

The Effect of the Method of Payment on Stock Returns in Canadian Tender Offers and Merger Proposals for Both Target and Bidding Firms

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Abstract

This paper presents empirical evidence on the effect that the type of acquisition and method of payment have on the stock returns for both the target and bidding firms in Canadian takeover bids. The type of acquisition is found to be an important determinant of stock returns for firms involved in corporate takeovers. Unlike some recent U.S. studies, the current results indicate that, on average, both bidders and target firms gain; the gains are more substantial when the takeover bid is through cash as opposed to a stock offer.

Introduction

Early studies of the returns to stockholders of firms engaged in takeover activity generally found significant positive abnormal returns to target firms during the period immediately preceding the announcement date. For studies cited in Jensen and Ruback [21],¹ abnormal returns for the month preceding the announcement date to target firms receiving tender offers are approximately twice

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¹The Jensen and Ruback [21] study includes Dodd and Ruback [14], Kummer and Hoffmeister [23], Bradley [5], Jarrell and Bradley [20], Bradley, Desai, and Kim [6], Ruback [27], Dodd [13], Asquith [2], Asquith, Bruner, and Mullins [3], and Malatesta [24].

the returns to target firms receiving merger offers, regardless of the outcome of the takeover bid.²

For bidding firms, the results are not as conclusive. All studies cited in Jensen and Ruback [21] show positive cumulative abnormal returns for the month preceding the announcement date for successful bidders. The weighted abnormal rate of return in tender offers is approximately twice the rate for bidding firms in merger proposals. Abnormal rates of return are significantly different from zero for all tender offers, but only one is significantly different in merger proposals. For unsuccessful bidding firms, the situation is reversed; for the month preceding the announcement date, unsuccessful bidders making tender offers have a negative average abnormal return, whereas the return to unsuccessful bidders in merger proposals is positive.

More recently, Dennis and McConnell [12] find statistically significant gains for all classes of shares for target firms prior to the announcement date. For bidding firms, the results are not as clear; although positive gains are recorded for common, convertible preferred and nonconvertible preferred shares, only the gains for convertible preferred shares are significantly positive. Amihud, Dodd, and Weinstein [1] also find positive but insignificant returns to bidding firms.

In Canada, Eckbo [16], using monthly data, finds that shareholders of both bidding and target firms make significant gains from merger activity. Masse, Hanrahan, and Kushner [25], using daily data, find that the gains to shareholders of target firms are concentrated in the month prior to the announcement and that the price of shares declines following the announcement.

Travlos [31] suggests that the inconclusive results in studies of the stock prices of bidding firms involved in takeovers may be due to the failure to take into account the method of payment. His results indicate that for the periods immediately preceding and following the announcement of a proposed merger or tender offer, bidding firms in pure share exchange offers incur significant losses whereas bidding firms in cash offers earn normal rates of return. Asquith, Bruner, and Mullins [3] find similar results. Franks, Harris, and Mayer [17], however, using monthly data, find that for bidders in the U.S. stock offers slightly outperform cash offers prior to the announcement date. Calvet and Lefoll [10], using Canadian monthly data, find that both target and bidding firms gain from takeover activity and that shareholders in cash transactions fare better than shareholders in noncash transactions. Contrary to Travlos, however, cash bidders

²Like Travlos [31], this research considers a tender offer to occur when the bidding firm makes an offer directly to the shareholders of a target firm; in a merger proposal, the offer is made directly to management.

are found to earn above normal rates of return, whereas noncash bidders earn normal rates only.

This paper, like Travlos, examines the effect that the method of payment has on the stock returns for bidding firms. In addition, the paper examines its effect for target firms. This research uses daily data, while Calvet and Lefoll use monthly data. Unlike other Canadian studies that rely on the University of Laval data tape, this research develops an independent database that takes into account shares listed on all four Canadian stock exchanges.

Theoretical Gains from Takeover Activity and Method of Financing

The reasons why firms engage in takeover activity can be divided into two major categories: enhancement of management and maximization of shareholder wealth.³ The motivation for the former could be empire building through growth in sales and assets (Berle and Means [4] and Schipper and Thompson [28]) or managerial risk reduction at the expense of shareholders (Amihud, Dodd, and Weinstein [1]).

Takeover activity based on maximization of shareholder wealth is viewed as an investment decision by the bidding firm. The expected gains from such an investment could be due to financial considerations, reduction in the probability of default, economic synergy, or asymmetrical information available to the bidding firm. Financial considerations could result from the redeployment of excess cash balances from one firm to the other or to the transfer of tax shields from a nonprofitable target to a profitable bidder. Reduction in the probability of default reduces bankruptcy costs and increases the debt capacity of the combined firm. Synergy of target and bidding firms may be due to economies of scale (Jarrell and Bradley [20]), increased monopoly power (Eckbo [15] and Stillman [30]), or product diversification and utilization of excess capacity (Dodd and Ruback [14]). Asymmetrical information available to the bidding firm may concern the incompetency or nonprofit maximizing behavior of the management of the target firm.

Before and after the announcement, but prior to the outcome, expected gains to shareholders will be apportioned to the shares of target and bidding firms according to investor expectations. In an auction type market, the target firm may be in a position to appropriate a larger portion of the takeover gains.

³For an excellent discussion of the reasons why firms engage in takeover activity and the effects on the value of the shares of the bidding and target firms, see Halpern [19].

Although the method of payment affects the value of the shares of bidding and target firms, it should not be a primary consideration in takeover activities.⁴ Economic considerations, in the first instance, should determine whether a particular firm should be acquired. If the decision is positive, the method of payment is to be determined then. The method of financing a proposed takeover will influence share prices of bidders and targets in several ways. First, the method of payment may signal management's assessment of the bidding firm's basic worth relative to its market value (Bruner [9], Myers and Majluf [26], and DeAngelo, DeAngelo, and Rice [11]). For example, if the management of the bidding firm thinks that the market has undervalued its shares, it will make a cash offer. Investors will view the cash offer as a signal of enhanced future profitability and higher stock prices. A share exchange offer will have the opposite effect.

The signalling effect also may have an impact on the value of the shares of the target firm. If the bidding firm offers cash, the shares of the target firm will not be affected. If the bidder offers a share exchange, however, the target firm then will become part of a new entity. Market investors following the signalling cue given by the method of payment not only expect reduced future profitability of the bidding firm but also of the new entity. Thus, a share exchange offer reduces the value of the shares of the target firm.

The method of financing a takeover also has personal tax implications for shareholders of the target firm and corporate tax implications for the bidding firm. If a takeover is financed by cash, shareholders of the target firm may have an immediate capital gain. If a takeover is financed by a share exchange, possible capital gains are deferred. Shareholders of target firms in cash offers therefore are likely to demand a premium in a takeover attempt to compensate for immediate tax obligations. This premium will not affect the value of the bidding firm's shares to any extent. Because a cash purchase increases the depreciation base by the value of the acquired asset, the premium paid will be incorporated into the bidding firm's tax shield. The effect on the value of the bidding firm's shares therefore will depend on the premium paid to the shareholders of the target firm relative to the value of the increased tax shield acquired.

The merger of the two firms also will affect the capitalized value of the new entity. If the acquisition is financed by a share exchange, the debt capacity of the new entity is increased. Furthermore, the merger of two firms with different cash flows will reduce the risk of default and increase the debt capacity of the new

⁴The problem is analogous to one encountered in leasing where the decision is not whether to purchase or lease, but rather to borrow or to lease. That is, the decision to undertake the investment project is determined independently of the financing decision.

entity; as a result, bondholders gain at the expense of the shareholders of target and bidding firms. If the takeover is financed by a share exchange, stock prices of both firms are reduced. If the takeover is financed by cash, however, the bidding firm acquires the debt obligations of the target firm which increases the leverage and the risk of default of the new entity. The risk of default is greater and share prices lower if the bidding firm issues junk bonds to acquire cash.

In conclusion, cash offers should have a positive influence on the price of shares of both target and bidding firms. For the target firm, tax effects are expected to have a positive influence, while signalling and capital effects are expected to be neutral. For bidding firms, the signalling effect of a cash takeover should be positive, while capital structure and tax effects are neutral or indeterminate. Share exchange offers should have a negative effect on the shares of both target and bidding firms. Tax implications of a share exchange offer should be neutral and signalling, and capital structure effects should have a negative influence on the shares of both parties.

Data and Methodology

The methodology in this paper is taken from Masse *et al.* [25]. The *Canadian Business Index* reported 1,471 different mergers and acquisitions for the period from January 1, 1984 to April 30, 1987 (328 companies in 1984, 412 in 1985, 504 in 1986, and 227 in the first four months of 1987).⁵ Companies not traded on at least one of the four Canadian stock exchanges were excluded from this study. The *Globe and Mail* and the *Financial Post* were examined to determine the exact day of public disclosure; if the date could not be ascertained, the companies were excluded. Companies also were excluded if they were the subject of media speculation concerning rumored takeovers or if there were extraordinary concurrent corporate events. This left a sample of 92 target firms. Twelve more firms were discarded due to insufficient financial or trading data. The same procedure was applied to bidder firms.⁶

Daily closing prices for 146 trading days before and 30 days after the announcement date are used to develop daily returns for each firm; day 0 is the

⁵The number of companies engaged in merger or acquisition activity differs from the authors' earlier study in which the purchases of divisions from other companies were excluded. The rapid increase in the number of companies engaged in acquisition and merger activity corresponds with the demise of the Foreign Investment Review Agency that screened all proposed foreign takeovers.

⁶The smaller number of bidding firms is due to the large number of foreign firms and private firms not listed on the Canadian stock exchanges.

first day of trading following the announcement. As in Masse *et al.* [25], where no trading occurred on days adjacent to the announcement date, a search was made to determine if a cease trading order had been issued for the stock; this was found to be the case for 18 firms in the target sample and three in the bidder sample. The trading days affected were excluded, and the first day prior to the cease trading order was used as the first day prior to announcement. If the cease trading order persisted beyond the announcement date, the first trading day after the lifting of the order was treated as day 0. In all other cases, the full 177 trading day period was used.

Daily returns are determined as follows:

$$R_{jt} = \ln(P_{jt+1} + D_{jt+1}) - \ln(P_{jt})$$

where:

R_{jt} = the return on stock j on day t ;

P_{jt} = the closing price for security j on day t ; and

D_{jt+1} = cash dividend on the ex dividend day $t+1$.

Abnormal returns are derived using the mean-adjusted returns model, the market-adjusted returns model, and the simple OLS market model.⁷ This study reports in detail only the results for the more common ordinary least squares market model.

Abnormal returns are determined by the following ordinary least squares equation:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

⁷For a discussion on the best event study methodology, see Brown and Warner [7, p. 249] who conclude that

beyond a simple, one factor market model, there is no evidence that more complicated methodologies convey any benefit. In fact ... more complicated methodologies can actually make the researcher worse off, both compared to the market model and the even simpler methods, like mean-adjusted Returns, which make no explicit risk adjustment.

See also Brown and Warner [7, p. 27]: "Procedures other than OLS for estimating the market model in the presence of nonsynchronous trading convey no clear-cut benefit in detecting abnormal performance."

where:

α_j = the intercept of the linear relationship between the return of stock j and the returns of the general market;

β_j = the slope of the linear relationship between the return of stock j and the returns of the general market;

R_{mt} = the return on the Toronto Stock Exchange on day t;

ε_{jt} = the unsystematic component of firm j's return; and

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

where:

$\hat{\alpha}_j$ and $\hat{\beta}_j$ = the ordinary least squares estimates of α_j and β_j ; and

$\hat{\varepsilon}_{jt}$ = the least squares residual.

In order to eliminate bias in the estimators, the 45 days prior to the announcement date are excluded; $\hat{\alpha}_j$ and $\hat{\beta}_j$ therefore are derived using the first 100 days of the study period. The F-test using the ratio of the variance of the first 40 days to the variance of the last 40 days of the 100 day estimation period indicates stability of the $\hat{\beta}_j$ s.

The daily average residual ($\overline{DAR}_t$) for all companies is defined as

$$\overline{DAR}_t = \frac{1}{n} \sum_{j=1}^n \hat{\varepsilon}_{jt};$$

$$t = -10 \text{ to } +10;$$

$$n = 80 \text{ for target sample and } 61 \text{ for bidder sample,}$$

and the cumulative average residual ($\overline{CAR}_t$) is defined as

$$\overline{CAR}_t = \overline{DAR}_t + \overline{CAR}_{t-1}$$

$$t = -10 \text{ to } +10$$

$$= \sum_{s=-10}^t \left(\frac{1}{n} \sum_{j=1}^n \hat{\varepsilon}_{js} \right)$$

$n = 80$ for target sample and 61 for bidder sample

The residuals are standardized as follows:

$$S \bar{\epsilon}_{jt} = \frac{1}{n} \sum_{j=1}^n \frac{R_{jt} - \hat{\alpha} - \hat{\beta} R_{mt}}{S_{jt}}$$

where

$$S_{jt} = \left\{ S_j^2 \left[1 + \frac{1}{L} + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{k=1}^L (R_{mk} - \bar{R}_m)^2} \right] \right\}^{1/2}$$

where

S_j^2 = the residual variance for security j from the market model regression;

L = the number of days in the estimation period;

$\bar{R}_m$ = the average return of the market portfolio for the estimation period; and

R_{mk} = the return on the market portfolio for the k th day of the estimation period.

If the $S \bar{\epsilon}_{jt}$ s are independent, identically distributed, and normal, the statistic for $S \bar{\epsilon}_{jt}$ is the distributed Student t under the null hypothesis. It follows that the t statistic for $\overline{CAR}_t$ is the distributed Student t under the null hypothesis of zero cumulative excess returns. With at least 78 and 59 degrees of freedom, however, the test statistics are approximately standard normal. The daily average residuals are tested for first order serial correlation using the Durbin-Watson statistic. It should be noted that there may be some cross section dependence in the security-specific excess returns. Because the event dates are not clustered and the securities come from different industries, however, the degree of dependence is minimal. According to Brown and Warner [8, pp. 20-25]:

if the degree of dependence is small, as in studies where event dates are not clustered, ignoring the dependence induces little bias in variance estimates. Furthermore, dependence adjustment can actually be harmful compared to procedures which assume independence.

In this study, the event dates are randomly distributed over an 846 day period and therefore are not clustered.⁸ In order to test whether the results are driven by outliers, a binomial test also is performed on the proportion of firms having positive abnormal returns on any given day.

If there is trading on inside information, unusual price fluctuations prior to the announcement date are to be expected. The daily average residuals ($\overline{DAR}_t$) would not be randomly distributed about zero, and the cumulative average residual ($\overline{CAR}_t$) would increase as the announcement date is approached.

Empirical Results

The $\overline{DAR}$ s, the $\overline{CAR}$ s, and the percent of positive abnormal returns for target and bidding firms separated according to method of payment for ten days prior to and following the announcement date of a proposed merger or acquisition are presented in Tables 1 and 2.^{9,10} As indicated in Table 1, there is a substantial difference in the returns for target firms depending on the method of payment in the acquisition proposal; the $\overline{DAR}$ s of target firms in cash proposals are substantially greater than in share exchange proposals.¹¹ For the two days preceding the announcement, the announcement day itself and the day following, the differences in the $\overline{DAR}$ s are significant at the 1 percent level. Also to be noted is the behavior of the $\overline{DAR}$ s following the announcement day. In stock exchange offers, there is a substantial decline for eight consecutive days following the announcement day, while in cash offers there is a substantial increase for the day following the announcement day with small offsetting

⁸For a methodology to be used when event dates are clustered, see Gibbons [18] and Shanken [29].

⁹For purposes of comparison, the same time period as Travlos has been selected. Other studies indicate that the daily average residuals for target firms become consistently positive from 24 (Keown and Pinkerton [22]) to 50 (Asquith [2]) days prior to the announcement date. Most of the increase occurs in the few days preceding and including the announcement day.

¹⁰Due to the small number of unsuccessful merger and tender offer proposals, this paper does not distinguish between successful and unsuccessful proposals. The sample includes nine target firms and seven bidding firms which were unsuccessful in their acquisition attempts. In addition, the conclusion of the acquisition attempt could not be determined for eight target firms and three bidding firms.

¹¹For all tables, the Durbin-Watson statistic indicates no positive serial correlation at the 1 percent level for the first 100 days of the study period.

changes for the remaining nine days. On the announcement date, the $\overline{\text{CAR}}$ for target firms in cash offers is more than three times the $\overline{\text{CAR}}$ for target firms in stock exchange offers. The difference in the $\overline{\text{CAR}}$ s on the announcement day is significant at the 1 percent level.

Although on a smaller scale, the behavior of the $\overline{\text{DAR}}$ s and the $\overline{\text{CAR}}$ s is similar for bidding firms. As shown in Table 2, the $\overline{\text{DAR}}$ for bidding firms making cash offers is positive for several days around the announcement. Only on the day before the announcement, however, is the $\overline{\text{DAR}}$ significant at the 5 percent level. The $\overline{\text{CAR}}$ s of 3.9 percent for day 0 and 5.9 percent for day 10 are significant at the 1 percent level. For bidding firms making a stock offer, there is a significant increase in the $\overline{\text{DAR}}$ on day -1; however, the $\overline{\text{CAR}}$ for day 0 is only half that in cash offers. The behavior of the $\overline{\text{DAR}}$ s following the announcement day for bidding firms is similar to the behavior for target firms. In stock exchange offers, there are significant decreases in the $\overline{\text{DAR}}$ s, while in cash offers the $\overline{\text{DAR}}$ s show steady or moderate increases following the announcement day.

Results presented in Table 2 for bidding firms in Canada differ somewhat from the results obtained by Travlos [31] and Asquith, Bruner, and Mullins [3] for bidding firms in the U.S. Travlos finds that the announcement of a takeover has a negative effect on the returns to shareholders in stock exchange offers and no effect in cash offers. In Canada, the announcement effect of a takeover is positive for both cash and stock offers. For the two days preceding the announcement, the $\overline{\text{DAR}}$ s in stock offers are greater than in cash offers. For the former, however, the $\overline{\text{CAR}}$ s are positive only on days -1 and 0; for 18 of the other 19 days, the $\overline{\text{CAR}}$ s are negative. Similar to Travlos, the current results indicate that returns to shareholders in cash offers are greater than the returns in share exchange offers. For the period from day -10 to day 10, the $\overline{\text{CAR}}$ for share exchanges is -3.83 compared to -1.60 in Travlos; this difference is due to the larger negative $\overline{\text{DAR}}$ s following day 0 in the current study. The results for bidding firms are comparable to those derived by Calvet and Lefoll [10] for Canada; they are also comparable to U.S. results found by Franks, Harris, and Mayer [17, p. 243] who state that "equity in acquisitions conveys bad news, while cash conveys good news". Comparisons are difficult and perhaps misleading because of their use of monthly data. For example, the Laval tapes used by Calvet and Lefoll report returns at the end of the month, whereas the current merger data are for the exact day; thus, on average, the two could differ by 15 days. Also, the use of monthly data misses the sharp reversal in the $\overline{\text{DAR}}$ s of both target and bidder firms in share exchanges occurring around the announcement day.

These results are consistent with the value maximizing hypothesis that bidders in cash acquisitions outperform those in noncash acquisitions. In perfect

markets, shareholders would be indifferent to the method of payment used in the acquisition. If the bidding company has superior information to the effect that its stock is undervalued, however, it will prefer to make a cash offer rather than a share offer (Jensen and Ruback [21]). As stated earlier, the tax system also affects the choice of the method of payment. In Canada, the acceptance of a stock offer allows deferral of capital gains, while a cash offer results in an immediate tax liability. Furthermore, capital gains are taxed at a higher rate than dividends, making share acquisitions even more attractive. Unlike the U.S., there is no increase in the depreciation tax shield associated with cash payments in acquisitions. In summary, the result that the shares of cash bidders increase more than those of noncash bidders is consistent with asymmetry in information; this effect, however, is dampened by the relatively unfavorable tax treatment of capital gains in Canada. The pronounced changes in the $\overline{\text{DARs}}$ around the announcement day for both target and bidder firms in share exchanges could be the result of the ineffectiveness of insider trading regulations in Canada.

Tables 3 and 4 present the $\overline{\text{DARs}}$ and the $\overline{\text{CARs}}$ of target and bidding firms based on the type of acquisition and the method of payment. Table 3 shows that the method of payment has a major effect on the rates of return to the shareholders of target firms. The $\overline{\text{CARs}}$ in cash offers are approximately three times the $\overline{\text{CARs}}$ in stock offers on the day of announcement. For both merger proposals and tender offers, the difference in the $\overline{\text{CARs}}$ by the method of payment is significant at the 1 percent level. For the same method of payment, the $\overline{\text{CARs}}$ are not significant even at the 10 percent level.

It would appear that the decrease in the $\overline{\text{DARs}}$ for target firms following the announcement is due to the method of payment; the decrease is more pronounced for stock offers in merger proposals. By day 30 (not shown), however, the $\overline{\text{CAR}}$ for tender offers involving share exchanges also decreases more than 50 percent.

Table 4 indicates that the method of payment has a similar effect for bidding firms, although on a smaller scale. One apparent difference is that the $\overline{\text{CAR}}$ for day 0 is negative for tender offers involving share exchanges and for cash offers in merger proposals. In addition, the large positive $\overline{\text{DARs}}$ indicate (contrary to Travlos) that shareholders of bidding firms also gain prior to the announcement of merger proposals involving share exchanges. Similar to tender offers, the $\overline{\text{CAR}}$ declines following day 0. On day 30 (not shown), the $\overline{\text{CAR}}$ is -6.97 percent for share exchanges in merger proposals and -9.37 percent for share exchanges in tender offers. For tender proposals, the difference between the $\overline{\text{DARs}}$ on the announcement date is not significant, even at the 10 percent level; the difference in the $\overline{\text{CARs}}$, however, is significant at the 5 percent level. The differences between the $\overline{\text{DARs}}$ and the $\overline{\text{CARs}}$ in both tender offers and merger proposals for share exchanges are not significant at the 10 percent level.

Conclusions

This paper examines the effect that the type of acquisition and the method of payment have on the stock returns of both target and bidding firms in Canadian takeover bids. On average, both bidders and target firms gain prior to the announcement date. For target firms, returns to shareholders in tender proposals are approximately double the returns to shareholders in merger proposals. For bidding firms, returns in both merger proposals and tender offers are substantially lower than returns to target firms.

The results also show that for target firms there is a substantial difference in the return to shareholders depending on the method of payment. Cash proposals result in higher returns than share exchange proposals. For bidders, the returns to shareholders in cash offers generally are slightly higher than the returns in share exchange offers. Contrary to Travlos [31], the current results indicate that bidding firms making share exchange offers in merger proposals also gain. There is a substantial decline, however, in the CARs for bidders and targets for several days following day 0.

In summary, the evidence suggests that the type of acquisition and the method of payment are important determinants of stock returns for firms involved in takeovers.

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Table 1

Daily Average Residuals ($\overline{\text{DAR}}$), Cumulative Average Residuals ($\overline{\text{CAR}}$), and Percent of Positive Abnormal Returns for Target Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Method of Payment, Share Exchange, or Cash Payment

Event Day	Share Exchange (n = 45)			Cash Payment (n = 35)		
	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)
-10	-0.86	44.4	-0.86	0.47	65.7**	0.47
-9	-0.42	46.7	-1.28	1.04**	54.3	1.51***
-8	0.61	62.2**	-0.67	0.82*	71.4***	2.33**
-7	0.46	53.3	-0.21	1.28**	57.1	4.13***
-6	-0.41	53.3	-0.62	1.31**	68.6**	5.44***
-5	0.95*	64.4**	0.33	0.23	54.3	5.67***
-4	-1.04*	40.0*	-0.71	-0.05	48.6	5.62***
-3	0.83	57.8	0.12	0.13	54.3	5.75***
-2	-0.75	44.4	-0.63	3.61***	74.3**	9.36***
-1	2.68***	60.0*	2.05	5.52***	80.0***	14.88***
0	4.70***	48.9	6.75***	5.85***	85.0**	20.73***
1	-1.65***	42.2	5.10**	2.68***	65.0**	23.41***

Table 1 (continued)

Daily Average Residuals ($\overline{\text{DAR}}$), Cumulative Average Residuals ($\overline{\text{CAR}}$), and Percent of Positive Abnormal Returns for Target Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Method of Payment, Share Exchange, or Cash Payment

Event Day	Share Exchange (n = 45)			Cash Payment (n = 35)		
	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)
2	-0.32	37.8	4.78**	0.65	57.1	24.06***
3	-0.37	57.8	4.41**	-0.64	48.6	23.42***
4	-0.61	46.7	3.80*	-0.29	45.7	23.13***
5	-0.94	46.7	2.86	0.40	65.7**	23.53***
6	-1.09*	44.4	1.77	-0.62	45.7	22.91***
7	-0.02	55.6	1.75	0.59	48.6	23.50***
8	-0.35	57.8	1.40	-0.45	48.6	23.05***
9	0.61	55.6	2.01	-0.06	42.9	22.99***
10	0.93	48.9	2.94	0.46	48.6	23.45***

* Significant at the 0.10 level, one tail test

** Significant at the 0.05 level, one tail test

*** Significant at the 0.01 level, one tail test

D-W statistic for the first 100 days in share exchange is 2.02966

D-W statistic for the first 100 days in cash payment is 1.86620

Test statistics are available upon request

Table 2

Daily Average Residuals ($\overline{\text{DAR}}$), Cumulative Average Residuals ($\overline{\text{CAR}}$), and Percent of Positive Abnormal Returns for Bidding Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Method of Payment, Share Exchange, or Cash Payment

Event Day	Share Exchange (n = 38)			Cash Payment (n = 23)		
	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)
-10	0.11	47.3	0.11	0.67	65.2	0.67
-9	-1.21***	44.7	-1.10	0.47	56.5	1.15
-8	0.11	42.1	-0.99	0.37	56.5	1.52*
-7	-0.33	36.8*	-1.32	0.47	47.8	1.99**
-6	-0.01	36.8*	-1.32	1.05*	60.8	3.04***
-5	-0.14	39.4*	-1.47	-0.49	39.1	2.54***
-4	0.04	52.6	-1.43	-0.60	39.1	1.95**
-3	-0.11	44.7	-1.53	0.20	39.1	2.14**
-2	0.68	52.6	-0.85	0.14	52.1	2.28**
-1	2.10***	65.7**	1.25	1.14**	65.2*	3.43***
0	0.29	50.0	1.54	0.45	56.5	3.88***
1	-1.87***	26.3***	-0.33	0.37	43.4	4.25***

Table 2 (continued)

Daily Average Residuals ($\overline{\text{DAR}}$), Cumulative Average Residuals ($\overline{\text{CAR}}$), and Percent of Positive Abnormal Returns for Bidding Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Method of Payment, Share Exchange, or Cash Payment

Event Day	Share Exchange (n = 38)			Cash Payment (n = 23)		
	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	Percent of Positive Abnormal Returns	$\overline{\text{CAR}}$ (%)
2	-1.46***	31.5**	-1.80	0.47	65.2*	4.72***
3	0.34	50.0	-1.45	-0.07	30.4**	4.65***
4	0.33	55.2	-1.12	-0.60	43.4	4.05***
5	-1.49***	36.8*	-2.61	-0.48	26.0**	3.57***
6	0.20	42.1	-2.41	1.73***	69.5*	5.30***
7	-0.80*	44.7	-3.21*	-0.40	47.8	4.90***
8	-0.31	44.7	-3.53*	0.88*	43.4	5.77***
9	-0.15	36.8*	-3.68*	-0.38	52.1	5.39***
10	0.16	42.1	-3.83*	0.50	56.5	5.89***

* Significant at the 0.10 level, one tail test

** Significant at the 0.05 level, one tail test

*** Significant at the 0.01 level, one tail test

D-W statistic for the first 100 days in share exchange is 2.09410

D-W statistic for the first 100 days in cash payment is 2.29718

Test statistics are available upon request

Table 3

Daily Average Residuals ($\overline{\text{DAR}}$) and Cumulative Average Residuals ($\overline{\text{CAR}}$) for Target Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Type of Acquisition and Method of Payment

Event Day	Merger Proposal				Tender Offer			
	Share Exchange (n = 32)		Cash (n = 11)		Share Exchange (n = 13)		Cash (n = 24)	
	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)
10	-0.76	-0.76	0.12	0.12	-1.12	-1.12	0.63	0.63
-9	-0.03	-0.79	2.24**	2.36**	-1.38	-2.50	0.48	1.11
-8	0.47	-0.32	0.07	2.43*	0.96	-1.54	1.16*	2.27*
-7	0.19	-0.13	-0.21	2.22	1.11	-0.43	1.96***	4.23**
-6	0.96	0.83	1.71*	3.93**	-3.77***	-4.20	1.13*	5.36***
-5	1.04	1.87	-0.48	3.45*	0.73	-3.47	0.55	5.91***
-4	-0.82	1.05	-0.25	3.20	-1.58	-5.05	0.04	5.95***
-3	1.01	2.06	0.11	3.31	0.41	-4.64	0.15	6.10***
-2	-0.99	1.07	5.71***	9.02	-0.16	-4.80	2.64***	8.74***
-1	2.36***	3.43	7.33***	16.35***	3.46***	-1.34	4.69***	13.43***
0	2.66***	6.09***	2.10***	18.45***	9.72***	8.38**	7.57***	21.00***
1	-1.42*	4.67*	2.59***	21.04***	-2.21*	6.17**	2.73***	23.73***
2	-0.19	4.48*	1.14	22.18***	-0.61	5.56*	0.42	24.15***
3	-1.29*	3.19	-0.28	21.90***	1.90*	7.46**	-0.81	23.34***
4	-1.46*	1.73	-0.91	20.99***	1.48	8.94**	0.00	23.34***

Table 3 (continued)

Daily Average Residuals ($\overline{\text{DAR}}$) and Cumulative Average Residuals ($\overline{\text{CAR}}$) for Target Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Type of Acquisition and Method of Payment

Event Day	Merger Proposal				Tender Offer			
	Share Exchange (n = 32)		Cash (n = 11)		Share Exchange (n = 13)		Cash (n = 24)	
	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)
5	-0.32	1.41	0.50	21.49***	-2.45**	6.49*	0.35	23.69***
6	-1.45	-0.04	-1.30*	20.19***	-0.19	6.30*	-0.30	23.39***
7	0.10	0.06	0.50	20.69***	-0.33	5.97*	0.63	24.02***
8	-0.52	-0.46	-2.17**	18.52***	0.09	6.06*	0.34	24.36***
9	0.32	-0.14	-0.42	18.10***	1.31	7.37*	0.10	24.46***
10	1.82**	1.68	1.90**	20.00***	-1.24	6.13*	-0.21	24.25***

* Significant at the 0.01 level, one tail test

** Significant at the 0.05 level, one tail test

*** Significant at the 0.01 level, one tail test

D-W statistic for the first 100 days in share merger proposal is 2.02966

D-W statistic for the first 100 days in cash merger proposal is 2.16661

D-W statistic for the first 100 days in security tender offer is 1.88139

Test statistics are available upon request

Table 4

Daily Average Residuals ($\overline{\text{DAR}}$) and Cumulative Average Residuals ($\overline{\text{CAR}}$) for Bidding Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Type of Acquisition and Method of Payment

Event Day	Merger Proposal				Tender Offer			
	Share Exchange (n = 26)		Cash (n = 5)		Share Exchange (n = 12)		Cash (n = 18)	
	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)
-10	0.32	0.32	0.52	0.52	-0.32	-0.32	0.77*	0.77*
-9	-1.47**	-1.16	0.84	1.36	-0.64	-0.96	0.25	1.02
-8	0.26	-0.90	-0.27	1.09	-0.22	-1.18	0.68	1.70**
-7	0.07	-0.83	-0.28	0.81	-1.19*	-2.37*	0.71	2.41**
-6	0.85	0.02	-1.19	-0.38	-1.86**	-4.24**	1.53***	3.93***
-5	-0.34	-0.32	-0.07	-0.45	0.28	-3.96*	-0.69	3.24**
-4	-0.07	-0.39	-0.93	-1.38	0.28	-3.68*	-0.45	2.80**
-3	-0.60	-0.99	-1.43	-2.82	0.95	-2.73	0.66	3.46**
-2	1.14*	0.16	0.08	-2.73	-0.31	-3.04	0.31	3.77**
-1	2.85***	3.01	0.56	-2.17	0.47	-2.57	1.29**	5.06***
0	0.30	3.30*	0.91	-1.26	0.28	-2.30	0.35	5.41***
1	-1.93***	1.37	-0.73	-1.99	-1.74**	-4.04*	0.56	5.97***
2	-1.19*	0.18	-0.26	-2.25	-2.04**	-6.07*	0.93*	6.90***
3	0.22	0.40	-0.82	-3.07	0.60	-5.48*	-0.13	6.77**
4	-0.13	0.27	0.07	-3.00	1.34*	-4.13	-0.62	6.15***
5	-2.23***	-1.96	0.65	-2.35	0.11	-4.03	-0.80*	5.35**

Table 4 (continued)

Daily Average Residuals ($\overline{\text{DAR}}$) and Cumulative Average Residuals ($\overline{\text{CAR}}$) for Bidding Firms from 10 Trading Days Before to 10 Trading Days After the Announcement of a Takeover Proposal Classified on the Basis of Type of Acquisition and Method of Payment

Event Day	Merger Proposal				Tender Offer			
	Share Exchange (n = 26)		Cash (n = 5)		Share Exchange (n = 12)		Cash (n = 18)	
	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)	$\overline{\text{DAR}}$ (%)	$\overline{\text{CAR}}$ (%)
6	0.10	-1.85	0.36	-1.98	0.42	-3.61	2.52***	7.87***
7	-0.90	-2.75	0.30	-1.68	-0.60	-4.21	-0.26	7.61***
8	-0.44	-3.19	-0.42	-2.10	-0.05	-4.26	-0.07	7.54***
9	-0.09	-3.28	-0.52	-2.62	-0.02	-4.55	0.27	7.81***
10	0.30	-2.88	1.19	-1.44	-1.15*	-5.70*	0.32	8.13***

* Significant at the 0.10 level, one tail test

** Significant at the 0.05 level, one tail test

*** Significant at the 0.01 level, one tail test

D-W statistic for the first 100 days in share exchange merger proposals is 2.22742

D-W statistic for the first 100 days in cash merger proposals is 2.03470

D-W statistic for the first 100 days in share exchange tender offers is 1.86220

D-W statistic for the first 100 days in cash tender offers is 2.39882

Test statistics are available upon request

