

MERGER RETURNS AND THE FORM OF FINANCING

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## ABSTRACT

### Merger Returns and the Form of Financing

This study investigates the effects of form of financing and size on bidder and target stock return in mergers. The results demonstrate that the form of merger financing affects the market's reaction to a merger announcement. The bidding firm's returns are positive for cash bids and negative and significantly smaller for equity financed bids. This is consistent with recent findings that equity financings have a negative announcement effect on stock prices. A merger's size is also important in explaining stock returns and the size effect is related to the form of financing. In addition, differences between mergers initiated with a tender offer and those without a tender offer disappear once the form of financing is considered. Finally, after correcting for equity financing effects, the total returns to mergers are overwhelmingly positive. These findings strongly suggest that two pieces of valuable information are simultaneously released during a merger bid: the value of the merger as an investment and the decision by the bidder on how to finance this investment. The results also suggest that, absent the negative effects of equity financing, mergers are positive net present value investments.

## Merger Returns and the Form of Financing

### 1. Introduction

Empirical research on the division of stock market gains from mergers have been a mainstay of the financial economics literature for almost two decades [see Jensen and Ruback (1983) and Jarrell, Brickley, and Netter (1988) for reviews]. While these studies have consistently documented that the target firms' shareholders realize large gains in successful merger bids, the results for bidding firms returns have been mixed. While most studies document small, statistically insignificant positive returns to bidding firms, Dodd (1980) and Malatesta (1983), find the bidding firms have small, statistically significant negative returns at the announcement of a merger bid. Bradley, Desai, and Kim (1988) also find that after passage of the William Act, bidders in tender offers lose. Jarrell, Brickley, and Netter (1988) summarize the findings on bidding firms as follows: "Acquirers, however, receive at best modest increases in their stock price, and winners of bidding contests suffer stock price declines as often as they do gains." This does not differ substantially from Jensen and Ruback's (1983) earlier conclusion that "The evidence suggests, however, that returns to successful bidding firms in mergers are zero."

These conclusions are disconcerting since they seemingly provide no profit maximization motivation for the management of bidding firms to pursue acquisitions. Roll (1986) hypothesizes that managers of bidding firms overpay for targets since they overestimate their ability to profitably run them. Morck, Shliefer, and Vishny (1990) argue further that managerial objectives other than profit maximization may motivate takeovers. They also present

evidence that bidding firms with bad managers (ie. managers of firms that perform poorly relative to their respective industries) do worse in takeovers than bidding firms with good managers.

Other studies, however, challenge the view that successful bidding firms do not profit in mergers. Asquith, Bruner, and Mullins (1983) and Schipper and Thompson (1983) argue that returns to bidding firms may not be accurately measured in other studies and both present evidence supporting their arguments. Measurement problems may arise because of the relative sizes of bidders and target firms or because the stock market has already capitalized expectations about future merger bids into the bidding firm's stock price prior to any announced merger.

Asquith, Bruner and Mullins (1983) argue that the relative sizes of bidding and target firms may mask the gains to the bidding firm. The absolute gain associated with the acquisition of a small target firm by a large bidder may only produce a small abnormal return. For example, if the gain accruing to the bidding firm is 5% of the target firm's equity value and if the bidder's equity value is ten times that of the target, only a 0.5% abnormal return will be observed. Testing for this they find that merger benefits, as measured by excess returns, are more observable when targets are large relative to bidders. Regression analysis reveals that the size of the bidding firm's abnormal return is positively and statistically significantly related to the relative size of the target firm relative to the bidder.

Moreover, returns to the bidding firm's shareholders may not be measured properly if the net present value of future mergers has already been capitalized into the bidding firm's stock price before the mergers are announced. Schipper and Thompson (1983) found evidence consistent with this hypothesis. They report significantly positive abnormal returns at the

announcement of acquisitions programs which are unrelated to specific merger bids. This evidence is also consistent with the hypothesis that bidding firms' shareholders gain from merger.<sup>1</sup>

Other factors may prevent the returns to the bidding firms in a merger from accurately reflecting the value of the merger. One such factor is how the bidding firm finances the merger. Recent research shows that external financing affects firm values, and the impact differs according to the type of security issued (see Smith (1986) for a review). Consequently, the form of merger financing may have an impact on the bidding firm's share price independent of the investment value of the merger. Most event studies attempt to correct for other announcements and contemporaneous information to isolate the effects of a common event, such as a merger. All merger announcements simultaneously release information concerning an investment decision (i.e. the firm to be acquired and the price to be paid) and a financing decision (i.e. where the acquisition price is to come from). If information on two decisions is released simultaneously, it is difficult to determine their separate impact. This is true of any investment decision when the market must analyze the source of financing and any financing decision where the market must interpret how the funds will be used.

Several studies have examined announcement returns in mergers by type of financing. Huang and Walkling (1986) find that target firms have significantly larger positive abnormal returns with cash mergers than with stock offers. Travlos (1987) investigates this issue for bidder firms and finds that stockholders earn significant abnormal losses at merger announcements if equity financing is used and abnormal returns insignificantly different from zero if cash is used. Franks, Harris, and Mayer (1988) investigate means of payment to both bidders and targets using

monthly data and find that U.S. bidding firms suffer abnormal losses when using equity as the means of payment.<sup>2</sup>

None of these studies, however, adjusts for relative size, which Asquith, Bruner, and Mullins (1983) show is related to excess returns. These studies also do not combine bidder and target returns to see if there is a net total gain from mergers. If there are no real synergies from merger, combined gains should be zero at best. The division of these gains may not be symmetric, however. For example, simple overpayment should transfer value from the bidder to the target with no change in the total value. Poor bidder management may actually result in a net loss for the combined returns. If real synergies exist (either operating or managerial) total gains should be positive, absent any measurement effects due to size or financing.

The objective of this paper is to investigate the impact of both the size and the form of financing on merger returns for both bidder and target firms. Market effects are measured with daily excess returns and also with daily excess dollar returns. This second metric is the excess dollar change in value for a firm. Since it is measured in dollars, excess dollar returns allow a direct comparison of the gains to bidders and targets of unequal sizes. It also allows for a measure of total gains from the merger announcement when the bidder and target excess dollar returns are summed.

The findings confirm that the returns to both bidders and targets differ by form of merger financing and by the size of the merger. Compared with cash financing, equity financing is associated with significantly smaller excess returns and smaller excess dollar changes for both bidders and targets. The finding for bidders is consistent with a negative impact of equity issues and the findings for targets are consistent with investor tax advantages associated with stock mergers. Regression analysis documents that the size of

equity financing is negatively related to bidder and target returns in mergers.

The sample of merger bids is also divided into those initiated with a tender offer and those initiated other ways, e.g. merger offers, negotiations, open market purchases, etc. Early empirical evidence (see Jensen and Ruback (1983)) shows that while target firm shareholders receive large statistically significant gains regardless of the form of acquisition, bidding firm shareholders do not. The measured returns to bidding firms have been small and either insignificantly positive or significantly negative in merger bids, while the returns to bidding firms in successful tender offers have been small but significantly positive. Franks, Harris, and Mayer (1988) as well as Travlos (1987) show that this difference disappears in cash financed merger bids. The findings here demonstrate that result and also show that target returns are lower in tender offers than in mergers once form of financing is controlled for.

Finally, the excess dollar returns are summed for bidder and targets to obtain a total return for each merger. The average total excess dollar return is positive and the percentage of mergers with positive total excess dollar return is significant for all categories of financing except those involving common stock. Regression analysis further shows that total returns are negatively related to the size of equity financing and positively related to the size of cash financing.

All of the above results have important implications for the measurement of merger gains and for the question of whether mergers create value. If a merger announcement provides information on both the investment value of the merger and on the proper valuation of the bidder's stock, then both pieces must be considered when evaluating the value of, motivation for, and

desirability of any merger. In total, the results presented here are consistent with a positive investment value for mergers and a negative financing effect associated with using equity.

## 2. Hypotheses

Consistent with the recent literature, the financing decision component of a merger announcement may affect the returns to bidding firms. While the announced method of financing a merger is not always the method used, it is the usual method. When it isn't, it is still the predominant source of funds. Recent studies have consistently reported the finding that equity issues reduce firm value while other security issues have little or no effect (see Asquith and Mullins (1986), Eckbo (1986), Masulis and Kowar (1986), and Mikkelson and Partch (1986)). The rationale given is that the firm's decision to issue equity constitutes a negative signal about its future prospects.

Mergers financed with common stock are both equity issues as well as investments. If the market responds to equity merger financings in a manner similar to its response to equity issues, stock financed mergers should produce smaller bidder returns compared with bids financed with other means.

### Hypothesis 1: Bidding firm equity financing effect - If a stock

merger is announced, (i.e. a merger in which the bidding firm issues equity to the target firm shareholders), the bidding firm will have a smaller excess return and excess dollar return on the announcement day than if another form of financing is used.

On the other hand, the market reaction to cash financed mergers should be free of the negative impact of equity financing and, therefore cash mergers may provide a clearer view of the investment value of mergers to bidding firms.<sup>3</sup>



Reasons other than a signal attached to equity issues may help to explain this result. For example, there may be a systematic relationship between investment value and form of financing. Bidders may choose to finance good mergers with cash and poor ones with equity. They would thus keep all the upside in good mergers while sharing the downside in poor ones. Hansen (1988) argues the opposite view, the target will prefer equity if it is undervalued so that it may share in the forthcoming gains. Fishman (1989) argues that cash may be used to deter competing offers when acquisitions are presumed profitable. Also, in a related argument, if the bidder's management have a large equity position they may choose cash to protect their percentage in the surviving firm. If there is, in addition, a positive correlation between bidder management ownership and the quality of acquisition, merger returns will be smaller with equity financing. All of these alternative hypotheses do not deny that the form of financing matters, or that it is a signal, they only differ in what the form of financing signals.

Another factor which provides insight into bidders' excess returns and excess dollar returns is the relative size of the target and bidding firm. Asquith, Bruner, and Mullins (1983) find that the larger the merger (i.e. the larger the target relative to the bidder), ceteris paribus, the larger and more positive the bidder's excess return. They argue that this suggests mergers are positive net present value investment decisions but that it is difficult for the excess returns methodology to measure the value of small targets to large bidders. In contrast, the literature on equity financing documents a negative size effect for equity issues. Asquith and Mullins (1986) find that larger equity financings result in larger negative excess returns for issuing firms, presumably due to a stronger negative information signal. Of course, large mergers financed with common stock are also large

equity issues. Thus, just as there is a problem separating the investment and financing components of a merger bid, there is a similar problem in determining the effect of size on bidder's returns.

Two of the most plausible hypotheses concerning the size effect are:

Hypothesis 2a: Positive size effect independent of form of financing -

Larger mergers are associated with larger positive excess returns and larger positive excess dollar returns to bidders regardless of the form of financing.

Hypothesis 2b: Interaction of size effect and form of financing - Larger

cash bids are associated with larger positive excess returns and excess dollar returns for bidders and larger common stock bids are associated with larger negative bidder returns.

Support for Hypothesis 2a, which postulates a positive size effect independent of the form of financing, suggests that mergers are positive net present value investments, and that this value is more easily observed using the excess returns methodology when the target is large relative to the bidder. In this case, the investment value of mergers dominates any negative size effect associated with equity financing. Support for the alternative, a negative size effect regardless of the form of financing, suggests that mergers are poor investment decisions. With the excess returns methodology the loss of value would be more visible for large mergers, even with cash mergers where the possible negative effect of equity financing is absent.

Hypothesis 2b suggests an interaction of form of financing and merger size with a positive size effect with cash financing and a negative size effect for common stock. Findings consistent with this hypothesis would

suggest that mergers are positive net present value investment decisions. However, the investment value to bidders is more visible in the excess returns and excess dollar returns of large cash mergers where there are no negative financing effects. In the case of mergers financed with common stock, the negative size effect associated with an equity financing decision counteracts the investment value size effect visible in cash mergers.

Form of financing may also affect the return to target firms. The most common explanation concerns investor taxes. When target investors sell their shares for cash, they immediately realize any applicable capital gains and must pay a capital gains tax. If selling shareholders receive the bidder's common stock in exchange for their target shares, no capital gains are realized immediately and no taxes are due. Capital gains are realized and taxes due only if and when the target shareholder sells the bidder's shares received in the merger transaction.<sup>4</sup>

Thus, common stock financing allows target shareholders to postpone capital gains taxes, while a cash merger immediately imposes on target shareholders any capital gains taxes. The implication often made is that a cash merger requires a higher merger price and thus higher returns (before investor taxes) to the target because it is an immediately taxable transaction. Because of the savings associated with postponing these taxes, target shareholders are willing to accept a lower price and lower target returns for common stock financed mergers.

The third hypothesis formalizes this rationale.

Hypothesis 3: Target firm equity financing effect - If a stock merger is announced, the target firm will have a smaller positive return on announcement day than if another (taxable) form of financing is used.

It is worth noting that there is an opposing hypothesis that suggests higher returns to targets in stock mergers. Risk arbitrageurs, investment specialists in the business of speculating on merger bids, experience no differential tax treatment on cash versus stock mergers. For reasons related to liquidity, transaction costs, and speed with which payment is received, they prefer cash mergers to those financed with common stock and other securities. As investors in the target firm, arbitrageurs require higher prices and thus, higher target returns for equity financed mergers to offset the cost and price risk implicit in the delay in receiving bidders' stock and to compensate them for the transactions cost and possible liquidity effects when they sell the shares received in the merger. If arbitrageurs are dominant among target shareholders, we should observe higher target returns for mergers financed with common stock and other securities and lower target returns for cash financed mergers.

Tests of Hypothesis 3 should provide insight into the validity of the investor tax rationale and the opposing argument based upon the preferences of risk arbitrageurs.

In addition, this study explores the alternative techniques employed to initiate merger bids - tender offers and merger offers. A merger offer is a proposal by the bidder to merge with the target which is voted on by target shareholders. Merger offers are negotiated directly with target management and approved by the target's board of directors before going to a vote of target shareholders for approval. In a tender offer, the bidding firm makes an offer directly to target shareholders to purchase their shares. To effect a merger, the tender is followed by a merger offer which is voted on by target shareholders. Of course, when this vote is taken, the bidder already owns a significant fraction (often a majority) of target shares purchased in

the tender offer.

Early studies, summarized in Jensen and Ruback (1983), found differences in the excess returns associated with successful tender offers and merger offers. Compared with merger offers, tender offers produce larger average excess returns for both bidding and target firms. However, consistent with Hypotheses 1 and 3, this would be expected if tender offers are most often financed with cash and if merger offers are more often financed with common stock. Since this is generally thought to be the case, this study explores the hypothesis that form of financing accounts for the differences in excess returns observed by tender offers and merger offers.

Hypothesis 4: Form of merger financing and technique used to initiate

merger bids - For similar forms of financing, there is no difference between the returns associated with tender offers and those associated with merger offers.

This hypothesis suggests that the differences observed in excess returns for tender offers and merger offers can be explained by the form of merger financing, and the hypothesis applies to both bidder and target returns.

### 3. Data

This study analyzes a sample of 343 completed mergers where both the target and bidding firms were listed on either the NYSE or ASE at the time of the merger, and where the merger announcement was reported in the Wall Street Journal. The set of mergers was chosen by examining the CRSP daily master file for all the listings during the period 1975-1983. Each the listing was checked in the Wall Street Journal Index for its cause, e.g. merger, bankruptcy, liquidation, etc. The successful bidding firms for all acquired

firms were then found, and mergers with bidding firms not listed on either the NYSE or ASE were eliminated from the sample. The announcement date of the bidding firms' merger attempt and the announced method of financing the merger were collected from the Wall Street Journal Index. If any other event (e.g. dividend increase, stock split, etc.) was simultaneously announced or if the target firm was more than 50% owned by the bidder prior to the merger announcement, the merger was eliminated from the sample. Finally, because of data requirements, mergers where the bidding firm did not trade on the NYSE or ASE for at least 100 days prior to the merger bid or did not trade on the announcement day were also dropped from the sample.

A measure of merger size is required to test the effect of the size of the merger on the bidding firm's returns. The measures used here are either the market value ratio of the target's equity to the bidders' equity or the announced value of the merger. The announced value of the merger is defined as the market value of the target firm's equity. Market values one day after the announcement day were used to make the size measure comparable across merger bids. For some target firms the merger bid is not the first bid, for others it is. This means that using a pre-bid measure of target size will already include a merger premium for those targets previously bid on and not for those with a first bid. Using a post-bid market value of target firms includes a merger premium for all targets. This difference between first and later bids is explored later in the paper.

Table 1 gives the distribution of merger announcement dates for the sample of 343 completed mergers by year and announced form of financing.<sup>5</sup> Table 2 presents data on the absolute and relative sizes of bidders and targets by form of financing. The total number and average percentage of merger announcements for each type of announced financing are given at the

bottom of Table 1. Cash is the most frequently announced form of payment with 30% of the bids and common stock is the second most frequent form of known payment with 19%.<sup>6</sup> These percentages vary somewhat but remain fairly stable in both percentage terms and ranking during the period 1975-1983. Other categories of announced financing include common stock and cash, common stock and other (common stock and some other security and possibly cash), convertible preferred or convertible preferred and cash, straight preferred or straight preferred and cash, straight debt or straight debt and cash, other (uncategorized combination of the above, e.g. convertible preferred and debt, as well as different securities, e.g. convertible debt), and unknown (the form of financing is not announced at the first mention of a merger bid in the Wall Street Journal). All of these latter categories, except unknown, represent small (10% or less) percentages of the total mergers.

#### 4. Methodology

The stock market's reaction to merger bid announcements is measured using daily excess stock returns and excess dollar returns. Excess stock returns are taken from the Excess Returns file provided by the Center for Research in Security Prices (CRSP). CRSP estimates the daily excess return for any security by

$$XR_{it} = R_{it} - E(R_{it}) \quad (1)$$

where

$t$  = day measured relative to the event,

$XR_{it}$  = excess return to security  $i$  for day  $t$ ,

$R_{it}$  = return on security  $i$  during day  $t$ ,

$E(R_{it})$  = expected rate of return on security  $i$  for day  $t$ .

$E(R_{it})$  is estimated by grouping annually all securities listed on the NYSE and the AMEX into ten equal control portfolios ranked according to their Scholes and Williams (1977) beta estimates. Each security is therefore assigned to one of ten portfolios. The observed return to the control portfolio to which security  $i$  is assigned is then used as the estimate of  $E(R_{it})$ . The CRSP Daily Returns file provides the observed returns for each security  $R_{it}$ . The excess return for each security,  $XR_{it}$ , is then calculated as the difference between the actual return to a security and the return to its control portfolio.

Average excess returns for each relative day are calculated by

$$XR_t = \frac{1}{N} \sum_{i=1}^N XR_{it}, \quad (2)$$

where  $N$  is the number of securities with excess returns during day  $t$ . The cumulative excess returns for each security  $i$ ,  $CER_i$ , are formed by summing average excess returns over event time as follows:

$$CER_{i,K,L} = \sum_{t=K}^L XR_{it}, \quad (3)$$

where the  $CER_{i,K,L}$  is for the period from  $t=\text{day } K$  until  $t=\text{day } L$ .

Average cumulative excess returns over the event time from day  $K$  until day  $L$  are calculated by

$$CER_{K,L} = \frac{1}{N} \sum_{i=1}^N CER_{i,K,L} \quad (4)$$

In particular, a two-day average excess return is generated for each merger bid announcement examined. A two-day excess return is necessary to capture the effect of an announcement due to its timing relative to the market's trading hours. Day  $t=0$  is the day the news of an announcement is published in the Wall Street Journal. In most cases, the news is announced



on the previous day,  $t = -1$ , and reported the next day. If a merger bid is announced before the market closes, then the market's response to the news actually predates the publication by one day. If the news is announced after the market closes, the market will respond on day 0. Thus in reality there is a two-day announcement "day",  $t = -1$  and  $t = 0$ . This two-day return for firm  $i$  is  $CER_{i,-1,0}$  where

$$CER_{i,-1,0} = XR_{i,-1} + XR_{i,0}, \quad (5)$$

and  $XR_{i,0}$  is the excess return to security  $i$  on the day an announcement is published in the Wall Street Journal.

Finally  $t$ -statistics are calculated for  $CER_{k,L}$  by

$$t(CER_{k,L}) = CER_{k,L} / S(CER_{k,L}), \quad (6)$$

where  $S(CER_{k,L})$  is the portfolio standard deviation of  $CER_{k,L}$ . This standard deviation is calculated using several methods including an estimation period variance and the cross-sectional variance.<sup>7</sup>

Excess dollar returns are calculated by

$$\Delta MV_i = CER_{i,-1,0} \cdot MV_i \quad (7)$$

where  $MV_i$  is the equity market value of firm  $i$ .

For excess dollar returns the binomial sign test is performed on the percentage negative with the null hypothesis of percentage  $< 0 = 50\%$ .

### 5.1 Results for Bidders

Table 3 provides support for Hypothesis 1. The announced form of financing affects the market's reaction to a merger bid, and bidders' returns are lower for equity financed mergers. Announcement day excess returns and excess dollar returns are presented there for 343 mergers. The market's reaction is measured over two days; the day the announcement is reported in the Wall Street Journal ( $t=0$ ) and the day before ( $t=-1$ ) in case the news was

released before the stock market closed that day. The two-day announcement day excess return for all mergers is -0.85%, which is statistically significant with a t-statistic of -8.42. This result is comparable to Dodd's (1980) finding that the announcement day excess returns to bidding firms is -1.16%. This result suggests that mergers are negative net present value investments for bidding firms and that bidding firms stockholders lose. The results do not, however, consider the possible impact of form of financing.

For the 102 bidders where the announced form of financing is all cash, the average two-day announcement excess return is + 0.2%, although this result is insignificantly different from zero ( $t=+1.05$ ). In contrast, bidders financing merger bids with common stock have negative average excess returns of -2.4% which are statistically significant ( $t=-11.60$ ). The 2.6% difference in excess returns between cash mergers and common stock mergers is significant with a t-statistic of 9.25.

An interesting result is that bids financed with a combination of common stock and cash result in an excess return of -1.47% which is between common stock alone and cash alone and which is significantly different from both. The difference in excess returns between cash alone and cash and stock is 1.67% which is significant with a t-statistic of 3.60. The -0.93% difference between stock alone and cash and stock has a t-statistic of 1.98%.

The mean excess dollar returns and the percentages of two day returns that are negative in Table 3 confirm the excess returns results. The average excess dollar return is -\$14.806 million for all bidding firms and almost 59% of them have negative two day returns. This percentage is statistically significant at the 1% level. However, the average bidder's excess dollar returns for cash mergers is -\$6.459 million and the percentage  $< 0$  is almost evenly split with 52% of the bidders experiencing negative excess returns.

In contrast, bidders' excess dollar returns to common stock acquisitions are predominantly negative with a two day average of -\$26.931 million and 77% below zero. This percentage is also statistically significant at the 1% level. Thus, the average excess return, average excess dollar return and distribution of returns are more negative for equity financed mergers than for cash mergers. The differences in the excess dollar returns across forms of financing also reflects the importance of looking at the size of the investment. For example, the average excess dollar return for common stock and other is -\$84.5 million, which is three times the average for common stock of -\$26.9 million, while the average excess returns are -2.40% and -3.57% respectively.

While we report results for all combinations of securities in the tables,<sup>8</sup> we focus the discussion primarily on the comparison of cash only and common stock only merger financings. Interpretation of results for other categories is complicated by the small sample sizes and by the fact that for mergers involving a combination of securities, the proportions of the securities are not usually known at announcement date. Finally, analysis of pure cash offers and pure common stock offers provides the most direct evidence on the hypotheses outlined in Section 2 of this paper.

Table 4 presents bidders' announcement day returns for first bids only where return data is also available for the target firm. The rationale for examining first bids concerns both investor anticipation of merger bids and the need to compare bidder and target returns over the same time period. When there is a prior bid outstanding for a target, investors speculate on plausible potential bidders and may anticipate a subsequent bidder entering the takeover bidding. In this case, a portion of the returns to subsequent bidders may already be incorporated in the bidders' stock price at the

announcement of a subsequent bid. Examining returns to offers where there are no prior bids outstanding should minimize the potential difficulties associated with investor anticipation of bids and provide a clearer view of returns to bidders. It is also necessary to use first bids if we are to compare excess dollar returns for both bidder and targets over the same time period.

The results in Table 4 are similar and somewhat stronger than those reported in Table 3 for all bids. The bidder announcement day excess returns are more positive when there is no prior bid for all forms of financing except common stock only and debt. The excess returns are significantly greater for all bids ( $t=3.68$ ), cash bids ( $t=3.31$ ), convertible preferred bids ( $t=2.69$ ) and unknown bids ( $t=4.11$ ). Excess returns to common stock mergers are still significantly negative, however, and still significantly different from the returns to cash mergers. Merger bids financed with a combination of stock and cash again are associated with returns to bidders which are in between the returns to bids financed with cash alone and common stock alone. The differences between Tables 3 and 4 in excess dollar returns and percentage negative are similar to those for excess returns.

For cash bids with no prior bids outstanding the bidders' average excess return is +0.84% which is significant with a t-statistic of +2.67. The average excess dollar returns are +7.857 million. Thus, cash only first bids do produce positive and significant excess returns for bidders and positive excess dollar returns. This result is consistent with the hypothesis that mergers are positive net present value investments. These positive returns to merger bids are only visible when any negative impact of equity financing is absent, and when the potential for investor anticipation of the bid is minimized.

Thus, the results in Tables 3 and 4 support Hypothesis 1. The form of merger financing affects the returns to bidders, and common stock financed bids produce significantly smaller excess returns. Bidders' returns for common stock financed bids are significantly negative, while returns to cash financed bids are positive, and for excess returns in first bids, significant.

There is additional evidence on the effect of form of merger financing on bidders. For 71 bids in Table 1 the form of financing is unknown at the initial announcement date. Following these bids forward in time, it is possible to identify the first mention of the form of financing to be used in the merger and to calculate the market's reaction to the financing announcement. Table 5 presents these returns for 63 bidders where there was no other simultaneous information released with the financing announcement. The results show that there is a negative market reaction to the use of equity financing. The excess returns for both stock only and stock and other are large, negative (-1.50% and -2.84%), and statistically significant. No other form of financing has significant results at the 5% level. The percentage negative for common stock is 61.5%, while the percentage negative for cash is 50.0%. The market reactions reported in Table 5 should reflect only the new financing information since the merger parties, or investment decision, was previously announced.<sup>9</sup>

Another factor which provides insight into bidders' returns is the relative size of the target and bidder. As explained above, relative size may be important in measuring excess returns, and absolute size may be important in explaining excess dollar returns. Hypothesis 2b, postulates a positive size effect for cash mergers and a negative size effect for common stock. This finding for cash mergers would suggest that mergers are good investments

and that this is measurable absent the negative financing effect associated with issuing common stock. In the case for stock financed mergers, this finding would suggest that the negative impact of equity financing dominates any investment size effect.<sup>10</sup>

Regression analysis is used to provide insight into the effects of merger size and form of financing. Two day excess returns are cross-sectionally regressed against the relative size of the merger by

$$XRET_i = a + b_1 SIZE_i \quad (8)$$

where

$XRET_i$  = the two day announcement excess return to firm  $i$ .

$SIZE_i$  = the relative size of the target firm, i.e. the equity value of the target firm divided by the equity value of the bidding firm.

Two day excess dollar returns are cross-sectionally regressed against the absolute size of the merger by

$$XDRET_i = a + b_1 MERVAL_i \quad (9)$$

where

$XDRET_i$  = the two day excess dollar return to firm  $i$

$MERVAL_i$  = the announced value of merger  $i$ , i.e. the equity value of the target firm.

Bidder firm regression coefficients and t-statistics from regressions (8) and (9) are presented in Tables 6A and 6B for all mergers and for cash only and common stock only mergers. Note that no size effect is apparent in Table 6A for the excess return regression (8) over the full sample. Specifying the form of financing is necessary to uncover the size effect in this sample. For excess returns relative size has a positive but insignificant coefficient for cash mergers, and a statistically significant

negative coefficient at the 1% level in common stock mergers ( $t=-2.91$ ). For regression (9) using excess dollar returns, absolute size is negative and significant over the entire sample and also on the sample of common stock only financed mergers. Absolute size has a positive and insignificant coefficient for cash only mergers. Although not shown, none of the other financing categories has any significant relationship between returns and size except for common stock and cash which is significantly negative for both excess returns and excess dollar returns.

To explore the structural differences in the regressions for cash and common stock,  $t$ -statistics for the differences between the intercepts and the coefficients are calculated. The difference in Table 6A between the intercepts of the cash and the common stock regressions is not significant. However, the difference in Table 6A between the size coefficients,  $b_1$ , is statistically significant ( $t=3.09$ ). For Table 6B the results are similar. The difference in the intercepts of the cash and common stock regressions is not significant but the difference in the size coefficient,  $b_1$ , is ( $t=1.96$ ).

Consistent with Hypothesis 2b, that there is an interaction between financing form and firm size, these results suggest that the relationship between bidder excess returns and size is different for cash mergers and those financed with equity. Chow tests, which test the null hypothesis that the two regression structures are identical, confirm this. The  $F$ -statistics,  $F(2,65)$ , from the Chow tests between the cash and the common stock regression is 11.67 in Table 6A and 4.97 in Table 6B, both of which are significant at the 1% level.

Chow tests also reject, at the 1% level, that the regression structure for mergers financed with a combination of cash and common stock is the same as cash only mergers and they reject at the 5% level that cash and common

stock has the same structure as common stock. This suggests that equity and cash mergers should not be grouped when analyzing results. A discussion of how much of each merger is to be financed by cash and how much is to be financed by equity is essential to analyzing the returns properly. Unfortunately, in most Wall Street Journal announcements the percentage of cash used in multi-form financings is not specified.

Regressions with dummy coefficients provide additional insight into the effects of merger size and form of financing on bidders' returns.<sup>11</sup> The two day excess return of the bidding firms are cross-sectionally regressed against relative size and form of financing by

$$XRET_i = a + b_1 SIZE_i \cdot D_c + b_2 SIZE_i \cdot D_s + b_3 \cdot D_s + b_4 D_T \quad (10)$$

where  $D_c$  = a dummy variable that takes the value 1 if cash is the only announced financing and 0 otherwise.

$D_s$  = a dummy variable that takes the value 1 if common stock security is the announced form of financing and 0 otherwise.

$D_T$  = a dummy variable that takes the value 1 if the bid is a tender offer and 0 if it is not.

Two day excess dollar returns are cross-sectional regressed against the value of the merger and form of financing by

$$XDRET_i = a + b_1 MERVAL_i \cdot D_1 + b_2 MERVAL_i \cdot D_s + b_3 \cdot D_s + b_4 D_T \quad (11)$$

Using cash only and common stock only as the two forms of financing in equations (10) and (11),  $b_1$  measures the relationship between the firm's size and the two day announcement return to the bidding firm for cash only mergers. When the merger is to be financed with common stock, the term  $b_2$  measures the relationship between size and returns. The coefficient  $b_3$  estimates, independent of any size effect, the difference in the bidder's



announcement day return when the announced form of financing is common stock. The coefficient  $b_4$  estimates whether the use of tender offers, independent of any size or financing effect, affects the bidder returns.

The results from regressions 10 and 11 for cash vs common stock are presented in Tables 7A and 7B. The results demonstrate that both form of financing and size are important explanatory variables in the market's reaction to merger bids under both specifications. The results are consistent with those reported in Table 6. For stock mergers the size coefficient is negative and highly significant. Furthermore, the results show that after correcting for size and form of financing, the form of offer, tender or merger, is insignificant.

In summary, the examination of size effects presented in Tables 6 and 7 support Hypothesis 2b, the interaction of size effect and form of financing. As seen in Table 4, cash mergers do produce positive returns for bidders, but as seen in Tables 6 and 7 larger cash mergers do not produce larger returns which are statistically significant. In contrast, there is a significant negative size effect observed for equity financed merger bids. Thus, the market's response to large mergers financed with common stock is similar to its response to a large equity issue, and the negative impact of that financing decision may dominate any positive investment value when returns are measured.

## 5.2 Results for Targets

This study also examines the relationship between the form of merger financing and announcement day excess returns for target firms. Hypothesis 3 postulates that stock financed mergers are associated with smaller observed target returns. One rationale for this result is that stock financing allows

target investors to postpone capital gains taxes. Cash mergers immediately impose such taxes on target shareholders, and therefore cash bids require higher target returns to offset this tax disadvantage. The opposite effect would be consistent with the argument that risk arbitrageurs prefer cash as a form of payment and are willing to accept lower returns as target shareholders in cash mergers.

Table 8 presents the two-day announcement excess returns for the 157 target firms matched to the bidding firms in Table 4 by form of announced financing. Only the reaction to first bids is reported since if a prior bid is outstanding, the target firm's stock price already reflects the impacts of that announcement at the time of a subsequent bid.<sup>12</sup>

The results in Table 8 demonstrate that targets' excess returns are positive and statistically significant for all forms of merger financing. The excess dollar returns are also positive and the percentage negative is significantly below 50% for all forms of financing. However, consistent with Hypothesis 3, the average excess return associated with mergers financed with common stock (13.85%) is substantially smaller than the average excess return for cash mergers (27.47%). Pairwise t-tests show that this difference is significant ( $t=20.86$ ). These results are similar to those reported by Huang and Walkling (1986) and Wansley, Lane, and Yang (1983).

The results from regressions (10) and (11) where target returns are substituted for bidder returns are presented in Table 9. The results in Table 9A, using relative size and excess returns, show that the size coefficient for targets in stock mergers is large, negative, and significant. The size coefficient in cash mergers, the form of financing coefficient, and the form of offer coefficient are all much smaller and insignificant. These results for target firms are similar in sign and significance to these for bidder

firms in Table 7A. However, the constant term for targets in Table 9A is large, positive and significant which is not true for bidders in Table 7A. In contrast the target results in Table 9B, using absolute size and excess dollar returns, are very different from bidder results in Table 7B and from the target firm results in 9A. The size coefficients for both cash only and stock only mergers are positive and statistically significant at the 1% level. Thus the larger the absolute size of the merger, the larger the excess dollar returns of the target firm regardless of form of financing. The constant is also positive and significant.

The difference between equity vs. cash is still maintained in Table 9B, however. The size coefficient for equity mergers, +0.06, is much smaller than the size coefficient for cash mergers, +0.15. Similar results are found in regressions 8 and 9, (not reported in the Tables) which only use the size variable and which are run separately on each form of financing. Using relative size and excess returns, the coefficient on equity size is negative and significant and the coefficient on cash size is positive and insignificant. Using absolute size and excess dollar returns, both equity and cash size coefficients are positive (+0.06 and +0.15 respectively) and both are statistically significant (t-statistics of 3.78 and 2.88). A t-test on the difference in these size coefficients is statistically significant (+2.54) however and the Chow test significantly rejects,  $F(2,65) = 5.16$ , the null hypothesis that the structure of the two regressions is the same.

Thus, the target results show that the excess returns and excess dollar returns are both smaller for equity only mergers than for cash only mergers. This result is related to the size of the merger, with excess returns being negatively related to relative size for equity mergers, and excess dollar returns being less positively related to absolute size for equity mergers

than for cash mergers. These results are consistent with a tax effect for target firm shareholders.

### 5.3 Results for Tenders vs. Merger Offers

This study also presents an analysis of tender offers compared with merger bids. The objective is to determine if the observed difference in excess returns reported in earlier studies between tenders and merger offers can be explained by the form of financing effects documented above. The results in Tables 7 and 9 indicate they are, since once the interaction of size and form of financing is controlled for, the dummy variable for the form of offer (i.e. tenders vs. merger) does not significantly affect the return.

Table 10 presents mean returns for bidder and targets by form of offer and form of financing. Compared with merger offers, tender offers are associated with larger excess returns for both bidders and targets. These results are consistent with the findings of earlier studies. However, the differences in returns for tender offers versus merger bids disappear once the form of financing is considered. The reason is that a majority of the tender offers are financed with cash and, as documented earlier, cash financing is associated with larger returns for both bidders and targets. While none of the tender offers were financed with common stock, roughly twice as many merger offers were financed with stock as with cash. Again, stock financing is associated with smaller returns to bidders and targets.

In Table 10A, bidding firms' excess returns are positive and statistically significant in both cash tender offers (+1.21%,  $t=+1.94$ ) and cash merger offers (+0.91%,  $t=+3.08$ ), but the pairwise t-statistics for the difference between these mean returns (reported in Table 10C) is not statistically significant. In contrast, the bidder excess returns for equity mergers is negative and significant, (-2.58%,  $t=-11.97$ ). Thus, these results

and those for the dummy coefficient on form of offer in Table 7 are consistent with Hypothesis 4; the smaller bidder excess returns for merger bids compared to tender offers is due to the negative impact of stock financed merger offers.

In Table 10B target excess returns are actually larger for cash merger offers (+28.77) than for cash tender offers (+24.58%). This difference is not statistically significant using either a pairwise t-test or the dummy coefficients in 9A and 9B. The larger target returns in the sample of all tender offers (as compared to all merger offers) is explained by the smaller target returns associated with stock financing (and other securities financing) in merger offers.

Although these results are often drawn from small subsample sizes, they are similar to those reported by Huang and Walking (1987) for target firm and by Travlos (1989) and Franks, Harris and Mayer (1988) for bidding firms. They also support the hypothesis that the differences in returns observed for tenders and merger offers can be explained by the form of financing.<sup>13</sup> It is the prevalence of a particular form of financing that accounts for these differences rather than any more fundamental aspect of tender offers versus merger offers.

#### 5.4 Results for the Merged Firm

The results for the merged firm are obtained by summing the excess dollar returns for bidders and targets. This allows a direct measure of the total market impact of the merger announcement. As seen above in Table 2, the differing sizes of target and bidder sizes make addition of excess returns impractical. Table 11 gives the total excess dollar return and the percentage positive for each category. The mean excess dollar returns are positive and the percentages significant for all categories of mergers except common stock

and others. This indicates that most mergers generate real gains and do not merely transfer wealth between target and bidder or between stockholder and management.

For all mergers with matched targets and bidders, the average total excess dollar return is \$21.598 million. There are gains for 71.3% of the sample and this percentage is significantly different from 50%. For cash mergers, the total excess dollar return and percentage positive is \$33.168 million and 82.8%. The results for equity mergers once again demonstrate a negative equity financing effect with an average excess dollar return for equity of -\$8.55 and only 40% of the equity total dollar returns being positive. This percentage is significantly below 50%. These findings suggest the hypothesis that, abstracting from the negative impact of equity financings, mergers create value.

## 6. Conclusions

This study finds that the market's reaction to the announcement of a merger bid is affected by the form of merger financing. Both the excess returns and the excess dollar returns to bidding firms are smaller for equity financed bids than for cash mergers. This is consistent with the finding of earlier studies that equity financing has a negative announcement effect on stock prices.

The negative impact associated with an equity financing decision is absent in cash merger bids. Thus, cash bids may provide a clearer measure of the investment value of a merger. For the full sample employed in this study, cash bids are associated with positive, though not significant, excess returns to bidders. For the subsample of merger bids when no prior bid has been made (and the potential for investor anticipation is measured), bidding

firms experience positive, significant excess returns and positive excess dollar returns in cash financed mergers.

The relative size of the target and bidding firm is also important in explaining bidders' merger returns, and the size effect is related to the form of financing. Consistent with the findings of studies of equity issues, a negative size effect is observed in equity financed mergers. The market responds to equity financed mergers in a manner similar to its response to equity offerings. Larger equity mergers are associated with larger negative excess returns and with larger negative excess dollar returns to bidding firms. While the investment value of the merger may still be positive, it is not large enough to offset the negative impact of the financing decision to issue equity. In contrast there is a positive, though insignificant, size effect for cash financed mergers.

The form of merger financing is also important in explaining returns to target firms. While the market's average response to a merger bid is always positive for target firms, it is significantly more positive when the offer is financed with cash rather than equity. This result is consistent with the investor tax disadvantage associated with cash mergers.

In addition, the choice of whether a merger bid is initiated with a tender offer or a merger offer does not appear important in explaining either bidder or target returns after adjusting for the form of merger financing. The larger returns observed for both bidders and targets in tender offers are explained by the prevalence of cash tender offers. Consistent with the financing effects described above, the more frequent use of stock financing in merger offers results in smaller returns for both bidders and targets.

Finally the total return for mergers obtained by adding the excess dollar returns for both bidder and targets indicate that, on average, mergers

create value. For the sample of all mergers and for all categories of financing except equity or equity and other the mean total return is positive and the percentage of total returns that are positive is significant.

These results suggest strongly that the announcement of a merger bid releases two simultaneous pieces of information to the market; the value of the merger as an investment and the decision by the bidding firm concerning how to finance the merger. Measuring the market's reaction to a merger bid not only measures the estimated present value of the merger investment decision but also the market's reaction to a financing decision. This is not surprising in light of recent work, but it complicates our ability to evaluate whether or not mergers are good for shareholders. This complication and the corresponding necessity to consider both the form of financing and the use of funds should probably be extended to the analysis of all investments and financing decisions.



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## FOOTNOTES

1. Shipper and Thompson also find significantly negative abnormal returns to acquiring firms associated with certain regulatory changes which make future acquisition activity more difficult. Asquith, Bruner and Mullins also find that bidding firms' shareholders do worse after 1969 and the passage of the Williams Act and that target firm shareholders do better after that date.
2. In addition, You, Caves, Henry, and Smith (1986) include form of payment as one of several factors in explaining the returns to bidder and target firms in mergers. They find that a dummy variable for cash merger is positive and the only consistently statistically significant explanatory variable.
3. There is the possibility that using cash may be interpreted as a positive signal of the firm's cash flow (see Miller and Rock (1986) for an example of this argument). In that case the positive information effect from using cash may cause the measured effect to overstate the value of the merger as an investment.
4. Capital gains taxes are not eliminated only postponed. The true savings to shareholders is the ability to earn additional returns on the postponed tax payment. The bidder is not universally better off by paying less with equity. The 'write-up' of assets and thus the depreciation allowed the bidder is usually higher in a taxable, i.e., cash merger. Thus the bidder may be better off if the market value exceeds the book value by a sufficient amount.
5. The time period reported for merger announcements is 1973-1983, while the data base was developed from the list of NYSE and ASE delistings for the period 1975-1983. The announcement dates cover a longer time period since the announcement date takes place before the delisting date. This means that the distribution of mergers reported in Table 1 is not necessarily a complete sample of announcement dates for 1973-1983 but do represent a complete set of delistments (which meet the criteria discussed above) for the period 1975-1983.
6. Huang and Walking report, for the period April 1977-September 1982, that cash is the most frequent form of financing offered (49.5%) and equity second (15.7%). Franks, Harris and Mayer find, for the period 1975-1984, that cash is the most frequent form of financing with 54.1% and equity is second with 23.7%. Travlos over the period 1972-1981 reports 35.9% equity offers and 59.9% cash offers. Surprisingly he only classifies one other type of financing, cash and stock, which constitutes 4.2% of his sample.

7. Differences in the choice of a test statistic do not make any important difference in the results presented here. The estimation period variance was estimated over the period from 69 days before the announcement day until 21 days before the announcement day. It was estimated both with and without a covariance term for consecutive daily excess returns to test for possible first-order autocorrelation. None was found. The t-statistics were generally higher when the variance was calculated from the estimation period  $t-69$  to  $t-21$  than when it was calculated from the cross sectional period. This is the expected result if the event period involves an increase in variance. The t-statistics reported in the tables and text are all calculated using the estimation period variance. Any differences in significance levels between these and the cross-sectional t-statistics will be noted.
8. There is one other category of common stock financing with four observations. This is when two current companies exchange their stock for the stock of the new firm. They are included under "Other" in the classification scheme above. The bidding firm in these cases was defined as the firm whose shareholders received a majority of the voting stock in the new combined firm. The average excess return for bidders is  $-0.63\%$  with a t-statistic of  $-0.82$ . The average announcement day excess return of the four firms defined as targets was  $+4.71\%$  ( $t=+4.49$ ).
9. Even this may be understated because of investor anticipation. Since these are all public firms, the market evaluates whether the firm has the necessary cash or debt capacity to finance the acquisition or whether it must issue equity instead.
10. It can be argued that cash mergers may also be financed externally prior to the merger bid. This should pose no problem however, since the two dates separate the market's reactions to the financing and investment decisions.
11. This test assumes that the variance of the error terms is the same for acquisitions financed by cash and securities. The Chow tests allow the error variance to differ for cash mergers and securities mergers.
12. The two day announcement excess returns for target firms who had a prior bid is also examined. The announcement day used is the day the successful bidder in our sample is first identified. The excess return for this sample of follow up bids was a positive  $13.81\%$  and statistically significant but lower than the  $18.04\%$  for the sample of first bids. This difference in announcement day excess returns is significant with a t-statistic equal to  $11.61$ . Furthermore, the excess returns for prior bids was significantly positive but smaller than the corresponding sub-sample of first bids over all forms of financing except "other and "stock and other". These two were also positive and significant, but not smaller than the first bids. These results are to be expected since the market would have already reacted to the first bid

and subsequent bids would merely reevaluate the merger's probability, the expected form of financing, and the expected price.

13. The results when prior bids are included are consistent and in some ways stronger. With cash financing both bidders and targets have higher returns for merger offers than for tender offers. This is of course opposite to the results usually reported in the literature when form of financing is not considered.

TABLE 1

Number of Merger Announcements by Year and Announced Form of Payment during the period 1973-1983.<sup>a</sup>

Year	Common Stock		Common Stock & Cash		Common Stock & Other		Conv. Pfd; Conv. Pfd. & Cash		Preferred; Pfd. & Cash		Debt; Debt & Cash		Other	Unknown	Total
	Cash	Stock	Cash	Stock	Cash	Other	Pfd. & Cash	Conv.	Cash	Debt & Cash					
1973	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1974	2	2	0	0	0	0	1	0	0	1	1	1	0	5	11
1975	4	9	0	0	0	0	0	0	0	1	1	1	1	7	22
1976	12	10	0	0	0	0	2	1	1	1	1	1	0	5	31
1977	9	12	3	2	2	2	4	1	1	1	1	1	4	7	43
1978	17	7	2	1	1	1	6	1	1	4	4	2	2	11	51
1979	17	6	7	2	2	2	8	0	0	3	3	4	4	10	57
1980	15	7	3	3	3	3	5	0	0	1	1	2	2	4	40
1981	11	4	2	2	2	2	3	1	1	2	2	4	4	8	37
1982	10	3	2	4	4	4	0	0	0	0	0	3	3	9	31
1983	5	3	1	1	1	1	1	1	0	1	1	2	2	5	19
Total	102	64	20	15	15	15	30	4	4	15	15	22	22	71	343
Percent	29.7	18.7	5.8	4.4	4.4	4.4	8.7	1.2	1.2	4.4	4.4	6.4	6.4	20.7	100.0

<sup>a</sup> This Table was compiled by investigating all delistings from the NYSE and ASE during the period 1975-1983. These delistings were traced backward in the Wall Street Journal to determine merger announcement dates. Therefore, this is not necessarily a complete list of merger announcements occurring in any given year.

TABLE 2

Absolute and Relative Size Measures of Bidders and Targets in Mergers by  
by Form of Financing during the period 1973-1983.

Form of Financing	N	<u>Target Value</u> <sup>1</sup>		<u>Bidder Value</u> <sup>2</sup>		<u>Relative Size</u> <sup>3</sup>	
		Mean	Median	Mean	Median	Mean	Median
		(\$ million)		(\$ million)		(\$ million)	
ALL	343	228.41	65.49	1120.00	483.68	39.8%	22.0%
CASH	102	111.77	54.48	1069.44	344.55	30.7%	20.9%
COMMON STOCK	64	132.52	47.84	1257.77	710.80	13.4%	6.6%
COMMON STOCK & CASH	20	482.62	60.50	1135.70	469.73	45.9%	37.7%
COMMON STOCK & OTHER	15	635.29	557.77	1421.27	1008.66	81.5%	55.22%
CONV. PREFERRED OR CONV. PFD. & CASH	30	193.39	153.76	767.87	520.51	41.3%	27.0%
PREFERRED OR PREF. & CASH	4	277.82	302.73	903.29	738.41	33.8%	29.9%
DEBT OR DEBT & CASH	15	508.69	86.86	395.75	181.05	59.6%	35.9%
OTHER	22	315.58	60.56	588.35	233.19	73.8%	64.9%
UNKNOWN	71	250.62	82.27	1479.11	368.79	51.0%	26.7%

<sup>1</sup> Market Value of the targets equity.

<sup>2</sup> Market Value of the bidder equity.

<sup>3</sup> Target Value/Bidder Value

TABLE 3

Two day announcement day returns for bidding firms by announced form of financing in the period 1973-1983.

Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N	Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N
All	-0.85 (-8.42)	-14.806 (58.9%)	343	Conv. Pfd. or Conv. Pfd. & Cash	+0.18 (+0.58)	+6.935 (46.7%)	30
Cash	+0.20 (+1.05)	-6.459 (52.0%)	102	Pfd. or Pfd. & Cash	-1.17 (-2.22)	-10.445 (75.0%)	4
Common Stock	-2.40 (-11.60)	-26.931 (76.6%)	64	Debt or Debt & Cash	-2.61 (-3.56)	-19.759 (73.3%)	15
Common Stock & Cash	-1.47 (-3.48)	-31.087 (50.0%)	20	Other	-1.00 (-1.94)	-1.306 (54.5%)	22
Common Stock & Other	-3.57 (-5.97)	-84.506 (80.0%)	15	Unknown	-0.22 (-0.93%)	-9.126 (53.5%)	71



TABLE 4

Two day announcement day returns for bidder firms  
by announced form of financing in the period 1973-1983  
where the target firm has no prior bids and the first bidder is  
the eventual successful bidder.

Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N	Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N
All	-0.53 (-3.88)	-9.081 (55.4)	147	Conv. Pfd. or Conv Pfd. Cash	+0.55 (+1.12)	-0.023 (46.7)	15
Cash	+0.84 (+2.67)	+7.857 (48.3)	29	Pfd. or Pfd & Cash	-0.62 (-0.94)	-9.941 (50.0)	2
Common Stock	-2.48 (-11.51)	-26.756 (75.0)	40	Debt or Debt & Cash	-3.52 (-3.86)	-3.713 (80.0)	5
Common Stock & Cash	-1.46 (-2.61)	-4.436 (45.5)	11	Other	-0.76 (-1.29)	-2.394 (57.1)	14
Common Stock & Other	-2.23 (-2.26)	-75.638 (66.7)	6	Unknown	+1.20 (+3.60)	-0.240 (40.0)	35

TABLE 5

Two day announcement day returns for bidder firms who announce the form of financing after the initial merger announcement in the period 1973-1983.

Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N	Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)
All	-0.40 (-1.96)	-12.312 (54.0)	63	Conv. Pfd. or Conv. Pfd. & Cash	-	-
Cash	-0.27 (-0.48)	-26.750 (50.0)	16	Pfd. or Pfd. & Cash	+0.93 (+0.80)	+16.905 (50.0)
Common Stock	-1.50 (-3.13)	-28.436 (61.5)	13	Debt or Debt & Cash	+3.10 (+2.88)	+3.655 (25.0)
Common Stock & Cash	-0.76 (-1.02)	+4.358 (75.0)	8	Other	+0.16 (+0.38)	-8.104 (46.2)
Common Stock & Other	-2.84 (-4.83)	-39.486 (80.0)	5	Unknown*	+1.41 (+2.00)	+0.861 (0.00)

\* For two bidders the form of financing was never reported in the Wall Street Journal but it was reported that the form of payment was unknown. The market reaction to that announcement is reported here.

Table 6

Estimated coefficients and t-statistics from regressing the two-day announcement return for bidding firms on the size of target firm.

6A: Bidder Excess Returns Regressed Against Relative Size Using  
 $XRET_i = a + b_1 SIZE_i$ .

Form of Financing	a	b <sub>1</sub>	N	R <sup>2</sup>	F
All	-.95 (-2.09)	+1.14 (+1.50)	157	.008	2.25
Cash	+0.28 (+0.33)	+1.89 (+1.04)	29	.003	1.08
Common Stock	-0.67 (-0.81)	-13.81*** (-2.91)	40	.160	8.44

6B: Bidder Excess Dollar Returns Regressed Against Absolute Size Using  
 $XDRET_i = a + b_1 MERVAL_i$ .

Form of Financing	a	b <sub>1</sub>	N	R <sup>2</sup>	F
All	+1.281 (0.232)	-0.058*** (-3.51)	157	.068	12.32
Cash	+5.676 (+0.53)	+0.024 (+0.48)	29	.028	0.23
Common Stock	-13.876 (-1.46)	-0.093*** (-2.87)	40	.156	8.21

t-statistics are in parentheses

$XRET_i$  = the two day announcement excess return to bidder i.

$SIZE_i$  = the relative size of the target firm, i.e. the equity value of the target firm divided by the equity value of the target.

$XDRET_i$  = the two day excess dollar return to bidder i.

$MERVAL_i$  = the announced value of the merger, i.e. the value of the target firm.

\*\*\* significant at the 1% level.

TABLE 7

Estimated coefficients and t-statistics from regressing the two day announcement return for bidding firms on the relative size of the merger using a dummy coefficient for form of financing and a dummy coefficient for tender offer.

$$7A: \quad XRET_i = a + b_1 \cdot SIZE_i + b_2 \cdot D_c + b_3 \cdot D_s + b_4 \cdot D_T$$

Forms of Financing	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	N	R <sup>2</sup>	F
Cash Only	-0.19	+1.86	-13.81***	-0.48	+1.54	69	.245	6.52
& Stock Only	(-0.20)	(+1.03)	(-2.89)	(-0.38)	(1.11)			

$$7B: \quad XDRET_i = a + b \cdot Merval + D_1 + b_3 \cdot Merval \cdot D_s + b_4 \cdot D_T$$

Forms of Financing	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	N	R <sup>2</sup>	F
Cash Only	+4.543	+0.025	-0.093***	-18.446	+3.259	69	.146	3.90
& Stock Only	(0.341)	(0.492)	(-2.87)	(-1.13)	(+0.15)			

$XRET_i$  = the two day amount excess return to bidder i.

$SIZE_i$  = the relative size of the target firm, i.e. the equity value of the target firm divided by the equity value of the bidding firm.

$XDRET_i$  = the two day excess dollar return to bidder i.

$Merval$  = the announced value of the merger, i.e. the value of the target firm.

$D_c$  = a dummy variable that takes the value 1 if cash is the announced financing and 0 otherwise.

$D_s$  = a dummy variable that takes the value 1 if common stock is the announced form of financing and 0 otherwise.

$D_T$  = a dummy variable that takes the value 1 if the bid is a tender offer and 0 if it is not.

TABLE 8

Two day announcement day returns for target firms  
by announced form of financing in the period 1973-1983  
when the first bidder was also the eventual successful bidder.

Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N	Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	N
All	+18.04 (+81.11)	+30.679 (11.5)	157	Conv. Pfd. or Conv. Pfd. & Cash	+22.90 (+40.57)	+37.344 (0.0)	15
Cash	+27.47 (+61.42)	+25.311 (06.9)	29	Pfd. or Pfd. & Cash	+31.17 (+27.43)	+92.850 (0.0)	2
Common Stock	+13.85 (+29.11)	+18.206 (12.5)	40	Debt or Debt & Cash	+14.51 (+11.15)	+11.701 (0.0)	5
Common Stock & Cash	+32.18 (+49.71)	+51.010 (0.00)	11	Other	+7.32 (+9.09)	+18.580 (35.7)	14
Common Stock & Other	+7.98 (+6.61)	+14.391 (33.3)	6	Unknown	+14.23 (+32.35)	+46.927 (11.4)	35

TABLE 9

Estimated coefficients and t-statistics from regressing the two day announcement return for target firms on the relative size of the merger using a dummy coefficient for form of financing and a dummy coefficient for tender offer.

$$9A: \quad XRET_i = a + b_1 \cdot SIZE_i D_c + b_2 \cdot SIZE_i D_s + b_3 \cdot D_s + b_4 D_T$$

Forms of Financing	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	N	R <sup>2</sup>	F
Cash Only	+28.71	+0.20	(-57.07)***	-7.37	-4.19	69	.121	3.35
& Stock Only	(+5.52)	(+0.02)	(-2.16)	(-1.06)	(-0.54)			

$$9B: \quad XDRET_i = a + b \cdot MERVAL \cdot D_1 + b_3 \cdot MERVAL \cdot D_s + b_4 D_T$$

Forms of Financing	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	N	R <sup>2</sup>	F
Cash Only	+16.59	+0.15	+0.06***	-6.85	-15.16	69	.382	11.51
& Stock Only	(+2.31)	(+5.29)	(+3.48)	(-0.77)	(-1.29)			

$XRET_i$  = the two day amount excess return to target i.

$SIZE_i$  = the relative size of the target firm, i.e. the equity value of the target firm divided by the equity value of the bidding firm.

$XDRET_i$  = the two day excess dollar return to target i.

$MERVAL_i$  = the announced value of the merger, i.e. the value of the target firm.

$D_c$  = a dummy variable that takes the value 1 if cash is the announced financing and 0 otherwise.

$D_s$  = a dummy variable that takes the value 1 if common stock is the announced form of financing and 0 otherwise.

$D_T$  = a dummy variable that takes the value 1 if the bid is a tender offer and 0 if it is not.

TABLE 10

Two day announcement day excess returns for bidding firms and target firms in tender offers and merger offers by announced form of financing in the period 1973-1983 where the target firm has no prior bids and the first bidder is the eventual successful bidder.

10A: Bidders Returns in Tender Offers		Bidders Returns in Merger Offers			
Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Million) (% < 0)	N
All	+0.20 (+0.43)	767.80 (52.9%)	-0.64 (+4.13)	1154.65 (43.6%)	34
Cash	+1.21 (+1.94)	386.77 (57.9%)	+0.91 (+3.08)	954.28 (55.6%)	19
Common Stock	0	0	-2.58 (-11.97)	1329.26 (25.0%)	0

  

10B: Targets Returns in Tender Offers		Targets Returns in Merger Offers			
Form of Financing	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Millions) (% < 0)	Mean Excess Return % (t-stat)	Mean Excess Dollar Return (\$ Million) (% < 0)	N
All	+27.36 (+44.73)	236.51 (94.4%)	+16.83 (+70.39)	172.83 (87.8%)	18
Cash	+24.58 (+23.72)	41.29 (88.9%)	+28.77 (+60.74)	114.70 (95.0%)	9
Common Stock	0	0	13.85 (+29.11)	138.55 (87.5%)	0

10C: Differences in Mean Excess Returns Between Tender Offers and Mergers

Form of Financing	Bidder's Difference (pairwise t-stat)	Target's Difference (pairwise t-stat)
All	+0.84 (1.71)	+10.53 (16.03)
Cash	+0.30 (0.43)	-4.19 (3.68)



Table 11

Total excess dollar returns in millions of dollars by announced form of financing in the period 1973-1983 when the first bidder was also the eventual successful bidder

Form of Financing	Mean Excess Dollar Return (\$ millions) (% > 0)	N	Form of Financing	Mean Excess Dollar Return (\$ millions) (% > 0)	N
All	21.598 (71.3%)	157	CONV. PFD.	37.321 (100.0%)	15
CASH	33.168 (82.8%)	29	PFD	82.909 (100.0%)	2
COMMON STOCK	-8.55 (40.0%)	40	DEBT	7.988 (60.0%)	5
COMMON STOCK & CASH	+46.57 (81.8%)	11	OTHER	16.186 (78.6%)	14
COMMON STOCK & OTHER	-61.247 (50.0%)	6	UNKNOWN	46.687 (82.9%)	35