Motivation For Voluntary Corporate Liquidations: Distress, Agency Conflicts, and Shareholder Gain

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In this paper we examine possible motives behind managers choosing to voluntarily liquidate, where these motives are categorized as relating to distress, agency conflicts, and potential for shareholder gain. We uncover evidence that poor performing firms use liquidations as a vehicle to transfer assets to higher valued uses, the liquidity of these assets decrease with total asset value, and firms in financial distress receive relatively less for liquidated assets. We do not find evidence supporting the view that liquidations are motivated by agency conflicts, but do find that managers negotiate better terms when they are large stakeholders.

INTRODUCTION

Voluntary corporate liquidations provide a unique opportunity for investigating a situation where management chooses to relinquish corporate control. Through liquidation all assets of the corporation are sold, and the company is dissolved. Proceeds from this sale are used first to satisfy outstanding claims; remaining funds are distributed to common stockholders in the form of a liquidating dividend. We presume that managers initiate a liquidation plan when the liquidation value of the firm exceeds the current market value of stock, debt, and legal obligations. If managers are acting in the interests of shareholders a liquidation may be a response to distress resulting from poor performance, used as a vehicle to transfer assets to higher valued uses, correct market mispricing, or be used as a means to benefit from a favorable tax code provision.

Opposing goals resulting from an agency conflict between owners and managers may motivate management to structure the liquidation less than optimally or to liquidate even

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if the liquidation is not in shareholders' best interest.[1] Agency conflicts may occur when management is the purchasing party or management has some relationship to the purchasing party. These cases may indicate an absence of arm's-length bargaining and be perceived as an unfavorable signal because management has an incentive to negotiate a less than optimal liquidation price for shareholders.

This paper seeks to determine if corporate liquidations are affected by financial distress, agency conflicts, or the goal of shareholder wealth maximization. This research expands on previous studies by including variables representing financial distress and agency conflicts. To investigate whether voluntary liquidations affect firms of all sizes we examine a sample of liquidating firms traded on the New York and American Stock Exchanges as well as firms traded through the National Association of Securities Dealers market.[2] We find positive significant two day excess returns of 9.19 percent for 173 liquidating firms, and excess returns are 16.56 percent for the 31 days surrounding the announcement. These returns appear related to a firm's performance, whether the firm is in financial distress, the liquidity of the firm's assets, and the percentage of managerial ownership. We conclude that in some cases liquidations are used as an alternative means of transferring assets to higher valued uses, while in other cases liquidations are the culminating act of a firm with a history of poor performance or in financial distress.

Previous studies demonstrate that stockholders of liquidating firms gain around the announcement of a liquidation [Hite, Owers, and Rogers (1987); Kim and Schatzberg (1987); Skantz and Marchesini (1987)]. Two day excess returns of 12.24 percent are reported by Hite, Owers, and Rogers (1987) and 10.65 percent by Kim and Schatzberg (1987), and announcement month returns of 21.45 percent are reported by Skantz and Marchesini (1987). Hite, Owers, and Rogers (1987) find that the magnitudes of liquidation returns are lower when the liquidating firm has been involved in a previous control contest. In addition, they find that bondholders earn positive returns at the liquidation announcement, demonstrating the absence of any wealth redistribution from these bondholders to stockholders. Kim and Schatzberg (1987) conclude that liquidating firm gains are not due to a wealth transfer from acquirers. They also find evidence contradicting the hypothesis that a liquidation provides a means of transferring wealth from bondholders to stockholders. Skantz and Marchesini (1987) postulate that liquidations act as a means of transferring assets to higher valued uses to help resolve agency problems. They argue agency problems may be resolved through replacement of inefficient managers and through elimination of diseconomies of scale as the companies sell diverse operations. Erwin and McConnell (1995) find that although liquidating firms decide to liquidate when faced with low future growth opportunities, this alone is not enough to motivate the liquidation decision. It is also necessary for the decision makers to have an ownership or otherwise vested interest in the firm.

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[1] Even though it is required that shareholders receive a notice of liquidation statement containing an auditor's verification that assets are being sold at a fair price, there are instances of shareholder litigation alleging that managers acted in their own self interest rather than the interest of the stockholders (Kudla, 1988).

[2] Past studies limit analysis to only New York- and American-listed firms and are restricted by either small sample sizes or limitations in analysis. Hite, Owers, and Rogers (1987) analyze the effect of a prior bid on 45 firms that liquidated from 1963 through 1981. Skantz and Marchesini (1987) report liquidation returns for 37 firms from 1970 through 1982. Kim and Schatzberg (1987) report liquidation returns for 73 firms for 1963 through 1981.

In a study examining asset sales (partial liquidations), Lang, Poulsen, and Stulz (1995) find significant, positive returns accrue only to selling firms that are poor performers when these firms pay all proceeds to shareholders and bondholders. They suggest that if the proceeds from an asset sale are retained by a poorly performing company, free cash flow and agency costs are increased because management is presumably responsible for the past poor performance and may use the proceeds to continue to make less than optimal decisions. Alternatively, if proceeds are paid out, these funds are available to shareholders to reinvest at their discretion. Because liquidations are in substance complete asset sales with all proceeds paid out, shares of liquidating firms with a history of poor performance may respond similarly to those firms with only partial asset sales.

TESTABLE PREDICTIONS

A corporation may choose to completely liquidate due to financial distress or a history of poor performance that is caused by a shrinking industry, bad economic conditions, or ineffective management. Conversely, a liquidation may result from agency conflicts or from potential gains due to favorable tax provisions. Reasons for a company to liquidate are often provided by managers in a 10K report that is filed with the Securities and Exchange Commission. For the 86 companies in which we are able to find a stated reason, approximately 70 percent claim the decision to liquidate is motivated by poor performance, while approximately 20 percent cite tax advantages.[3] These reasons may be less than accurate in cases where a liquidation is associated with managerial gain at shareholders' expense.

DISTRESS

The response of shareholders to a complete liquidation that is motivated by distress can be inferred from findings of studies examining asset sales. Similar to the findings of Lang, Poulsen, and Stulz (1995), we infer that the liquidation of a firm with a history of poor performance may earn shareholders significant, positive returns. Positive returns are expected because the complete liquidation of a poorly performing firm allows better use of the firm's assets and the liquidating firm's shareholders expect to capture some of the benefit from the increased efficiency of the assets' use and the avoidance of a relatively high probability of future financial difficulties.

An alternative view is that liquidating firms that are in distress may be forced to sell assets at prices below the best use value, as the industry is also likely to be experiencing problems. This assumes these assets being sold have some unique value within the industry. In addition, Shleifer and Vishny (1992) hypothesize that managers of poorly performing firms, those with a low Tobin's q, are more likely entrenched. This implies that low q firms liquidate as a last resort, and high q firms liquidate when it is in shareholders' best interest. In both cases we expect lower liquidation returns will accrue to shareholders of firms that are in distress.

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[3] Reasons provided include: (1) to take advantage of tax provision [n = 17]; (2) continual losses or lack of profit opportunities [n = 60]; (3) lawsuit [n = 3]; (4) to avoid a takeover [n = 4]; and (5) change in government regulation [n = 2].

AGENCY

Agency conflicts may lead to a managerial decision to liquidate contrary to the best interests of shareholders when the liquidation is negotiated for purposes other than shareholder wealth maximization. Managers may gain at shareholder expense if managers purchase liquidating assets themselves or if managers receive an employment contract with the purchasing firm. In these cases we expect lower liquidation returns, assuming the market perceives that management gains at shareholders' expense. Conversely, the liquidation of firms in declining industries may create value because they facilitate the exit of resources to higher valued uses and reduce agency costs. Within the framework of Jensen's (1986) free cash flow theory, management of a firm generating cash flow that cannot be used on profitable reinvestment opportunities may act responsibly as shareholders' agent, liquidate the firm, and return to shareholders their investment.

The percentage of inside ownership may affect both the probability of a liquidation and stock returns at the announcement of the liquidation. For example, high inside ownership positions may facilitate a liquidation if reaching a consensus on the board of directors to liquidate is easier when corporate insiders own a large block of stock. In addition, when managers hold a high percentage of the firm, they may negotiate for higher liquidation value because they share in liquidation returns. The presence of inside ownership may affect liquidation returns by aligning managerial and owners' interests. Because a complete liquidation presumably results in managers losing their jobs, however, the presence of low inside ownership may hinder the probability of deciding to liquidate because managerial job security may override shareholder interests. This agency conflict in low managerial ownership firms may result in liquidations that occur only as a last resort and are not timed to maximize shareholder wealth. Therefore, we expect liquidation returns to be positively related to insider ownership.[4]

GAIN

Another motivation for liquidations, based on shareholders' interests, may arise from tax code provisions. Prior to the Tax Reform Act of 1986 managers faced the possibility of an attractive after tax price due to tax code provisions, which provided an incentive for the use of liquidations as a low cost method for the transfer of assets. In general, former Section 337(a) of the Internal Revenue Code (IRC) of 1954 provides that if a plan of liquidation is adopted and the corporation is completely liquidated within the following 12 months no capital gain or loss is recognized on the sale or exchange of property.[5] This IRC provision is referred to as the *general utilities doctrine*. Conversely, sales of assets through partial liquidation or divestiture incur an immediate or deferred capital gains tax obligation from the sale. Former Section 337(a) was repealed with the Tax Reform Act of 1986. Therefore, all corporations involved in a liquidation completed after December 31, 1986 must fully recognize gains and losses upon the sale of assets according to Section

[4] An agency conflict may be more acute at low levels of managerial stock ownership because, as demonstrated by Jensen and Meckling (1976) and Morck, Shleifer, and Vishny (1988), increasing managerial ownership increasingly aligns the interests of managers and owners.

[5] A liquidating trust often is used for retaining assets intended to satisfy contingent claims as a receptacle for assets that cannot be sold at a fair price or for assets intended for distribution to shareholders. The use of a liquidating trust satisfies the 12 month timing requirement of Section 337 but imposes immediate taxability on shareholders at the time assets are conveyed to the trust.

336(a) (Bittker and Eustice, 1994).[6] We expect that a Section 337 liquidation will demonstrate higher excess returns than a taxable liquidation.

CONTROL

We also include two control variables from other studies. Whether a liquidating firm has been involved in a control contest during the year prior to the liquidation announcement has been shown to significantly affect liquidation returns (Hite, Owers, and Rogers, 1987). When a firm previously has been involved in some control contest we expect lower liquidation returns because a portion of these announcement returns is captured with the previous control announcement. We also include firm size because in related studies examining asset sales a relationship has been demonstrated between the illiquidity of asset markets and the amount of assets being sold (Shleifer and Vishny, 1992). If the illiquidity of asset markets increases with the amount of assets being sold, we expect a negative relationship between firm size and liquidation returns.

VARIABLES AND SAMPLE DESCRIPTION

Our sample comprises the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and National Association of Securities Dealers' Automated Quotation (NASDAQ) companies that are delisted from the University of Chicago's Center for Research in Security Prices (CRSP) data tapes during 1963 through 1989 due to voluntary liquidation. To be included in our sample all firms must have a published announcement of a complete voluntary liquidation plan stated in the *Wall Street Journal Index* or the *Dow Jones News Retrieval Service*. The announcement date is defined as the day the liquidation announcement appears in the *Wall Street Journal* or the trading day after the *Dow Jones News Retrieval* date.

There are 173 firms with the necessary price data around the announcement on the CRSP daily returns tape. The regression analysis has smaller samples due to lack of information on all of the liquidating companies. Our sample of liquidated firms comes from many different industries. Based on the standard industry classification (SIC) for the 83 firms for which we are able to find information, the primary industry of seven firms is communications, nine electronics, eight financial, two food, two leisure, six manufacturing, 14 oil and mineral exploration and refining, seven real estate, nine retail, four textile, five transportation, and ten other.[7]

Table 1 lists the year the liquidation announcement occurs for the sample of 173 firms. The effect of the repeal of Section 337(c) with the Tax Reform Act of 1986 is evident in the dramatic drop in the number of firms choosing to voluntarily liquidate after 1986. Because Section 337(c) gave voluntary liquidations advantageous tax treatment, repeal of this tax provision diminished tax advantages associated with liquidations. Erwin and McConnell (1995) find a similar array of liquidations per year.

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[6] The cutoff date was December 31, 1987 if the plan was adopted prior to August 1, 1986. Not all of the complete liquidations prior to the Tax Reform Act of 1986 used the favorable tax provisions. In a liquidation the selling firm was required to change the basis of all its assets; however, there were circumstances where the buyer preferred not to change the basis of certain assets and, therefore, would opt not to arrange the asset sale as a Section 337(a) liquidation.

[7] Our results and conclusions are not affected when we eliminate financial and real estate firms.

Table 1—Year of Public Announcement of Voluntary Corporate Liquidation, n = 173 Liquidations, Complete Data 1963 to 1989

Year of Announcement[a]	Number of Liquidations	Year of Announcement[a]	Number of Liquidations
1963	4	1977	9
1964	7	1978	6
1965	6	1979	17
1966	2	1980	15
1967	1	1981	12
1968	3	1982	7
1969	-	1983	14
1970	-	1984	15
1971	1	1985	4
1972	1	1986	10
1973	2	1987	1
1974	4	1988	6
1975	10	1989	3
1976	13	Total	173

[a]First public announcement of intent to voluntarily liquidate where the announcement date is the *Wall Street Journal* announcement date or the trading day preceding the *Dow Jones News Retrieval Service* announcement date

DISTRESS VARIABLES

We use three measures of firm distress. Our first measure, DISTRESS, is a dichotomous variable that categorizes firms as poor performers and is similar to a measure used by Lang, Poulsen, and Stulz (1995). A firm is defined as a poor performer if the prior year's return or net income is negative. The prior year's return on liquidating firm common stock is measured as the accumulated difference between daily firm returns and market returns over a 300 day period ending 60 days before the liquidation announcement. We find that 43 percent of firms in our sample are defined as being in distress. This variable and other dichotomous variables are reported in Table 2, while the continuous variables are reported in Table 3.

As another proxy for financial distress we use a measure of leverage, assuming that a high debt ratio constricts operations to the point of distress or indicates a degenerating financial position. For example, Opler and Titman (1994) find a link between the indirect costs associated with high financial leverage and financial distress. Debt ratio, DEBT, is defined as the book value of long-term debt divided by the book value of total assets, measured one year prior to the liquidation announcement. For our sample we find an average debt ratio of 40.97 percent (Table 3).

Our third measure of distress, Tobin's q, is the five year average of a firm's market value to replacement value. Our measure is calculated as the sum of the market value of common stock and preferred stock plus the book value of debt, with that total divided by the book value of total assets. This measure is similar to the proxy developed by Chung and Pruitt (1994), which is comparable to the q measure developed by Lindenberg and Ross (1981). Tobin's q is used as a proxy for the value of a firm's intangible assets (i.e., monopoly power, good will, the management team, growth opportunities), where this value is assumed to reflect future performance (Lang, Stulz, and Walkling, 1989). We categorize firms as low q firms (and, therefore, poor performers) if Tobin's q is less than one and high q firms (and, therefore, adequate performers) if Tobin's q is greater than one,

Table 2—Descriptive Statistics for Firms Involved in Voluntary Corporate Liquidations

Variable	N	Percent
Prior Performance[a]		
Distress	76	43%
No Distress	97	57%
Purchaser[b]		
Single Company (≥ 50%)	108	71%
Outside Company	90	59%
Insider Group	18	12%
Piecemeal	45	29%
Employment Contract[c]	34	49%
No Employment Contract	35	51%
Tax consequences[d]		
Taxable	33	20%
Nontaxable	130	80%
Previous Announcement[e]	82	47%
No Previous Announcement	91	53%

[a]A firm is considered as being in distress if company has negative stock returns or negative net income over the prior year
[b]Purchaser of the liquidated assets shown in the *Wall Street Journal, Dow Jones News Retrieval Service* or company proxy
[c]Employment contract for liquidating firm management shown in the *Wall Street Journal, Dow Jones News Retrieval Service* or company proxy
[d]Tax consequences to liquidating firm shareholders shown by *Prentice and Hall's Capital Adjustments*
[e]Previous announcement of intent of acquisition or divestiture within one year preceding the announcement date shown in the *Wall Street Journal, Dow Jones News Retrieval Service*, or company proxy

similar to the measurement used by Lang, Stulz, and Walkling (1989). As shown in Table 3 we find a three year average q of 0.893, which is similar in magnitude to the q of 0.845 found by Lang, Stulz, and Walkling (1989) in their study of target firms of successful tender offers.[8] Erwin and McConnell (1995) also document that liquidating firms have relatively lower q measures (q = 0.87) than nonliquidating firms (q = 1.30). We expect liquidating firms to have, on average, a Tobin's q less than one if managers are acting in shareholders' interests and liquidating the firm when its market value is below replacement value. The average Tobin's q for our sample is not significantly different than one; however, we find that 46 of 60 firms have a Tobin's q of less than one.

AGENCY VARIABLES

Agency conflicts may motivate managers to liquidate in cases where management negotiates to sell a majority of liquidated assets to a single purchaser who is considered a corporate insider or if management otherwise receives a favorable employment contract with the party purchasing liquidated assets. Information on the purchasing party is obtained from the *Wall Street Journal, Dow Jones Retrieval Service*, and liquidation prox-

[8] We find an average Tobin's q for the prior one year to be similar to the three year q (0.894 compared to 0.893); however, the range of q is dramatically greater over one year (2.84 compared to 1.61).

Table 3—Other Descriptive Statistics for Firms Involved in Voluntary Corporate Liquidations

Variable	Statistics	Variable Range	Number
Debt Ratio[a]			
Mean	40.97%	0-25%	26
Standard Deviation	22.49%	25-50%	40
Minimum	0.21%	50-75%	25
Maximum	96.72%	75-100%	8
		Total	99
Tobin's q[b]			
Mean	0.893	< 1.0	46
Standard Deviation	0.298	> 1.0	14
Minimum	0.356	Total	60
Maximum	1.971		
Inside Ownership[c]			
Mean	27.22%	0% to 5%	25
Standard Deviation	23.40%	5% to 25%	33
Minimum	0.00%	> 25%	54
Maximum	83.00%	Total	112
Firm Size[d]			
Mean	$74,558	$0 to $10	62
Standard Deviation	$216,177	$10 to $50	58
Minimum	$377	$50 to $100	23
Maximum	$2,207,990	> $100	25
		Total	168

[a]The book value of long-term debt divided by the book value of total assets
[b]Measure of market value to replacement value
[c]Stock owned by officers and directors shown by company proxy and 10K reports
[d]The market value in equity (day -61) reported in thousands

ies. Table 2 shows that in 18 of 153 liquidations the purchasing party is a corporate insider, INBUY.

In 34 of 69 cases there is evidence of an employment contract, EMPL, between the management of the liquidating firm and a purchaser of liquidated assets. Information on the presence of employment contracts is found in the *Wall Street Journal, Dow Jones News Retrieval Service,* and in the liquidation proxy statement.

The percentage of common stock held by insiders, INSIDE (defined as officers and directors of the liquidating firm), is collected from proxy statements, 10K reports, and Spectrum VI. Table 3 shows that insiders possess an average of 27.22 percent of outstanding common stock. Based on the conclusions of Morck, Shleifer, and Vishny (1988) that managerial entrenchment occurs when management owns greater than 25 percent of the firm's stock, we find that in 54 of 112 cases managers own greater than 25 percent of the firm's stock and appear to be entrenched.

GAIN POTENTIAL

Liquidating firm shareholders may gain from a liquidation if managers decide to liquidate in order to take advantage of favorable tax regulation. A dummy variable, TAX, is included to discern whether Section 337 nontaxable status is given to the liquidation. This variable is found in proxy statements and *Prentice and Hall's Capital Adjustments.* Table 2 shows that our sample is composed of 33 taxable and 130 nontaxable liquidations.

CONTROL VARIABLES

Additional variables are firm size and whether there has been a previously announced bid for control. Firm size, SIZE, is defined as the log of the market value of the liquidated firm's equity and is obtained from the CRSP daily returns tape 60 days prior to the liquidation announcement. The average firm size is approximately $74.6 million, where the smallest has a market value of $377,100 and the largest a market value of $2.21 billion (Table 3). This compares to an average liquidating firm size of $77.5 million found by Erwin and McConnell (1995).

A previously announced merger or divestiture, PREV, may draw the market's attention to the firm as a potential liquidation candidate and lead the market to incorporate positive wealth effects into the liquidating firm's stock price prior to the liquidation announcement, thereby reducing excess returns around the liquidation announcement date. For our sample we find there is a previous control contest announcement for 82 of 173 firms (47 percent) in the year prior to the liquidation announcement (Table 2). For comparison, Hite, Owers, and Rogers (1987) find that approximately 50 percent of their liquidations are preceded by a change in control bid, and Kim and Schatzberg (1987) find that approximately one-third of their announcement dates are preceded by announcements of potential mergers, tender offers, or partial sell-offs. Information of previous change in control bids is obtained from the *Wall Street Journal* and *Dow Jones Retrieval Service*.

RESULTS

Shareholder excess returns are calculated around the announcement of a complete voluntary liquidation using standard event study methodology based on Mikkelson and Partch (1988). We use the CRSP equally weighted NYAMEX and NASDAQ market index for calculation of NYAMEX and NASDAQ excess returns, respectively. Market model parameters are estimated over a 250 day period beginning 280 days prior to the liquidation announcement. Table 4 shows significant two day cumulative returns of 9.19 percent for the 173 firms for which we have return data. Our returns compare to the two day excess returns of 12.24 percent found by Hite, Owers, and Rogers (1987) and 10.65 percent found by Kim and Schatzberg (1987) for samples consisting of only NYAMEX firms.[9] Our announcement month return of 16.56 percent also compares to that found by Skantz and Marchesini (1987) totaling 21.45 percent.

When we separate our sample into NYAMEX and NASDAQ subgroups we show similar two day returns, but much higher announcement month returns for NASDAQ than NYAMEX firms. This difference may be related to more complete information of better known New York- and American Stock Exchange-listed firms that affects anticipation of the liquidation or to the amount of assets being liquidated that is presumably greater for larger New York- and American-listed firms.

To investigate how shareholders interpret liquidation announcements we regress variables measuring distress, agency conflicts, and gain potential against the two day cumula-

[9] These results also compare to the two day returns of 8.8 percent found by Elayan and Maris (1991) for a sample of real estate investment trusts (REITs). Our results are unaffected when we omit all REITs from our sample.

Table 4—Cumulative Abnormal Returns (CARs) for Sample of Complete Voluntary Liquidations

	Full n = 173	NYAMEX[a] n = 101	NASDAQ[b] n = 72
$CARs_{(-1,0)}$			
Mean	9.19%*	8.45%*	10.21%*
t	(7.05)	(5.59)	(4.42)
Median	5.97%	7.25%	4.59%
Minimum	-40.18%	-40.18%	-24.83%
Maximum	113.86%	58.57%	113.86%
$CARs_{(-30,0)}$			
Mean	16.56%*	13.35%*	21.79%*
t	(8.46)	(5.54)	(6.55)
Median	12.54%	11.34%	14.24%
Minimum	-59.38%	-59.38%	-37.33%
Maximum	92.57%	79.23%	92.57%
$CARs_{(-30,30)}$			
Mean	15.47%*	8.86%	22.23%*
t	(5.78)	(2.71)	(5.27)
Median	12.48%	8.28%	17.57%
Minimum	-102.10%	-102.10%	-40.76%
Maximum	146.64%	104.52%	146.64%

[a]Firms listed on the New York or American Stock Exchanges
[b]Firms traded on National Association of Security Dealers' Automated Quotation system
* significant at the 5 percent level

tive excess return.[10] A limitation to this test is that any market anticipation prior to this two day window is not included. Because information (and therefore market anticipation) may be expected to be more prevalent with New York- and American Exchange-listed firms and because we do not find significant differences in our results based on our NYAMEX and NASDAQ subgroups, however, this limitation does not appear to significantly affect results. Various cross-sectional regression models are employed to confirm the stability of relationships among variables, as sample size varies dependent on the variable included.[11]

DISTRESS

We find support for the hypothesis that higher returns accrue to shareholders of poorly performing firms that liquidate. Regardless of model specification, Table 5 shows a significant, positive coefficient for the variable DISTRESS. Our findings are similar to those of Lang, Poulsen, and Stulz (1995) who find that shareholders gain if poorly performing firms sell assets and pay out all proceeds for a sample of firms involved in asset sales. We reach a similar conclusion for liquidations—gains are higher when the firm per-

[10] We also regress these variables on 11 day cumulative excess returns from day -5 through day +5 relative to the liquidation announcement to control for potential nonsynchronous trading problems associated with NASDAQ-traded firms and find similar results. In addition, we regress our variables against standardized cumulative excess returns as a method of determining if our results are affected by heteroscedasticity problems. This correction technique does not cause a significant change in regression results.

[11] Additional variables tested include the effect of institutional holding and the reason given for the liquidation. Because the percentage of institutional holdings does not affect regression results, is highly correlated with firm size, and institutions are a relatively minor ownership group in our sample of liquidating firms (13.2 percent) we do not report results using this variable. The reason given for liquidation regressed against liquidation returns also provides little explanatory power and is omitted.

Table 5—Multiple Regression Models With Two Day CARs

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.434**	0.190**	0.237**	0.279	0.447**	0.478**	0.523**	0.193**	0.343**
	(2.64)	(1.50)	(2.53)	(2.17)	(3.41)	(2.82)	(3.97)	(0.79)	(1.81)
DISTRESS[a]	0.120**	0.083**	0.075**	0.089**	0.095**				
	(2.89)	(2.54)	(2.70)	(2.12)	(2.54)				
DEBT[b]				-0.142	-0.158**	-0.170*	-0.172**		
				(-1.63)	(-2.03)	(-1.92)	(-2.16)		
Tobin's q[c]								0.081	0.094
								(0.83)	(1.06)
INBUY[d]	0.081								
	(1.40)								
EMPL[e]	0.003								
	(0.06)								
INS[f]	0.212	0.298		0.563*		0.602**		0.768	
	(0.74)	(1.28)		(1.99)		(2.09)		(0.43)	
INSSQ[g]	-0.296	-0.401		-0.724*		-0.812**		-0.909	
	(-0.77)	(1.27)		(-1.94)		(-2.14)		(-1.53)	
TAX[h]	-0.070	-0.040	-0.032	-0.035	-0.052	-0.051	-0.037	0.000	-0.037
	(-1.37)	(-0.98)	(-0.94)	(-0.65)	(-1.14)	(-0.95)	(-1.65)	(0.00)	(-0.61)
SIZE[i]	-0.042**	-0.036**	-0.018*	-0.034**	-0.033**	-0.037**	-0.035**	-0.026	-0.032**
	(-2.83)	(-2.41)	(-1.91)	(-2.35)	(-2.69)	(-2.13)	(-2.77)	(-1.18)	(-1.78)
PREV[j]	-0.003	-0.002	0.006	0.044	0.043	0.026	0.021	0.026	0.030
	(-0.06)	(-0.072)	(0.22)	(1.04)	(1.16)	(0.61)	(0.56)	(0.47)	(0.60)
R^2	22.74	7.75	5.83	17.52	14.61	13.48	9.27	4.57	0.46
F-Stat	3.32**	2.47**	3.42**	3.34**	4.11**	3.00**	3.33**	1.35	1.06
n	64	106	157	78	92	78	92	45	55

* Significant at the 10 percent level
** Significant at the 5 percent level

[a]DISTRESS is a dichotomous variable that categorizes firms as poor performers, where a firm is defined as a poor performer if the prior year's return is negative or net income is negative over the previous year

[b]Debt ratio, DEBT, is defined as the book value of long-term debt divided by the book value of total assets, measured one year prior to the liquidation announcement

[c]Tobin's q is the average Tobin's q for the three years prior to the liquidation announcement

[d]INBUY is a dichotomous variable categorizing whether management negotiates to sell a majority of liquidated assets to a single purchaser who is considered a corporate insider

[e]EMPL is a dichotomous variable categorizing whether management receives a favorable employment contract with party purchasing liquidated assets

[f]INSIDE is the percentage of common stock held by insiders, defined as officers and directors of the liquidating firm

[g]INSSQ is the square of the variable INSIDE

[h]TAX is a dichotomous variable categorizing whether Section 337 nontaxable status is given to the liquidation

[i]Firm size, SIZE, is defined as the log of the market value of the liquidated firm's equity

[j]PREV is a dichotomous variable categorizing whether there was a previously announced merger or divestiture

forms poorly prior to the liquidation. This conclusion appears reasonable, because in both cases assets are sold and all proceeds are paid out, removing assets from the control of managers of poorly performing firms. In addition, because an important component of our measure of distress is the previous year's returns and these returns may be affected by a previous change in control announcement, we include the variable, PREV, into regressions reported in Table 5. We find that regression results are generally unaffected whether or not PREV is included.[12]

We find that when distress is measured by debt, there is a negative relationship between leverage and liquidation returns (Table 5). These results can be viewed as being

[12] In addition, we find that PREV and DISTRESS are not highly correlated.

somewhat analogous to those of Opler and Titman (1994) who find that higher leverage is associated with lower stock returns for ongoing firms in poor performing industries. In a similar manner, leverage may be negatively related to the value of liquidating firm assets under the assumption that high leverage proxies for overall industry decline or if high leverage in some way limits the firm's ability to safeguard the productivity and, therefore, the economic value of assets.

Next we investigate whether, as suggested by Shleifer and Vishny (1992), managers of low q firms are more entrenched. If we assume managers with high ownership positions are entrenched, we expect some relationship between inside ownership and our distress variables. The average percentage inside ownership is not significantly different (T-statistic = -0.47) among poor performance, low q firms (24.98 percent) and adequate performance, high q firms (29.33 percent).[13] Either managerial entrenchment does not affect performance or Tobin's q is an inadequate measure of firm performance. In addition, entrenched managers are assumed more likely to be poor performers, because these managers are less affected by external labor markets. We do not find that q significantly affects liquidation returns (Table 5). These results are inconsistent with firms liquidating as a result of managerial entrenchment. We are cautious regarding conclusions based on Tobin's q, however, because of potential specification problems and the smaller sample sizes that correspond to regressions including Tobin's q.

AGENCY

Our hypotheses predict negative relationships between our agency variables and liquidation returns. Including the variable INBUY in our multiple regression we find that sales of assets to an insider does not affect liquidation returns, contrary to the presence of agency problems motivating a liquidation (Table 5). As with sales to insiders, shareholders do not appear to suffer when management receives an employment contract, EMPL (Table 5). Therefore, we conclude that management appears to negotiate in shareholders' best interests, regardless of who buys liquidating assets and even if management has a future contractual employment relationship with the purchasing party.

As shown in Table 5, we find a weak positive relationship between inside ownership and liquidation returns inconsistent with liquidations being motivated by agency conflicts. This evidence supports the contention that high inside ownership helps facilitate liquidation. The positive relationship is also consistent with the view that when insiders own a larger position of the firm's equity, they are motivated to negotiate a better liquidation price for assets as managers share directly in any gain. We test a curvilinear relation between inside ownership and returns based on findings of McConnell and Servaes (1990). We find some results demonstrating significant coefficients for both INSIDE and the square of inside ownership, INSSQ, which is evidence that liquidation returns first increase, then decrease, as inside ownership becomes increasingly concentrated.[14]

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[13] In addition, we do not find a significant relationship between inside ownership and the three year average q or with prior years net of market returns.

[14] We also utilize a Morck, Shleifer, and Vishny (1988) specification to our inside ownership variable. These inside ownership variables are formed following breaks that Morck, Shleifer, and Vishny (1988) find using a piecewise linear regression of percentage board ownership for firm market valuation. The range of inside ownership is from 0 to 5 percent (LOWINS), 5 to 25 percent (MIDINS), and 25 to 100 percent (HIINS). Our results show none of the coefficients are significant.

GAIN

When considering tax status, the relation between TAX and excess returns is insignificant.[15] We find no confirming evidence that liquidations are used to transfer assets to take advantage of the favorable tax status for liquidations before the Tax Reform Act of 1986. Prior to 1987 we do find that in only 27 of 165 cases was a liquidation not arranged to satisfy Section 337 nontaxable status. Furthermore, evidence that favorable Section 337 tax status motivated liquidations can be surmised from the decline in use of liquidation since 1986. For our complete sample of 173 liquidating firms we show an average of close to 12 liquidations per year from 1975 through 1986, while in the three years after 1986 the average number of liquidations drops to under four per year.[16]

CONTROL

The coefficient for the variable, SIZE, demonstrates a negative, significant relationship between the size of the liquidating firm and wealth effects associated with a liquidation announcement (Table 5). These results correspond to the premise that the illiquidity of asset markets increases with the amount of assets being sold (Shleifer and Vishny, 1992). Poor performance of a liquidating firm that is related to industry problems will hamper the ability of peer firms to absorb the assets being liquidated, where the greater the amount of assets the more difficult it is for them to be absorbed. These results also support the premise that larger firms are more closely scrutinized and, therefore, the liquidation is more of a surprise to smaller firms or the value of assets of smaller firms is more grossly underestimated by the market. Alternatively, the poor performance related to financial distress resulting from leverage also may depend on firm size. Smaller firms or smaller pools of liquidating assets may be more financially vulnerable to competitive market conditions.

To affirm findings of Hite, Owers, and Rogers (1987) we next analyze the effect that a previous control contest announcement has on liquidation returns. Although we find that two day liquidation returns are 6.53 percent when there is a previous announcement and 11.28 percent otherwise, the difference in returns is not significant.[17] Within a multiple regression framework we confirm the insignificant, negative relationship between a previous announcement (PREV) and excess returns for a sample of 168 firms results that are contrary to those of Hite, Owers, and Rogers (1987) (Table 5). When we look at longer return intervals, one year and three years, however, we find some support for market anticipation based on a previous control announcement. For the 82 firms with a prior

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[15] A self selection bias also may be present where firms with high potential liquidation gains do not liquidate after 1987 due to the taxability of any capital gains realized.

[16] The small number of liquidations between 1963 and 1975 may be due to data collection limitations. The *Dow Jones News Retrieval Service* and company proxy statements are only available after June 1979 and December 1978, respectively.

[17] Differences between results may be due to the time period analyzed because our sample includes liquidations from 1963 to 1989, while Hite, Owers, and Rogers include 45 liquidations from 1963 to 1981. A significant portion of our sample, 63 of 168, is composed of post-1981 liquidations. The time period difference may highlight a changing economic environment occurring in the 1980s and perhaps a changing view of the use of liquidations as a mechanism for asset reallocation.

Table 6—Common Stock Returns Over the One Year and Three Year Periods Leading to the Liquidation Announcement

Sample of Firms	Common Stock Returns One Year	Three Year	n
All	10.49%	11.62%	173
With PREV[a]	11.49%	19.04%	82
Without PREV[a]	8.27%	5.16%	91

[a]The variable PREV designates whether there was a previously announced merger or divestiture

control announcement the average increase in market value is greater than for the 92 firms with no change in control announcement (Table 6).[18]

CONCLUSION

This paper examines excess returns around the announcement of a voluntary corporate liquidation and the extent that various factors affect these returns. We find that shareholders gain more when the liquidating firm has been a poor performer, presumably because assets are removed from the control of ineffective management. We also find results supporting the notion that the illiquidity of asset markets increases with the total value of assets being sold through liquidation. This indicates that liquidating firms often are associated with poorly performing industries and, consequently, peer industry firms are unable to absorb liquidated assets or firms are uninterested in assets suited for the particular poorly performing industry.

In addition, leverage and the resulting financial distress appear to adversely affect the value of liquidating assets. The decline in the number of corporate liquidations since the revocation of Section 337 suggests that favorable 337 tax status motivated firms to liquidate. In addition, managers appear to negotiate better terms when they share in proceeds, and liquidation gains are higher when management is not entrenched. We do not find evidence, however, that liquidations are motivated by agency problems. Managers do not attempt to extract wealth from shareholders through direct asset purchase or benefits due to a favorable transfer. We conclude that in some cases liquidations are used as an alternative means of transferring assets to higher valued uses, while in other cases liquidations are the culminating act of a firm with a history of poor performance or in financial distress. Liquidations are not typically used by managers for their own gain at shareholders' expense.

This paper raises some questions that may be addressed in further research. First, the effect of financial distress on firms choosing to liquidate needs further attention. For example, how does the market respond to the announcement of a complete liquidation in cases where the firm has been losing market share or in cases where the firm is in a distressed industry? Second, while the cross-sectional analysis used in this study has obvious

[18] Further evidence that the excess returns are related to speculation of the upcoming liquidation and not an improving economic position for the firm is shown by an ROE of 8.22 percent one year prior to liquidation, -20.35 percent two years prior, 9.07 percent three years prior, and an average over the three years of 6.86 percent. Ghosh, Owers, and Rogers (1991) in a study of liquidations from 1962 to 1984 find similar results (9.26 percent one year prior, -25.35 percent two years prior, and 7.68 percent three years prior) and find that the ROE for liquidating firms is lower than the ROE for nonliquidating firms.

benefits, our conclusion are based on the average response across firms. A case by case analysis could provide a fuller picture of the motivation of individual firms to liquidate. Third, we do not attempt to separate information regarding the value of liquidating assets in their current use. An analysis of postliquidation cash flows generated by these assets compared to preliquidation cash flows may provide more insight.

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