealth is created by going private transactions. Our principal

challenge is to shed empirical light on how value is created "simply" by reconstituting the firm from public to private ownership. Four hypotheses concerning the value effects of going privates warrant empirical investigation, each of which we now discuss.

Managerial Incentive Hypothesis

The managerial incentive hypothesis (MIH) argues that going private transactions create value by realigning managerial incentives in a way that enhances the productive efficiency of the firm. Economists and legal scholars have long recognized that a potential divergence exists between managerial incentives and shareholder interests in publicly traded companies that are characterized by diffuse ownership structures and relatively small shareholdings by corporate managers.^{4/} According to the MIH, this divergence is mitigated significantly, or even completely eliminated in going private transactions that concentrate equity ownership either in the hands of management or in the hands of an investor group that closely monitors management's performance.

The logic of this argument seems indisputable -- as managers increase their holdings of common equity, managerial incentives to maximize shareholder value are strengthened. The empirical significance of this argument, however, is unclear. To the extent that corporate managers are disciplined by a competitive labor market and/or a competitive corporate control market, the

marginal gains from increasing managerial shareholdings may be small. Also, to the extent that most of the managers' wealth is tied up in the fortunes of their firms, their interests may not diverge significantly from those of shareholders even if they hold relatively little of the firm's equity.

Our principal reason for being skeptical of the MIH, however, is conceptual. The MIH provides an ex post rationalization of why some firms go private, but it does not explain why these firms, and not others, go private. If value can be created by altering managerial incentives, then why have most publicly traded firms foregone these value increases?

Following a line of inquiry used by Demsetz and Lehn, (1985)^{5/} we approach this question from the perspective that there are both advantages and disadvantages associated with increased managerial ownership of residual claims. Although a principal advantage of owner-managed firms is enhanced managerial incentives, this advantage varies in magnitude from firm to firm, and it is not attained without cost. The principal cost, probably, is the greater concentration of the managers' wealth in the fortunes of the firm. The MIH requires that the relative net benefits associated with enhanced managerial incentives be greater in firms that go private than they are in firms that remain publicly traded.

The MIH implicitly argues that a distinguishing characteristic of firms that go private is that it is especially costly for public shareholders to monitor managerial performance. Formal agency theory has demonstrated that the costliness of monitoring managerial performance is directly related to the "noisiness" of the environment within which firms operate. The intuition behind this result is that the noisier the environment, the more difficult it is to disentangle the contributions of management to the firm's performance from the contributions of other, largely exogenous, factors. If going private is viewed as a "solution" to a managerial incentive "problem", then it stands to reason that firms which go private must operate in particularly noisy environments. It should be noted that this implication of the MIH is inconsistent with a commonly held view that going private firms are characterized by predictable earnings, generally considered to be a prerequisite for the high leverage incurred by these firms after the transaction.

The MIH suggests an empirical test. If the principal source of value associated with going privates is the mitigation of managerial incentive problems, then, holding firm size and management shareholdings constant, an inverse relationship should exist between the noisiness of a firm's environment and the likelihood that the firm goes private. Previous research has proxied noisiness of environment with two variables: the standard deviation in a firm's annual profit rates, and the standard error

of estimate from the market model in which the firm's stock returns are regressed on the stock returns to a market portfolio. Demsetz and Lehn found that both variables are directly and significantly related to ownership concentration generally, and Comment (1985) found that the latter variable is significantly related to the percentage of equity held by managers.^{6/} Relative to a control sample of public firms that did not go private, the MIH suggests that holding firm size and management shareholdings constant, a direct relationship should exist between the noisiness of a firm's environment and the likelihood that the firm goes private. To test this implication of the MIH, we have collected data for a sample of publicly traded firms that operate in the same industries as the going private sample. This control sample will be described in more detail in the empirical part of this paper.

Asymmetric Information Hypothesis

The asymmetric information hypothesis (AIH) states that the principal source of value in going private transactions derives from the bidder's belief that the firm is undervalued in the public market. In this scenario, a going private transaction is perceived as the ultimate stock repurchase plan. Some scholars argue that the raison d'etre of stock repurchases is that management,

based on information that is costly to signal to the market, buys back shares that it believes are undervalued.^{7/} The positive stock price effect generally associated with stock repurchases is attributed principally to the signal content of these transactions. According to the AIH, the logic of this argument extends to going private transactions -- managers in these firms believe that their firm's equity is undervalued, and that, without altering the firm's activities, they could realize this value as residual claimants of a privately held firm. The wealth created in going private transactions is, according to the AIH, the foregone capital costs that the firm would have incurred due to its undervaluation in the public market.

Anecdotal support for the AIH frequently is found in the proxy statements of firms proposing to go private. For example, Arcata Corporation's proxy stated that:

During the past ten years, the Arcata Common Shares, like the shares of many companies with significant natural resource assets, have traded at prices lower than the value as estimated by its management and others. Arcata's Board of Directors from time to time has given consideration to options available to Arcata to cause its stock market prices to better reflect the estimated value of its assets and businesses. 8/

Similarly, National Spinning Co.'s proxy described one of the reasons for management's decision to propose going private:

For the past several years, the stock market has placed a low value on the Common Stock in relation to its book value and earnings and there has been relatively little active trading in the Company's Common Stock. As a result, the Company and its shareholders have received virtually no benefits from the fact that the Company is publicly held. 9/

We propose several tests of the AIH. First, if management systematically believed that its shares were undervalued during a period prior to the going private proposal, then it is reasonable to expect that they would have traded on this belief, both on the corporation's account and on their personal account. The following three pieces of evidence, then, would be consistent with the AIH: (1) the frequency of stock repurchases was higher for the going private sample than it was for a control sample during a period prior to the going private proposal; (2) the level of insider buying was higher for the going private sample than it was for the control sample; and (3) the level of insider selling was lower for the going private sample than it was for the control sample. This evidence, however, also would be consistent with the argument that the bidder was attempting to reduce the cost of going private - shares bought via corporate repurchases or insider purchases were shares on which no premium had to be paid. Consequently, we also propose looking for additional evidence that management believed that its shares were undervalued, and that it attempted to signal this information to the market.

In our view, the most persuasive piece of additional evidence would be found in pre-going private changes in the firms' dividend policy.

Numerous studies have found that stock prices are directly related to changes in dividend policy.^{10/} Generally, this relationship is attributed to the informational content of dividend changes, and not to the dividend change per se. Management, it is argued, raises its firm's dividend, only if it believes that its stock price is low relative to expected earnings. A dividend increase is supposedly a credible way for management to signal its optimism to the market. Consistent with the AIH would be a significantly higher percentage of dividend increases, and a significantly lower percentage of dividend decreases for the going private sample than for the control sample.

Tax Incentive Hypothesis

Several possible tax incentives have been proposed as the principal force behind the increase in going private activity. Among these are the tax deductibility of interest, the step up of assets to take advantage of accelerated depreciation deductions, and the tax exclusion of dividend income paid by the target firm to the shell corporation in some going private transactions.

Interest Deductibility. The U.S. tax code encourages corporate debt financing by allowing interest payments on debt to be deducted from taxable income while dividend income is double taxed.

According to this version of the tax incentive hypothesis (TIH), the recent increase in highly leveraged going private transactions has been encouraged largely by this interest deduction. We are skeptical, however, that this tax incentive has contributed significantly to recent going private activity. First, this incentive existed long before the recent increase in going private activity. One could predict that, all else equal, as the corporate income tax rate increases, the value of the interest deduction increases, and thus the incentive to "leverage up" increases. But the nominal corporate income tax rate has not increased during this recent period of going private activity. Second, this tax incentive effect pertains only to the leverage part of going private transactions -- firms could take advantage of this interest deduction without going private.

Accelerated Depreciation Deduction. In order to increase the value of a firm's assets that is used for deducting depreciation expenses from the firm's tax liability, a transaction that establishes the market value of the assets is necessary. Some scholars have argued that the principal source of value in going privates is the ability of firms to take advantage of a tax change in 1981 that simplified rules for "stepping up" assets, and liberalized the acceleration depreciation schedule, both of which created an incentive for some firms to step up the value of their assets. ^{11/}

Because of recapture taxes, this incentive is greatest for firms that have assets whose tax basis is significantly below their market value and which are relatively undepreciated.

In going private transactions, the Internal Revenue Service (IRS) allows assets to be stepped up only when certain acquisition techniques are employed. Step ups are disallowed when a one-tier reverse cash merger is employed, that is, when the bidding shell corporation is merged directly into the target firm. In these mergers, the assets have a carryover tax basis since the IRS considers the corporate identity of the acquired firm to be unchanged. These mergers are treated as recapitalizations, however, which does confer personal tax benefits to managers in management buyouts. Step ups are permitted sometimes in two-tier reverse cash mergers, that is, mergers in which a subsidiary of the shell corporation is merged into the target firm, and then the target firm is merged into the shell corporation. Step ups are permitted in these mergers, provided that at least 80 percent of the target firm's stock is acquired by the investor group making the merger proposal.

Step ups also are permitted in going private transactions that are structured as forward mergers or sales of assets. In sales of assets, the target firm either issues a liquidating dividend to its shareholders, or it remains in existence as a registered closed-end investment company. The latter course is

chosen only when the assets are sold below tax basis, that is, below the value used for tax purposes. This provides target shareholders, including, of course, the managers, with a tax-free sale of assets and an opportunity to invest the proceeds of this sale in tax-exempt securities, which generally are exempt from corporate taxation as well as personal taxation. To accomplish this, the target firm must have more than 100 shareholders after both the sale of the assets and a self-tender offer designed to take the firm private.

Dividend Received Deduction. By having the target company pay its earnings in the form of dividends to the acquiring company, the earnings of the target company is treated as tax-free income by the IRS, provided that at least 80 percent of the target firm's equity is acquired in the transaction. If less than 80 percent of the equity is acquired, then 85 percent of this dividend income is tax free. This tax advantage is available to going privates that are effected via reverse cash mergers and not to those that are effected via a sale of assets.

The most tractable way to test the TIH, in our view, is to examine the relationship between the likelihood that a firm goes private and the firms' preproposal tax liability, as measured by their tax-sales ratio. If the main source of value associated with going privates is tax savings, then a direct

relationship should exist between going private premiums and the firms' tax-sales ratios. Similarly, we will compare the preproposal tax-sales ratio for the going private firms with the corresponding ratio for firms in the control sample. The TIH should predict that this ratio is higher for the former sample.

Regulatory Hypothesis

Another hypothesis that seeks to explain the going private phenomenon states that the regulatory and legal costs associated with being a public company make it cost effective for public firms with limited financing needs to go private. Generally, the regulatory costs cited are the registration costs, including audit fees and management time, the costs of listing on a stock exchange, the costs of servicing shareholders, and the possible impairment of competitive position resulting from mandated disclosure of sensitive information. For example, in the proxy statement describing the terms of North American Royalties' going private proposal, management described the rationale for the transaction:

As a public company, the Company is required to make available to the public agreements with the American and Pacific Stock Exchanges, information concerning its business, including detailed financial information. The Board believes this detailed financial information may sometimes be used to the Company's detriment by its competitors. Because certain of its competitors are not required to make such information available to the public, the Board is of the opinion that disclosure of such information by the Company benefits the Company's privately owned competitors and adversely affects

the Company's competitive position. As a publicly held Company, the Company is also obligated to disclose to the public, on a timely basis, the results of significant oil and gas discoveries in which it participates. The Board believes that such disclosures frequently hinder the Company's efforts to acquire additional interests in such discoveries As a result of the merger, the Company no longer would be publicly held and it would seek to terminate its listing on the American and Pacific Stock Exchanges and its registration under the Exchange Act. It is expected that there would be significant savings in management time and in legal, accounting and other expenses resulting from elimination of such matters as the preparation and distribution of proxy or information statements and annual and quarterly reports to stockholders, compliance with the reporting and other requirements of the Exchange Act, maintenance of a transfer agent, payment of filing fees, and maintenance of stockholder relations in general. 12/

The incentive to escape the regulatory costs associated with being a public company should be greatest for firms with limited investment opportunities and hence, limited financing needs. These firms presumably reap relatively little benefit from the public capital market, yet they do incur the regulatory costs described above, costs that presumably have a large fixed cost component. As a proxy for future capital needs we use the average annual growth rate in the firm's sales during the five years prior to the going private proposal. The RH should predict that firms which go private have significantly lower growth rates than firms in the control sample.

Empirical Results

To test the four hypotheses described above, we collected a sample of 108 firms that converted from free-standing, public corporations to privately held corporations during 1980-1984. This sample was collected from three sources: Compustat; Drexel, Burnham, Lambert; and Thomas H. Lee Co. In addition to being identified by one of these sources, we required a Wall Street Journal announcement of the going private proposal for inclusion in the sample. A list of the firms in our sample is contained in Appendix A.

Table 1 contains summary statistics of relevant variables for the going private sample. The average equity value of these firms (MNEQTY), averaged over the five years prior to the going private proposal, is \$102.9 million and it ranges from \$1.8 million to \$1,128.6 million. The average standard deviation in earnings (SDEARN), calculated over the same period, is \$7,119, ranging from \$0. to \$228. million. The average number of corporate stock repurchases (REPO) during the same period is 0.287, ranging from 0 for most of the firms to 3 for Reliance Group. The average number of shares bought by insiders in the twelve months immediately preceding the first announcement about the going private proposal (BUY) is 116,077, and it ranges from 0 to 4,909,952. This average results in an average percentage of equity bought by insiders (BUYPCT) of 1.8%, ranging from 0% to

51.1%. The average number of shares sold by insiders (SELL) during this period is 28,357, ranging from 0 to 828,100. As a percentage of their shareholdings (SELLPCT), these sells average 0.09%, ranging from 0 to 4%. The percentage of firms that increased their dividend in the year prior to the going private proposal (DIVINC) is 35.2% and the corresponding percentage for dividend decreases (DIVDEC) is 0.9%. The average tax to sales ratio (MNTXSAL) for the going private firms during the five years prior to the going private proposal is 0.034, ranging from -0.016 to 0.206. Finally, the average annual growth rate in these firms' sales (CMSAL5) during this period is 0.105, ranging from -0.238 to 0.401.

Tables 2 and 3 also contain some descriptive data for the going private sample. Table 2 lists the number and equity value of sample firms that went private in each year during 1980-1984. The data reveal that there was a significant increase in both the number and size of firms that went private during 1984 vis-a-vis the previous four years. The average annual number of going privates during 1980-1982 ranged from 8 to 22. In 1983 and 1984 this number increased to 32 and 36, respectively. Similarly, the average market value of equity for firms going private during 1980-1982 was \$63.9 million; in 1983 and in 1984 this average value increased by 96% to \$125.5 million.

Table 3 lists the frequency of going private transactions in our sample by the industries in which they operate. Sixteen of the firms, or 15.1% of the sample were in the retail industry, accounting for \$1.5 billion, or 13.3% of the value of firms that went private. Twelve firms, or 11.3% of the sample were textile firms, accounting for approximately \$2 billion, or 18.0% of the value of firms that went private. Also represented heavily in the sample were food processing firms (8.5% of the sample accounting for 4.2% of the value), apparel firms (6.6% and 4.3%, respectively), and bottled and canned soft drinks (4.7% and 7.0%, respectively). These five industries account collectively for 46.2% of the sample and 46.8% of the value of firms that went private. It might be noted that all of these industries are generally considered to be "mature" industries, with limited growth opportunities.

Table 4 contains results on the average cumulative abnormal returns associated with the first announcement relating to the going private proposal in The Wall Street Journal. This announcement varies from an announcement that the firm is contemplating a going private proposal to an announcement that the board of directors has approved a going private proposal. Conventional event study methodology was used to extract market induced effects from the firms' stock price movements on this event date. The average, net of market, stock price reaction to these announcements is 18.21% when measured over a period of 20

days before the announcement to 20 days after the announcement. The cumulative t-statistic is 10.4. Measured over a "twenty day window", that is, ten days before the announcement through ten days after the announcement, the average net of market stock price reaction is 17.83%, with a t-statistic of 12.17. Measured over an even shorter window - one day before the announcement through the day of the announcement, the average net of market stock price reaction is 11.58%, with a cumulative t-statistic of 31.2. Although these results are somewhat smaller than the results that DeAngelo, DeAngelo and Rice (1984) found for their earlier sample, they nonetheless indicate that substantial wealth was created by going private transactions during 1980-1984.

To address the question of why some firms, and not others, go private we created a control sample of firms from the same industry that did not go private. For each going private firm in the sample we consulted the firm's proxy or one of the following publications for a description of the firm's lines of business: Value Line, Ward's Directory, Moody's Industrial Manual, Moody's Banking and Finance Manual, Moody's Transportation Manual, or Moody's OTC Manual. From a list of firms in the same four digit SIC code, we then consulted at least one of these publications and selected the firm that in our judgment, most closely matched the corresponding going private firm in terms of its lines of business. A list of the control sample,

along with its corresponding going private firm is contained in Appendix A.

Table 5 contains summary statistics of relevant variables for the control sample. The average equity value of these firms is \$235.5 million and it ranges from \$0.8 million to \$ 5.4 billion. The average standard deviation in earnings is \$7,553, and it ranges from \$120 to \$61 million. The average number of corporate stock repurchases for the control sample is 0.136, ranging from 0 for most of the sample to 2. Insiders, on average, bought 56,962 of their firm's shares, or 0.0008% of the firm's equity in the twelve months immediately preceding its match's going private proposal. These variables ranged from 0 to 824,800 and 0% to 0.017%, respectively. On average, insiders sold 93,375 shares during this period, accounting for 0.2% of their shares and these variables ranged from 0 to 2,423,000, and 0 to 5.0% respectively. The percentage of the control sample that raised their dividend in the year prior to the going private proposal was 28.7% and the average percentage that decreased their dividend was 3.7%. The average tax to sales ratio for the control sample during the five years prior to the match's going private proposal was 0.032, ranging from -0.012 to 0.141. Finally, the average annual growth rate in these firms' sales during this period was 0.124, ranging from -0.091 to 0.542.

Table 6 summarizes the mean value of the relevant variables for both the going private sample and the control sample, and it lists the t-statistic corresponding to the difference in

the two means. The two samples differ significantly with respect to only four of the twelve variables. On average, the market value of the going private firms is less than one-half that (\$102,865) of the firms in the control (\$235,528) sample. Insiders in the going private firms bought a significantly larger percentage of equity (1.8%) and sold a significantly smaller number of shares (28,357) in their firm's equity prior to the going private proposal than did firms in the control sample (0.0008% and 93,375, respectively). Also, firms in the going private sample more frequently bought back their stock (28.7%) than did firms in the control sample (13.6%). These last three findings provide weak support to the AIH, although as previously mentioned, they also support the argument that these transactions are designed to facilitate the going private transaction. No significant difference was found in the mean value of the other variables. The average annual growth rate in sales for the going private sample was slightly lower (0.11) than the corresponding rate for the control group (0.12), but the t-statistic testing the difference in these means was only 1.3. The effect of growth rates on the incentive to go private, however, may be masked by our decision to match going private firms with firms in their own industry. Presumably, a firm's growth rate in sales is highly correlated with its industry's growth rate in sales. By matching on industry, we obviously do not detect interindustry differences in sales growth rates that may be important in explaining why some firms go private. Viewed in this light, a t-statistic of 1.3 is surprisingly high.

Table 7 contains results from estimation of a logit equation for a combined sample of going private firms and control firms, where the dependent variable is the odds that the firm went private. BUYPCT and SELLPCT were excluded as independent variables since we were unable to get coefficient estimates for these variables, due to their limited dispersion. Supporting the results contained in Table 6, the logit estimates reveal that an inverse and significant (Chi Square = 4.9) relationship exists between MNEQTY and the odds that a firm goes private. Also, a direct and significant (Chi Square = 4.6) relationship exists between REPO and the odds that a firm goes private, lending some support to the AIH. A direct and marginally significant relationship (Chi Square = 2.8) exists between MNTXSAL and the odds that the firm went private, providing support to the TIH. SDEARN enters the equation with a positive coefficient estimate, which is consistent with the MIH, but its Chi Square statistic is only 1.1. Neither of the dividend variables enters with a significant coefficient estimate. The growth variable, CMSAL5, enters the equation with a negative coefficient estimate, which is consistent with the RH, but this relationship is not significant (Chi Square = 1.0). Again, our selection of control firms by industry group is likely to bias against finding a relationship between the firm's growth rate and the likelihood that it goes private.

Summary

Our empirical results indicate that substantial wealth was created by going private transactions during 1980-1984, but the source of this wealth creation remains, in large part, a puzzle. No significant difference was found in the noisiness of the firm's environment for firms that went private vis-a-vis a sample of control firms. The percentage of equity owned by officers and directors prior to the going private proposal also was not significantly different for the two samples. Combined, these results strongly suggest that the source of value associated with going private transactions does not derive principally from a better alignment of managerial incentives with shareholder interests. Weak support is provided for the hypothesis that managers of going private transactions believe that their firm is undervalued in the public market by significantly more frequent stock purchases and insider buying in going private firms than in control firms during a period preceding the going private proposal. Some support is also found for the TIH -- the likelihood that a firm goes private is directly related to its tax liability, although this relationship is only marginally significant. No support is found for the hypothesis that firms with limited growth opportunities are more likely to go private. However, this lack of support may be a result of the way in which we created the control sample. Our future research will involve strengthening the proxies used to test the four hypotheses.

Table 1

Summary Statistics for Going Private Sample

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
MNEQTY *	106	\$102,865	\$151,398	\$1,755	\$1,128,646
MGTHOLD	102	25.3	22.5	0.3	82.7
SDEARN *	108	\$ 7.12	\$ 24.62	\$ 0	\$ 228.8
REPO	108	0.287	0.58	0	3
BUY	107	116,077	599,406	0	4,909,952
BUYPCT	105	0.018	0.08	0	0.51
SELL	107	28,356	90,985	0	828,100
SELLPCT	101	0.0009	0.005	0	0.04
DIVINC	108	35.2	48.0	0	1
DIVDEC	108	0.9	9.6	0	1
MNTXSAL	107	0.034	0.03	-0.016	.206
CMSAL5	103	0.105	0.10	-0.238	0.401

* in thousands.

Table 2

Number and Size of Going Private Transactions,
By Year, 1980-1984

<u>Year</u>	<u>No.</u>	<u>Mean Equity Value (\$000)</u>	<u>Total Equity Value (\$000)</u>	
1980	8 (7.5%)	\$ 24,478.9	\$195,831.3	(1.8%)
1981	9 (8.5%)	80,498.9	724,490.0	(6.6%)
1982	22 (20.8%)	71,471.7	1,572,378.0	(14.4%)
1983	32 (30.2%)	91,324.7	2,922,389.0	(26.8%)
1984	35 (33.0%)	156,816.7	5,488,583.0	(50.4%)
	<u>106*(100.0%)</u>	<u>\$102,864.83**</u>	<u>\$10,903,671.3</u>	<u>(100.0%)</u>

* Relevant COMPUSTAT data missing for two firms.

** Mean Value for Entire Sample.

Table 3

Number and Size of Going Private Transactions By Industry

<u>Industry</u>	<u>No.</u>	<u>Mean Equity Value (\$000)</u>	<u>Total Equity Value (\$000)</u>
Apparel	7 (6.6)	\$ 67,369.9	\$ 471,589.4 (4.3%)
Bottled & Canned Soft Drinks	5 (4.7)	153,344.4	766,722.0 (7.0%)
Food	9 (8.5)	50,920.5	458,285.0 (4.2%)
Publishing	3 (2.8)	231,799.7	695,399.0 (6.4%)
Retail	16 (15.1)	90,493.3	1,447,893.0 (13.3%)
Rubber & Misc. Plastics	5 (4.7)	22,045.4	110,226.9 (1.0%)
Textiles	12 (11.3)	163,766.6	1,965,199.0 (18.0%)
Others	49 (46.2)	101,803.2	4,988,357.0 (45.7%)
	<u>106 (100.0)</u>	<u>\$102,864.8</u>	<u>\$10,903,671.5 (100.0%)</u>

Table 4

Cumulative Daily Abnormal Returns Associated
with First Announcement of Going Private Proposal for
95 Going Privates (t-statistics in parentheses)

<u>Window</u>	<u>Cumulative Daily Abnormal Return</u>
(-20, 20)	18.21% (10.4)
(-10, 10)	17.83% (12.17)
(-1, 0)	11.58% (31.2)

Price data on the shares of firms going private are obtained from the Investment Statistical Listing (ISL) tapes of Interactive Data Services Inc., New York. We correct for overall market influence in returns by estimating a "normal" relationship between return to the individual firm and the market return from -170 to -20 days from the going private announcement using standard finance procedure. The estimated alpha and beta are used to determine prediction errors or "abnormal" returns from -20 to +20 days. Cumulative abnormal returns are determined by summing over the days of interest.

Table 5

Summary Statistics for Control Sample

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
MNEQTY *	100	\$ 235,529	\$623,302	801	5,396,603
MGTHOLD	99	20.9	19.2	0	68.6
SDEARN *	103	7.6	10.9	0.12	61.0
REPO	103	13.6	37.2	0	2
BUY	103	56,962	123,022	0	824,800
BUYPCT	103	0.000008	0.00002	0	0.0002
SELL	103	93.375	300,557	0	2,423,300
SELLPCT	98	0.002	0.007	0	0.050
DIVINC	108	28.7	45.4	0	1
DIVDEC	108	3.7	18.9	0	1
MNTXSAL	103	0.032	0.026	-0.012	0.141
CMSAL5	97	0.124	0.105	-0.091	0.542

* in thousands.

Table 6

Mean Value of Variables for Going Private Sample
and Control Sample (t-statistic corresponds to
absolute difference in means)

<u>Variable</u>	<u>Going Privates</u>	<u>Controls</u>	<u>t-statistic</u>
MNEQTY *	\$102,865	\$235,528	2.1
MGTHOLD	25.3%	20.9%	1.5
SDFARN *	7.12	7.55	0.2
REPO	28.7%	13.6%	2.3
BUY	116,078	56,962	1.0
BUYPCT	0.018	0.0008%	2.5
SELL	28,357	93,375	2.1
SELLPCT	0.0009	0.0019	1.2
DIVINC	35.2%	28.7%	1.0
DIVDEC	0.9%	3.7%	1.4
MNTAXSAL	0.03	0.03	0.5
CMSAL5	0.11	0.12	1.3

* in thousands.

Table 7

Logit Estimate of Odds that Firm Went Private(Chi Square Statistics in Parentheses)

Intercept	-0.214 (0.3)
MNEQTY	-0.000003 (4.9)
MGTHOLD	0.008 (0.9)
SDEARN	0.016 (1.1)
REPO	0.767 (4.6)
DIVINC	0.230 (0.4)
DIVDEC	-1.625 (1.8)
MNTXSAL	10.346 (2.8)
CMSAL5	-1.528 (1.0)
N	189
Model Chi Square (8 d.f.)	15.1

Footnotes

1. Michael Bradley, Anand Desai and E. Han Kim, "The Rationale Behind Interfirm Tender Offers: Information or Synergy?," Journal of Financial Economics (April 1983), pp. 183-206.
2. Harry DeAngelo, Linda DeAngelo, and Edward M. Rice, "Going Private: Minority Freezeouts and Stockholder Wealth," Journal of Law and Economics (October 1984), pp. 367-401.
3. DeAngelo, DeAngelo and Rice, supra, note 2.
4. See, for example, Adolf A. Berle and Gardiner C. Means, The Modern Corporation and Private Property (New York: The MacMillan Company), 1933.
5. Harold Demsetz and Kenneth Lehn, "The Structure of Corporate Ownership: Causes and Consequences," Journal of Political Economy (forthcoming).
6. Demsetz and Lehn, supra note 5 and Robert Comment, "The Effects of Firm-Specific Human Capital on Management Equity Investment and Turnover," Ph.D. Dissertation, University of Michigan, 1985.
7. See, for example, Larry Y. Dann, "Common Stock Repurchases: An Analysis of Returns to Stockholders and Bondholders", Journal of Financial Economics (1981), pp. 113-138; Ronald W. Masulis, "Stock Repurchase by Tender Offer: An Analysis of the Causes of Common Stock Price Changes", Journal of Financial Economics (1980), pp. 305-319; Theo Vermaelen, "Common Stock Repurchases and Market Signalling: An Empirical Study", Journal of Financial Economics (1981), pp. 139-184.
8. Arcata Corporation Proxy, May 6, 1982, p. 10.
9. National Spinning Co. Proxy, December 15, 1980, p. 7.
10. See, for discussion, Thomas E. Copeland and J. Fred Weston, Financial Theory and Corporate Policy (Reading, Massachusetts: Addison-Wesley Publishing Company), 1983, pp. 326-327.
11. See, for example, Louis Lowenstein, "Management Buyouts," Columbia Law Review (May 1985), pp. 730-784.
12. North American Royalties Inc. Proxy, August 3, 1983, p. 9

Appendix A

Following is a list of the 108 firms in our going private sample, the date of the first Wall Street Journal announcement concerning the going private proposal, and the matched firm in the control sample:

<u>Going Private Sample</u>	<u>Date</u>	<u>Control Sample</u>
ACF Inds.	9/20/83	GATX
ARA Services	7/13/84	Saga Corp.
After Six Inc.	5/15/84	Salant Corp.
Albany Intl. Corp.	4/14/83	Collins & Aikman
Amalgamated Sugar	9/27/82	Holly Sugar
Amdisco	9/2/82	--
Amerace	5/16/84	Dayco
American Appraisal Assoc.	7/2/84	-
American Sterilizer	9/20/84	Everest & Jennings
Amstar	9/30/83	Savannah Foods
Arcata	8/18/81	RR Donnelley
Atlas Van Lines	5/30/84	Mayflower Corp.
Axia	2/21/84	Standex Corp.
Bayless Markets	1/16/84	Borman's
Beeline Corp.	6/22/84	New Process Co.
Belknap	1/26/84	Hechinger's
Belscot Retailers, Inc.	1/15/80	Gamble Skogmo
Beverage Management Inc.	10/18/82	Allegheny Beverage
BlueBell	5/4/84	VF Corp.
Bonanza International	1/9/84	Ponderosa
Bristol Corp.	2/24/84	Masco Corp.
Bro-Dart Inds.	4/14/83	Virco Manufacturing
Brooks Fashion Stores	8/7/84	Charming Shoppes
CCI Corp.	9/27/82	American Hoist & Derrick
CGA Computers	7/26/84	Anacomp
Cadence Inds., Inc.	8/8/83	Meredith Corp.
Cannon Mills	1/6/82	JP Stevens
Capital Foods Inds.	1/24/83	CHB
Caressa Group	10/16/84	Genesco
Cedar Point Inc.	3/22/84	Florida Cypress Gardens
Cellu-Craft	9/9/83	Federal Paper Board
Chadwick Miller	5/29/84	Pier 1 Imports
Charan Inds	6/27/84	Showboat Inc.
Coca Cola Bottling (Miami)	2/1/83	Coca Cola Bottling (Cons.)
Cole National	6/5/84	Toys R' Us
Comtel	3/27/81	Sterling Electronics
Condec Corp.	3/27/84	Anderson, Greenwood & Co.
Cone Mills	11/29/83	WestPoint Pepperell

Going Private SampleDateControl Sample

Copeland Corp.	7/1/81	Coleman Co.
Criton Corp.	8/21/82	Teleflex
Cunningham Drug Stores	10/28/80	Fay's Drug Co., Inc.
Dan River Inc.	12/30/82	United Merchants & Manufacturers
Dellwood Foods Inc.	7/26/82	Dean Foods
Denny's Inc.	5/31/84	Church's Fried Chicken
Dentsply International Inc.	5/17/82	Sybron
Devon Group	7/16/82	George Banta
Dillingham	11/17/82	Genstar
Dr. Pepper	11/18/83	Pepsico
Edgewater Corp.	11/9/81	Welded Tube Co.
Empire Inc.	10/22/82	-
Fey Inds.	5/7/84	Gibson (C.R.) Co.
GIT Inds.	12/2/80	Dynamic American Corp.
Gateway Inds.	8/7/81	Irvin Inds.
Guardian Inds.	7/10/84	PPG Inds.
Harte Hanks Communications	3/28/84	Knight Ridder News
House of Ronnie	3/13/81	Movie Star
Hyatt Intl.	3/24/81	Del E. Webb
Jetero	4/27/82	Seligman & Assoc.
Kaiser Steel Corp.	9/22/83	Northwestern Steel & Wire
Kampgrounds of America	11/28/80	American Campgrounds
Kane-Miller	11/1/83	Tyson Foods
Keller Inds. Inc.	4/18/83	International Aluminum
Knudsen Corp.	10/19/82	Penn Dairies
Lamston (MH) Inc.	3/28/83	Nichols (SE)
Leslie Fay	11/1/81	Bobbie Brooks
Liberty Fabrics of N.Y. Inc.	10/7/83	FAB Inds.
MacAndrews & Forbes	5/17/83	McCormick & Co.
Malone & Hyde	6/11/84	Supermarkets General Co.
Marley Co.	12/2/80	Struthers Wells
Masters Inc.	11/21/80	Crowley Milner
Meenan Oil Co.	8/25/83	-
Metromedia	12/7/83	Taft Broadcasting
Midland Glass Co.	10/19/83	Kerr Glass
Mississippi Valley Gas	3/27/84	Louisiana General Svcs.
Mohawk Rubber Co.	3/25/83	Cooper Tire & Rubber
Mount Vernon Mills	1/28/82	Avondale Mills
NFA Corp.	8/8/84	Rospatch Corp.
National Medical Care	8/7/84	Omicare Inc.
National Spinning Co.	8/22/80	China Grove Cotton Mills
Niagara Frontier Sucs.	1/25/83	Farm House Foods Corp.
North American Royalties	4/28/83	Sage Energy Co.
Northwest Inds. Inc.	9/21/84	Penn Central Corp.
Pamida	6/23/80	Ames Dept. Stores
Pargas Inc.	2/17/83	-

Going Private SampleDateControl Sample

Parsons Corp.	9/14/84	Morrison -- Knudsen
Pat Fashion Inds. Inc.	3/12/82	Aileen
Pay N'Save Corp.	9/4/84	Payless Drugs NW
Purex	1/29/82	Clorox
Questor	3/13/82	Huffy Corp.
Raymond International	5/6/85	Great Lakes Intl.
Reeves Bros Inc.	2/5/82	Riegel Textiles
Reliance Group	7/15/81	American General Corp.
Royal Crown Cos. Inc.	1/11/84	Coca Cola
Russell Stover Candies, Inc.	9/23/81	Tootsie Roll
SFN Cos. Inc.	8/24/84	MacMillan
Shapell Inds.	5/31/84	Ryan Homes
Signode Corp.	2/18/82	Trinity Inds.
Standard Coosa Thatcher	3/24/82	Bibb Co.
Tannetics	2/4/83	Kysor Industrial
TiCaro Inc.	12/5/8	Belding Heminway
Topps Chewing Gum Inc.	11/17/83	Wrigley Gum
Unitog Co.	11/2/83	Work Wear Corp.
Universal Cigar	6/22/83	U.S. Tobacco
Vaughan Jacklin Corp.	2/1/83	Toro Corp.
Videocorp of America	1/18/84	National Showmanship Sucs.
Volume Merchandise	7/17/84	Petrie Stores
Williamhouse Regency	12/8/80	Hammermill
Wometco Enterprises, Inc.	8/19/83	MEI