DO TARGET FIRMS ALWAYS GAIN? THE DETERMINANTS OF TARGET FIRMS LOSS IN US TAKEOVERS

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Abstract

Studies that examine the profitability of mergers and acquisitions document that a considerable proportion (15-20%) of target firms earn negative returns. This study examines why the share price of the target firm reacts negatively to the announcement of some merger deals, while it reacts positively to others. We find that target firms that earn negative returns are less efficient, less profitable, receive a lower premium, are more likely to be paid with stocks, and attract less efficient acquirers than target firms that earn positive returns. The logistic regressions indicate that high relative size, low premium, higher target leverage, equity exchange offers, and mixed payment deals are associated with a higher likelihood of loss for the target firm. Fewer anti-takeover provisions for target firms are associated with a higher probability of loss, because such target firms, if necessary, are more likely to be disciplined by the market and be paid a low premium. Meanwhile, a high G-Index on the part of the acquirer is associated with negative target returns in share exchange offers if the premiums paid do not compensate for the acquirer excess risk.

Keywords*:* Governance, Takeovers, Negative Target Returns, Anti-takeover Provisions

JEL Classification*: G34*

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1 Introduction

Reports of studies that examined the profitability for target firms in merger and acquisition (M&A) deals agree that the shareholders of the target firms gain (Sudarsanam et al. 1996; Eckbo and Thorburn 2000; Mulherin and Boone 2000; Houston and Ryngart 2001)[3]. A recent review article reports that the returns of the target firms studied reached 45.6%[4] (Bruner 2002). However, even though the cumulative average abnormal returns (CAAR) are significantly high, some target firms still lose. Maquieria et al. (1998) report that only 61.8% of the target firms in their sample of conglomerate mergers gained; other studies report values of 71.6% (Langetieg 1978), 96% (Smith and Kim 1994), 76% (Mulherin 2000), and recently 88.6% by DeLong (2001). These results imply that a considerable proportion (15-20%) of target firms earn negative returns. Yet previous studies have not examined this subset of firms. Therefore, concentrating on the cases in which the target firms earn negative returns provides insights that it is not possible to gain when studying a complete sample of targets. Thus, it is imperative to understand why the share price of the target firm reacts negatively to the announcement of the merger in some deals, but positively in others.

The literature on corporate governance documents a negative relationship between various indices of anti-takeover provisions (ATPs) and shareholder wealth (e.g. Gompers, et al. 2003; Bebchuk and Cohen 2005; Cremers and Nair 2005). Recent literature shows that when an acquiring firm has more ATPs (a high governance index (G-Index)), its stock returns in response to its announcement of a merger are significantly lower, because such acquirers are less subject to discipline from the market for corporate control and are, therefore, more likely to make bad acquisitions (Masulis et al., 2006). ATPs may have different implications for target firms, given that previous research has suggested that ATPs could benefit shareholders in target firms (DeAngelo and Rice 1983; Stein 1988), and enable them to increase their share of any synergy gains or attract a larger premium (Harris 1990; Clarkson et al, 2004; Kadyrzhanova 2006). Therefore, given that target

[3] Previous studies included Bradley et al., (1988), Kaplan and Weisbach (1992), Mitchel and Stafford (2000), Kohers and Kohers (2000), Houston and Ryngaert (2001), Fuller et al. (2002) and Moeller et al. (2004). For a review of the evidence, see for example, Jensen and Ruback (1983), and recently Bruner (2002).

[4] Healy et al. (1992)

firms with fewer ATPs present less severe barriers to acquirers, they are more subject to discipline from the market for corporate control and are more likely to be paid a lower premium than target firms that have more ATPs, which will lead to shareholders' receiving a lower return on stocks. Nevertheless, when the target firm's shareholders are paid with the acquirer shares, they become subject to the practices of corporate governance of the combined firm. Consequently, when such target firms are acquired by firms that have poorer practices of corporate governance or protection for investors, they will require larger premiums as compensation for their increased exposure to risks from the effects of corporate governance (Starks and Wei 2004). We argue that if such target firms do not require larger premiums to compensate them for the lower shareholder rights in the acquiring firms, the prices of their stocks are more likely to drop.

Other characteristics of deals and firms are believed to drive the negative return of the target firm. For instance, previous research has yielded the conclusion that takeover deals that are settled with equity result in lower abnormal returns to shareholders of target firms than those that are settled in cash (Huang and Walkling 1987; Franks et al. 1991, among others). The announcement of a merger represents a very good opportunity for the market to reconsider the valuation of both parties. That being so, the reaction of the market could be driven not only by the expected synergy and terms of the deal, but also by the perceived valuation of the two parties. In addition, if the target firm is believed to be inefficient or less efficient than its counterpart, it is less likely to attract a high premium; as a result, its share price will react less favorably to the announcement of the merger (Palia 1993; Beatty et al. 1987).

We attempted to fill the gap in the literature by investigating whether the practices of governance of the merging parties affect the valuation of the target firms after controlling for various deal and firm characteristics. We studied a sample of 1,952 M&A deals that were completed between 1985 and 2003, of which 289 (15%) resulted in negative returns to the target firms' shareholders. The mean (median) cumulative abnormal returns for losing target firms reached -11.9% (-7.11%), significant at the 1% level, which was not explained by run-up in stock price. The main contribution of the study reported herein is that it shows, among other things, that in contrast to the reported implications of incorporating more ATPs in acquiring firms, the higher the governance index (more ATPs) for target firms, the lower the likelihood of loss. Target firms that have a low G-index are, if necessary, more subject to discipline from the market for corporate control and more likely to be paid a low premium than those that have a high G-index. We also find that a high G-index on the part of the acquirer is more likely to lead to negative returns for the target firm in response to offers of the exchange of shares if target firms do not require larger premiums to compensate them for the excess risk in the acquiring firm. The importance of these results stems from their significant implications for policy makers and target firm shareholders, who are believed to reap most of the benefits in acquisitions.

Our results show that firms that acquire targets that earn negative returns are less efficient than those that acquire targets that earn positive returns. The lower efficiency of the acquirer has a greater negative impact on the target firm's shareholders as the portion of equity in the acquisition price increases. We also find that cash (equity) is used significantly less (more) frequently and that there are fewer hostile acquisitions in the subsample that contains target firms that earn negative returns than that which contains target firms that earn positive returns. We find that most of the deals that resulted in the target firm earning negative returns were completed during the 1990s wave of mergers, during which there was a significant shift from using cash to using equity to settle a merger deal. This pattern is more apparent and much larger for the subsample of target firms that earned negative returns, in which cash is rarely used as a medium of exchange after 1992. We find no evidence of wealth transfer from target firms to acquiring firms that earn negative returns, irrespective of the target firms' gain, which leads us to conclude that inefficient acquirers take over inefficient targets.

In addition, target firms that earn negative returns prior to the acquisition are less efficient and less profitable than target firms that earn positive returns. We also find that target firms that earn negative returns receive a significantly much lower premium than target firms that earn positive returns, 48.8% vs. 73.22%. Other variables that are found to drive the negative returns to the target firm include high relative size and high Market/Book ratio of the target firm. Finally, greater leverage with respect to the market value of assets on the part of the target firm means that there is little room for exploiting financial synergies, which also contributes to negative returns to the target firm.

2 Literature Review and Hypotheses

Previous research on M&As has overlooked the phenomenon of negative returns to target firms. However, it has been pointed out that returns vary as the characteristics of the deal and firms vary. In the following sections, we offer hypotheses to explain negative returns to the target firm, using as a basis the literature on the effects of corporate governance on shareholders' wealth and the determinants of target firms' returns and merger premiums.

2.1 The effect of governance practices on shareholders' wealth

Recent literature on corporate governance documents a negative relation between various indices of ATPs and firm value and stock returns (e.g. Gompers, et al. 2003; Bebchuk and Cohen 2005; and Cremers and Nair 2005). Masulis et al., (2006) and Starks and Wei (2004) examine the bearing that practices of governance may have on the abnormal returns around the announcement of the merger. Masulis et al. (2006) examine the impact of a firm's ATPs on the wealth of the acquiring firms' shareholders and find that when an acquiring firm has more ATPs (a high G-Index); its stock returns in response to its announcement of a merger are significantly lower. As the managers of such acquirers are protected by provisions, they are less likely to be subject to discipline from the market for corporate control and are, more likely to make value destroying acquisitions. In contrast to the above, in an earlier study, Harris (1990) develops a model that shows that adopting anti-takeover measures could enable the shareholders of a target firm to increase their share of any synergistic gains that are expected to result from combining their firm with a bidder. That result, according to Harris (1990), stems from the fact that "adopting such measures enhances the bargaining power of the target's management, who will be a tougher bargainer than the non-managerial shareholders will, owing to his expected loss of his job following the target's acquisition". Still earlier, DeAngelo and Rice (1983) suggest that anti-takeover measures may benefit the shareholders of target firms by enabling them to act in a unified manner during takeover attempts. In a similar vein, Stein (1988) argues that takeover pressure may lead to short-sighted behavior on the part of target firms and, therefore, reducing such pressure via ATPs may be beneficial. Recently, Kadyrzhanova (2006) observed that by transferring decision-making authority to the board of directors, ATPs allow shareholders to commit ex ante to prolonging the takeover process. This commitment induces acquirers to sweeten their initial bid offers, because they fear bidding wars that could destroy firm value. Kadyrzhanova (2006) uses a sample of takeover contests for public target firms from 1976 to 1996 and finds that firms that have ATPs generate higher target premiums than those that do not have ATPs, but only in concentrated industries. Similarly, Clarkson et al., (2004), for Australian firms, finds that the presence of an independent board enhances the initial bid premium offered to shareholders of target firm by, on average, 20.8%, and that the enhanced bid premium is driven by independent boards that are comprised of non-executive directors who have reputation capital at stake.

On the basis of the above, we argue that because target firms that have fewer ATPs present fewer barriers to acquirers, they are, if necessary, more likely to be disciplined by the market for corporate control. These firms are also more likely to be paid a lower premium. Hence, follows our first hypothesis: targets with fewer ATPs have lower stock returns than target firms that have more ATPs.

Moreover, we control for the mechanism of governance of the acquiring firm and examine whether it has any effect on the target firms' returns. Ideally, when target firms are paid in cash they are no longer affected by the practices of governance of the acquiring firm; however, similar to Starks and Wei (2004), we argue that when the merger is conducted with stock, the shareholders of the target firm become subject to the practices of corporate governance of the combined firm. Starks and Wei (2004) hypothesize that if such targets are acquired by firms from countries that have poorer regimes of corporate governance or investor protection, the shareholders of the target firm will require larger premiums as compensation for their increased exposure to risks from the effects of corporate governance[5]. Starks and Wei (2004) find supporting evidence for their hypothesis from US target firms that were acquired by non-US firms. Our sample differs from the one used by Starks and Wei (2004) in that the acquiring firms and target firms are from the same country (USA). Therefore, the practices of governance that may affect the share price of the target firm are the ATPs of the acquiring firm, as in Masulis et al. (2006), and not the practices of governance of the country of incorporation. We agree with Starks and Wei that if the shareholders of target firms are paid with equity, target firms that earn negative returns are more likely to be acquired by firms that have more ATPs (a high G-Index). Extending the argument of Starks and Wei (2004), we develop our second hypothesis : if such target firms do not require larger premiums to compensate them for the lower shareholder rights in the acquiring firms, the prices of their stocks are more likely to drop. It follows that there is a negative relationship between the stock returns of the target firm and the G-Index of the acquiring firm.

2.2 Deal Characteristics

2.2.1 Payment method

Earlier research concludes that takeover deals that are settled in cash result in higher abnormal returns to the shareholders of target firms than do offers of the exchange of equity (Huang and Walkling 1987; Franks et al. 1991, among others). Two explanations for these observed differences in abnormal returns

[5] Starks and Wei (2004) use two measures for the premium: one is the target firm abnormal returns at the announcement of the merger in the (-5,+5) window; the other is the difference between the takeover price and the target share price before the merger is announced.

have been proposed, one of which appeals to concerns about tax (Huang and Walkling 1987) and the other of which appeals to asymmetric information (Myers and Majluf, 1984). Huang and Walkling (1987) argue that shareholders of target firms have different tax liabilities with respect to offers of cash and stock, in that they are taxed immediately for capital gains in cash mergers, but the taxes are deferred in stock exchange deals. On the other hand, if the managers of the acquiring firm believe that their firm's shares are undervalued, the acquiring firm may offer cash in order to avoid issuing undervalued equity (Travlos 1987; Brown and Ryngaert 1991). Myers and Majluf (1984) argue that the method of financing an investment signals information. They claim that when a firm sells shares to finance a new project, it signals that managers judge the firm's shares to be overvalued. Consequently, equity-financed acquisitions result in the price of the acquirer's shares being lower, which might hurt the shareholders of the target firm if they accept bidder stock as a method of payment. Consequently, we hypothesize that M&A deals that result in negative returns to the target firm tend to be settled with equity (Hypothesis 3). It is also more likely that equity will be used to settle an M&A deal if the stock of the acquirer is believed to be overvalued (Hypothesis 4).

2.2.2 Merger premium

The premium paid by the acquiring firm represents the value received by the shareholders of the target firm in excess of the market value of the firm's equity prior to the announcement of the merger; therefore, the higher the premium, the higher the target firms' abnormal return. We argue that target firms that earn negative abnormal returns are more likely to be paid a lower premium than those that earn positive returns (Hypothesis 5).

2.2.3 Deal attitude

Hostile takeover deals are usually associated with a high premium paid by the acquiring firm to guarantee the success of the offer, which is expected to result in higher returns to the shareholders of the target firm (see, for example, Baradwaj et al. 1990). Therefore, our sixth hypothesis is that takeover deals that result in negative returns to the target firm are less likely to be hostile.

2.3 Target Firm Characteristics

The pre-merger performance of the target firm could be a determinant of the merger premium and thus drive the share price when the merger is announced. Earlier research examined the relationship between the profitability of the target firm and the premium or abnormal return in the banking industry. The evidence reported by researchers is mixed. Palia (1993) and Beatty et al. (1987) find a positive relation between the target firm's profitability and the bid premium, whereas others do not find any significant association (e.g. Cheng et al. 1989; Houston and Ryngaert 1994). Weston et al. (2001) argue that the 'Inefficient management' theory implies that the acquiring company's management thinks it can maximize value by managing the assets of the target more efficiently than the present inefficient management. It follows that if the target firm is believed to be less efficient than its counterpart, it is less likely to attract a high premium; in turn, its share price will react less favorably to the announcement of the merger. Hence, we hypothesize that target firms that earn negative returns around the merger are more likely to be less efficient than target firms that earn positive returns (Hypothesis 7).

Studies that tested the association between valuation variables (P/E ratio and Market/Book) and the stock return have generally concluded that firms that have low ratios (value firms) outperform those that have high ratios (glamour firms) (e.g. Fama and French 1992; Lakonishok et al. 1994; Dong et al. 2006). Moreover, Rau and Vermaelen (1998) argue that acquiring firms that have a high market rating (glamour acquirers) may act out of over-confidence or hubris when making acquisitions. The stocks of glamour acquiring firms later suffer from a significant decline as a result of the correction in value imposed by the market over time. Hence, another explanation for negative returns to the target firm is that such target firms could have had higher P/E or Market/Book ratios than target firms that earn positive returns around the acquisition (Hypothesis 8).

The size of the target firm relative to that of the acquiring firm has been shown to influence the returns of both parties (e.g. Asquith et al. 1983; Scanlon et al. 1989; Fuller et al., 2002; Moeller et al., 2004, among others). A negative association is documented between the target firm's abnormal returns and the size of the target firm relative to that of the acquiring firm. Consequently, we hypothesize that target firms that earn negative returns are more likely to be larger than their acquirers, while target firms that earn positive returns are more likely to be smaller (Hypothesis 9).

2.4 Data and Methodology

We constructed the sample for the present study by searching the Thomson Financial SDC Database for all the M&A deals announced by US acquirers between January 1, 1985 and December 31, 2003. The sample comprised deals in which the acquiring and target firms were both listed publicly on the US stock market. We excluded all financial institutions. Our criteria for inclusion were as follows: (i) the deals had to have a disclosed dollar value of at least $1 million; (ii) the deal had to result in a transfer of control such that the acquirer's ownership increased to greater than

50% as a result of the acquisition; (iii) Data on the share prices of the acquiring and target firms had to be available on the Centre for Research in Security Prices (CRSP) database; and (iv) accounting data for the acquiring and target firms had to be available on Compustat files. Our final sample consisted of 1,952 acquisitions of US firms. As in Masulis et al. (2006), our measure of the acquiring and target firms' practices of governance was the number of ATPs (the G-Index) as developed by Gompers et al. (2003).

Table 1 contains summary sample statistics sorted by the year in which the acquisition was announced. Acquirer size and target size indicate the market value of equity of the acquiring and target firms, respectively, where size is taken as the price per share two months prior to the date on which the acquisition was announced multiplied by the number of common stocks outstanding as reported in the CRSP database. The deal value is the value of the consideration paid to the target firm as reported in the SDC. The total dollar value of all the deals in the sample is just above $2.4 trillion. The mean deal value in our sample is nearly $1,244 million. This value reached record levels in 1998, 1999 and 2000 ($2,247, $2,101, and $3,521 million, respectively). The table also shows that the average size of the acquiring and target firms is $9,771 and $769 million, respectively. These values are comparable to those reported in other studies on M&As for public deals (see, for example, Fuller et. al. 2002; Ang and Cheng 2006; Dong et al. 2006).

Table 1. Sample Statistics

The table presents summary statistics for the whole sample by the year in which the acquisition was announced. The sample comprises the acquisitions completed by US public acquirers between January 1985 and December 2003, as reported by the SDC, excluding all deals that involve financial institutions, and where the deal value is at least $ 1 million and the acquirer gains control of a public target firm. Deal Value is the value of the consideration paid as reported in the SDC; size is taken to the mean market value of equity two months prior to the announcement of the acquisition. Dollar amounts are in millions.

		Deal Value ($M)		Acquirer Size ($M)		Target Size ($M)	
Year	Number of Deals	Mean	Median	Mean	Median	Mean	Median
1985	68	690	240	2,263	683	475	198
1986	67	365	105	1,611	820	230	53
1987	67	343	129	3,012	798	215	86
1988	75	244	71	2,899	708	100	43
1989	60	935	105	2,866	402	602	67
1990	49	253	44	2,572	263	187	31
1991	46	236	78	2,268	742	93	57
1992	35	231	138	1,124	804	165	83
1993	57	919	117	3,818	660	536	78
1994	95	615	136	2,764	770	432	80
1995	129	616	160	3,361	677	415	99
1996	141	984	201	5,510	1,550	699	131
1997	190	609	292	6,668	994	389	171
1998	223	2,247	214	10,004	1,921	1,523	124
1999	214	2,102	405	25,247	2,761	1,275	219
2000	156	3,521	468	22,361	3,691	1,657	304
2001	136	1,120	177	15,639	1,850	767	81
2002	78	1,219	135	14,561	1,169	1,006	81
2003	66	537	142	8,905	958	343	93
All	**1,952**	**1,244**	**186**	**9,771**	**1,169**	**769**	**111**

3.1 Target Shareholders Gain from Acquisitions

We used a standard event study methodology to estimate abnormal returns, as in (Brown and Warner 1985), in order to evaluate the earnings to the shareholders of target firms.

Table 2. Cumulative Abnormal Returns for Target Firms

The table presents cumulative abnormal returns for all target firms for deals completed by US public acquirers between January, 1985 and December, 2003 as reported by the SDC, excluding all deals that involve financial institutions, and where the deal value is at least $ 1 million and the acquirer gains control of a public target firm. CAR (-2, +2) is the five-day cumulative abnormal returns estimated using the market model. The statistical significance of the returns is tested using the Patell (1976) test corrected for time-series and cross-sectional variation of abnormal returns. The mean difference tests between target firms that earn positive and negative returns were based on the t-tests for equality in means, assuming unequal variances. The Cochrane-Cox method was used to approximate the t-statistic. The median difference tests were conducted using the Wilcoxon test. Targets are classified as winning (losing) if the cumulative abnormal return CAR (-2, +2) is positive (negative).

	All	Winning	Losing	Difference (2) - (3)
	(1)	(2)	(3)	
Mean CAR (-2, +2)	19.10%***	24.49%***	-11.90%***	36.39%***
Median CAR (-2, +2)	17.27%[a]	21.00%[a]	-7.11%[a]	28.12%[a]
Number of Deals	1,952	1,663	289	

***, **, * denotes significance at the 1%, 5% and 10% level respectively for the mean difference t-test
a, b, c denotes significance at the 1%, 5% and 10% level respectively for the Wilcoxon test for the difference in median

We calculated abnormal returns over a five-day window (-2, +2)[6] using the market model. The model's parameters were estimated over the (-210,-21) interval using the CRSP value-weighted index returns as the benchmark. The statistical significance of the returns were tested in a manner similar to that used by Moeller *et al.* (2004), using the Patell (1976) test corrected for time-series and cross-sectional variation of abnormal returns[7].

4 Results

Table 2 shows that the shareholders of the target firms earned a mean (median) cumulative abnormal return (CAR) of 19.1% (17.27%), significant at the 1% level, in the 5-day window around the announcement of the merger. Columns 2 and 3 of the table contain the results for winning and losing targets, respectively. Two hundred and eighty-nine target firms, which comprise 15% of the whole sample, earned negative returns, while the shareholders of the remaining 1,663 firms (85%) earned positive returns. The mean (median) CAR for target firms that earned positive and negative returns reached 24.49% (21%) and -11.9% (-7.11%), respectively. All these returns and the difference in mean (median) are significant at the 1% level. It might be argued that these target firms may have experienced a significant increase in their stock price prior to the announcement of the merger and so a slight decline in price when the merger is announced might not really make them losers. We examined this possibility and estimated the run-up in share price for losing targets for the (-199,-3) and (-140,-3) windows and found that the returns (-3.94% and 0.18%, respectively) were not significantly different from zero.

4.1 Could deal and target firm characteristics explain the loss to target firms?

Table 3 presents characteristics of the target firm and the deal for the whole sample and for the subsamples that contained target firms that earned positive and negative returns. Variables for accounting and valuation were taken at the end of the fiscal year prior to the acquisition. The results for the practices of governance of the target firms lend strong support to our hypotheses. Target firms that earn negative returns have a significantly lower G-Index than target firms that earn positive returns. This result could be explained by the possibility that target firms with fewer ATPs (barriers for bidders), are, if need be, more likely to be disciplined by the market for corporate control, and are also more likely to be paid lower premiums. It also supports earlier research that suggested that ATPs could benefit the shareholders of target firms by enabling them to increase their share of any gains that accrue due to synergy (Harris 1990), or to attract a larger premium (Clarkson *et al.* 2004; and Kadyrzhanova 2006).

[6] Fuller et al. (2002) uses a 5-day window after checking the accuracy of the SDC announcement date. They find that for about 92.6% of a random sample of 500 acquisitions, the date was accurate and for the remaining deals it was off by two days at most. However, we conducted the tests using other windows, and the results were robust. Results and tables are available upon request.

[7] We also estimated the abnormal return by subtracting the value-weighted market return from the firm's return using the following model: $AR_i = r_i - r_m$
where r_i is the firms' return and r_m is the value-weighted market return. This model yielded the same conclusions; hence, we report only the results of the market model.

Table 3. Deal and Pre-merger Target Characteristics Sorted by Target Gain

The table presents characteristics of deals and target firms for the whole sample and for target firms that earn positive and negative returns. Deal value is the value of the consideration paid as reported in the SDC. Relative size is the deal value divided by the acquirer's market value of equity two months prior to the announcement of the acquisition. Hostile is the percentage of hostile deals as reported in the SDC. The method of payment variables represent the percentage of deals that were settled with pure cash, pure equity, or mixed. Industry relatedness is the percentage of deals from related industries, where deals are classified as being from related industries if the target and acquiring firms share the same two-digit SIC code as reported by the SDC. Toehold is the percentage of deals with toehold presence, where having a toehold requires at least 5% ownership in the target firm prior to the announcement of the acquisition. The premium paid is computed as the deal value, as reported by the SDC, divided by the market value of equity for the target firm two months prior to the date on which the deal was announced. The premium is reported as a truncated value that takes values between 0 and 2, as in (Moeller *et al.*, 2004) and (Officer, 2003). The Market/Book ratio is the market value of equity to book value of equity; $Assets_{(Book)}$ is the total book value of assets; $Assets_{(Market)}$ is the market value of assets, calculated as the total book value of assets minus the book value of equity plus the market value of equity. Debt is the total book value of assets minus the book value of equity. OCF is the operating cash flow, which is sales minus cost of goods sold, selling and general administrative expenses, and working capital change. ROE is Net Income divided by Total Shareholders' Equity. Cash is cash and marketable securities. Tobin's Q is the ratio of the market value of assets to the book value of assets. Target characteristics are taken at the end of the fiscal year prior to the acquisition. Dollar amounts are in millions. Median values are in brackets.

Panel A: *Target Characteristics*	**All (1)**	**Winning (2)**	**Losing (3)**	**P-Value Difference (2) – (3)**
G-Index	8.94 [9.00]	8.99 [9.00]	8.60 [8.00]	0.0475 0.0267
$Assets_{Book}$	687 [110]	668 [113]	793 [93]	0.5591 0.0203
$Assets_{MV}$	1,202 [182]	1,147 [184]	1,520 [177]	0.3665 0.4085
Debt to $Assets_{Book}$	0.4897 [0.4805]	0.4861 [0.4806]	0.5105 [0.4804]	0.2084 0.4519
Debt to $Assets_{MV}$	0.3518 [0.3270]	0.3545 [0.3287]	0.3359 [0.3116]	0.2275 0.1212
OCF to $Assets_{MV}$	0.0347 [0.0722]	0.0383 [0.0750]	0.0136 [0.0494]	0.0232 0.0000
Cash to $Assets_{Book}$	0.1933 [0.0914]	0.1918 [0.0905]	0.2020 [0.0974]	0.4815 0.3960
ROE	0.0868 [0.0748]	0.1743 [0.0791]	-0.4162 [0.0161]	0.0161 0.0001
Tobins' Q	2.07/1.98 [1.43]	2.01 [1.41]	2.41 [1.58]	0.0082 0.0017
Market to Book	3.82 [1.96]	3.91 [1.93]	3.11 [2.19]	0.4690 0.1210

Table 3. Panel B: Deal Characteristics

Deal Characteristics				
Deal Value	1,244	1,238	1,280	0.8909
	[186]	[193]	[140]	0.0071
Relative size	0.5101	0.5038	0.5466	0.4538
	[0.2113]	[0.1994]	[0.2825]	0.0170
Premium	0.7032	0.7322	0.4880	0.0001
	[0.6152]	[0.6425]	[0.3671]	0.0000
Hostile	0.0272	0.0307	0.0069	0.0003
Cash Payment	0.3417	0.3710	0.1730	0.0001
Shares Payment	0.4022	0.3758	0.5536	0.0001
Mixed Payment	0.2561	0.2532	0.2734	0.4766
Industry Relatedness	0.6230	0.6218	0.6298	0.7957
Toehold	0.0425	0.0409	0.0519	0.4303

The table also shows that the $OCF/Assets_{(Market)}$ ratio and the ROE (Return on Equity)[8] for the target firms that earned negative returns were significantly lower than those for the those that earned positive returns: 1.36% vs. 3.38% and -41.62% vs. 17.43%, respectively. The differences in the values for the two types of target firms imply that the target firms that earned negative returns were less efficient and less profitable than those that earned positive returns, which could explain why they earned negative returns. Given that the operating performance of target firms that earn negative returns is relatively poor, such target firms could be willing to sell out under relatively unfavorable terms. Hence, the management of such target firms is unlikely to be able to negotiate high premiums for their shareholders. The premium paid for public firms was computed as the deal value, as reported by the SDC, divided by the market value of equity for the target firm two months prior to the date on which the deal was announced. Because the calculation of the premium yields troubling outliers, we followed a procedure similar to that followed by Moeller *et al.* (2004) and Officer (2003), truncating it to take values between 0 and 2. We found that the target firms in the sample that earned negative returns received a much lower premium than those that earned positive returns, 48.8% vs. 73.22%, and that the difference is highly significant at the 1% level. We also estimated Tobin's *q* as the market value of the firm's assets divided by the book value. This ratio may be used as a proxy for a firm's future investment opportunities. The target firms that earned negative returns had a significantly higher ratio than those that earned positive returns (2.41 vs. 2.01, respectively), which probably does not explain their negative returns. In terms of valuation, the both types of target firms had a similar Market to Book ratio. It is also evident that there is no difference between the leverage (book and market), industry relatedness, and the cash holding, of the two types of target firms[9].

Earlier research shows that when an M&A deal that involves public firms is settled in cash, the returns to the acquiring firms and target firms are higher (e.g. Travlos 1987; Moeller *et al.* 2004). Panel B of Table 3 reveals that cash (equity) is used significantly less (more) frequently in the subsample of target firms that earned negative returns. In addition, the literature on M&As documents higher returns for target firms in hostile acquisitions than in friendly deals, a phenomenon that is explained by the fact that hostile acquisitions are accompanied by a higher premium (see e.g. Croci, 2005 for unsuccessful acquisitions). Although the portion of hostile takeovers, as defined by the SDC, is small, Table 3 indicates that there are significantly more hostile deals in the subsample of target firms that earned positive returns than in the

[8] The $OCF/Assets_{(Market)}$ ratio was calculated as in Moeller et al. (2004) as (a) sales minus (i) the cost of goods sold, (ii) selling and general administrative expenses, and (iii) change in working capital, divided by (b) the market value of assets. The ROE (Return on Equity) is Net Income divided by Total Shareholders' Equity.

[9] A merger deal between two firms is classified as being from a related industry if the target and acquirer share the same two-digit SIC (Standard Industrial Classification) code

subsample of target firms that earned negative returns (0.037 vs. 0.0069). Finally, the dollar value of the deal and the relative size of the target firm to the acquiring firm, for both types of target firms, are not significantly different from one another.

Table 4. Pre-merger Acquirer Characteristics Sorted by Target Gain

The table presents characteristics of the acquiring firm sorted by target firms' gain. The Market/Book ratio is the market value of equity to the book value of equity. $Assets_{(Book)}$ is the total book value of assets. $Assets_{(Market)}$ is the market value of assets, calculated as the total book value of assets minus the book value of equity plus the market value of equity. Debt is the total book value of assets minus the book value of equity. OCF is the operating cash flow, which is sales minus cost of goods sold, selling and general administrative expenses, and working capital change. ROE is Net Income divided by Total Shareholders' Equity. Cash is cash and marketable securities. Tobin's Q is the ratio of the market value of assets to the book value of assets. The characteristics of the acquiring firm were taken at the end of the fiscal year prior to the acquisition. Dollar amounts are in millions. Median values are in brackets.

	All	**Winning**	**Losing**	**P-Value Difference**
	(1)	**(2)**	**(3)**	**(2) - (3)**
G-Index	9.19	9.13	9.65	0.0004
	[9.00]	[9.00]	[10.00]	0.0000
$Assets_{Book}$	4,880	5,211	2,958	0.0003
	[871]	[959]	[476]	0.0000
$Assets_{MV}$	12,137	12,963	7,285	0.0004
	[1,779]	[1,934]	[992]	0.0001
Debt to $Assets_{Book}$	0.5000	0.5011	0.4935	0.6193
	[0.5162]	[0.5140]	[0.5412]	0.8659
Debt to $Assets_{MV}$	0.3009	0.3027	0.2905	0.3717
	[0.2712]	[0.2748]	[0.2595]	0.2458
OCF to $Assets_{MV}$	0.0625	0.0654	0.0453	0.0043
	[0.0746]	[0.0769]	[0.0625]	0.0000
Cash to $Assets_{Book}$	0.1694	0.1653	0.1933	0.0525
	[0.0798]	[0.0773]	[0.1010]	0.2139
ROE	-0.0464	0.0378	-0.5396	0.0611
	[0.1539]	[0.1597]	[0.1176]	0.0001
Tobins' Q	2.6508	2.6409	2.7089	0.7420
	[1.8055]	[1.7954]	[1.8877]	0.4691
Market to Book	4.11	4.02	4.733	0.1114
	[2.83]	[2.81]	[3.13]	0.1844

4.2 Could characteristics of the acquiring firms explain the loss to target firms?

We also examine whether the characteristics of the acquiring firms varied across the sample. Table 4 shows the results. It may be seen that the acquirers of target firms that earn negative returns are significantly smaller than those of target firms that earn positive returns. This phenomenon could indicate that when acquiring a target firm that earns negative returns, the acquiring firm faces greater challenges during the integration process with the target firm, which results in there being fewer benefits from the merger. The table also shows significantly lower OCF and ROE ratios for the acquirers of target firms that earn negative returns than for the acquirers of target firms that earn positive returns (0.0453 and -0.5396 vs. 0.0654 and 0.0378, respectively). This indicates that such acquirers are less efficient than the acquirers of target firms that earn positive returns. In addition,

acquirers of target firms that earn negative returns have higher Cash to Asset ratios, 0.1933 vs. 0.1653 (difference is significant at 10%). This is in agreement with an earlier result to the effect that firms with excess cash are more likely to make value destroying acquisitions (Harford 1999). According to Jensen (1986), agency costs associated with conflicts between managers and shareholders could drive managers to spend excess cash on acquisitions instead of distributing it to shareholders. In addition, there is a strong chance that the management of acquiring firms that have excess cash have too much power (high G-index) and therefore are less subject to discipline from the market for corporate control, which explains why they make bad acquisitions (Masulis et al. 2006). This argument is supported by the result that the mean (median) acquirer G-index in the subsample of target firms that earned negative returns is significantly higher than in that in the subsample of target firms that earned positive returns.

4.3 Controlling for the time period and the change in the method of payment

The sample spans a long period of time (1985 to 2003) during which two waves of mergers occurred, one in the 1980s and the other in the 1990s. Weston et al., (2001) note that the second wave of mergers had begun to get under way by 1992. Unlike the 1980s merger movement, with the advent of globalization and enhanced levels of competition and technological change, the M&A activity and deal size during the 1990s merger wave reached unprecedented levels[10]. The 1990s was also characterized by rising stock prices and therefore, Price to Earnings ratios. This made stock-for-stock transactions very popular, especially in large deals that were settled at very generous premiums[11]. Given the differences between the two waves of mergers, in this section we divide the sample into two time periods, Period 1 (before 1992) and Period 2 (in and after 1992, the 1990s merger wave). We examine whether there are any changes between the two periods in the pattern of the premium and method used to settle a merger transaction and whether these factors can partially explain target firms' negative returns. Examining Table 5 allows us to draw several conclusions. During Period 1, cash (equity) is used in 50.23% (24.31%) of the cases to settle a merger transaction, while during Period 2, these portions are reversed; cash (equity) is used significantly less (more) frequently 29.61% (44.74%). The changes in the percentages between the two periods are highly significant at the 1% level for the two methods of payment. These changes in the pattern of the method of settlement also occur for the two sub-samples (target firms that earned positive, and target firms that earned negative returns). That is, for target firms that earn positive returns, 52.70% (24.05%) of the M&A deals in Period 1 are settled with cash (equity); but these values change significantly, to 32.64% (41.45%), respectively in Period 2. In contrast, in the sub-sample of target firms that earn negative returns, cash (equity) is used in 35.48% (25.81%) of the cases in Period 1; whereas in Period 2, the portions change significantly to 12.33% (63.44%), respectively. In sum, the shift from using cash to using equity to settle a merger deal is more apparent and much larger for the subsample of target firms that earned negative returns. Moreover, if we compare the two subsamples within the same time period, we find that in Period 1, cash is used less frequently in the subsample of target firms that earn negative returns than in the other subsample (35.48% vs. 52.70%, and the difference is significant with a *P*-value of 0.0118). However, equity is used in 25.81% and 24.05% of the deals in the subsamples of target firms that earn negative and positive returns, respectively, but the difference is not statistically significant. In Period 2, there is a drastic change in the medium of exchange: in the subsample of target firms that earned negative returns, cash is used only in 12.33% of the transactions, which is significantly less than the 32.64% of deals in the subsample of firms that earned positive returns. Moreover, unlike Period 1, in Period 2 equity is used much more frequently in the subsample of target firms that earn negative returns than in the other subsample (63.44% vs. 41.45%) and the difference is highly significant.

[10] World takeover activity peaked at $3.4 trillion in 1999 and in 2000 (see Weston et al, 2001, and Thomson Financial Securities Data).Vodafone Group PLC paid a record high $202 billion to acquire Mannesmann in 1999 and AOL paid $165 billion worth of stocks to merge with Time Warner in 2000.

[11] A very good example is the AOL-Time Warner merger, which was settled for a premium in excess of 70%.

Table 5. Analysis of Payment Method, Premium, Gain, and Acquirer Valuation across Time

The table presents the results of the analysis over two time periods, before and after 1992. Acquirer CAR and Target CAR are the cumulative abnormal returns in the (-2, +2) window estimated using the market model. The statistical significance of the returns was tested using the Patell (1976) test corrected for time-series and cross-sectional variation of abnormal returns. The mean difference tests between winning (with positive abnormal returns) and losing (with negative abnormal returns) targets were based on the t-tests for equality in means assuming unequal variances. The Cochrane-Cox method was used to approximate the t-statistic. The target CARs are also reported according to the method of payment. PE is the price earnings ratio as at the end of the fiscal year prior to the year of acquisition.

	All (1)	**Winning (2)**	**Losing (3)**	**P-Value Difference (2) - (3)**
Before 1992				
Number of Observations	432	370	62	
% paid with Cash	0.5023	0.5270	0.3548	0.0118
% paid with Equity	0.2431	0.2405	0.2581	0.7722
Premium Paid	0.6625	0.6887	0.4280	0.0007
Acquirer PE	30.75	27.88	52.22	0.3879
Acquirer M/B	2.43	2.42	2.50	0.7650
Acquirer CAR	-0..42%***	-0.21%**	-1.66%**	0.1815
Target CAR (All)	18.03%***	22.33%***	-7.62%***	0.0001
Target CAR, Cash	20.73%***	23.79%***	-6.39%***	0.0001
Target CAR, Mixed	12.91%***	18.86%***	-8.43%***	0.0001
Target CAR, Shares	17.80%***	22.46%***	-8.11%***	0.0001
After 1992				
Number of Observations	1,520	1,293	227	
% paid with Cash	0.2961	0.3264	0.1233	0.0001
% paid with Equity	0.4474	0.4145	0.6344	0.0001
Premium Paid	0.7145	0.7445	0.5015	0.0001
Acquirer PE	56.46	51.41	91.56	0.2076
Acquirer M/B	4.62	4.51	5.37	0.1250
Acquirer CAR	-1.94%***	-1.10%***	-6.70%***	0.0001
Target CAR (All)	19.40%***	25.11%***	-13.07%***	0.0001
Target CAR, Cash	28.49%***	31.69%***	-19.73%***	0.0001
Target CAR, Mixed	16.54%***	21.33%***	-12.61%***	0.0001
Target CAR, Shares	15.03%***	22.28%***	-11.95%***	0.0001
P-Value Difference After-Before				
% paid with Cash	0.0001	0.0001	0.0007	
% paid with Equity	0.0001	0.0001	0.0001	
Premium Paid	0.0511	0.0463	0.3292	
Acquirer PE	0.0072	0.0110	0.3433	
Acquirer M/B	0.0001	0.0001	0.0001	
Acquirer CAR	0.0233	0.2374	0.0001	
Target CAR (All)	0.2213	0.0088	0.0033	
Target CAR, Cash	0.0001	0.0001	0.0284	
Target CAR, Mixed	0.0807	0.1839	0.4036	
Target CAR, Shares	0.2004	0.9318	0.0616	

***, **, * Denotes significance at the 1%, 5% and 10% level respectively for the mean difference t-test

As for the premium paid, Table 5 reveals that target firms generally receive a higher premium in Period 2 than in Period 1 (71.45% vs. 66.25%; the difference is significant at the 10% level). Although both types of target firms enjoyed an increase in the merger premium, the increase from 42.80% to 50.15% in the premium that is paid to target firms that earn negative returns did not differ significantly from zero. In addition, similarly to the results presented in Table 3, in both periods, target firms that earn negative

returns receives a significantly lower premium than those that earn positive returns (*P*-values <0.001 in both periods).

When examining the target firms' gains, we notice that overall, there was no significant change in the target firms' CAR from Period 2 to Period 1. However, cash deals and mixed offers experience a significant increase in CARs (20.73% to 28.49% and 12.91% to 16.54%, respectively). On the other hand, target firms that earn positive (negative) returns significantly gained (lost) more in Period 2 (25.11% vs.22.33% and -13.07% vs. -7.62%, respectively) leading to a wider gap in CARs between the two subsamples.

After controlling for the method of payment, it appears that the increase in gain for the subsample of target firms that earn positive returns is driven mainly by the higher CARs for cash deals in Period 2 (31.69% vs. 23.79%). Nevertheless, the added loss for the subsample of target firms that earn negative returns in Period 2 is caused primarily by the significantly lower returns for equity exchange offers and cash deals (-11.95% vs. -8.11% and -19.73% vs.-6.39%, respectively). However, a closer study of the sample reveals that three outliers drive the large losses in cash acquisitions in Period 2, which, when removed, render the CAR not significantly lower than in Period 1.

Table 5 contains data that shows whether there is a transfer of wealth from target firms to acquiring firms. We find that, for the whole sample in Period 1, acquiring firms lose 0.42%; but in Period 2 they lost 1.94% (both CARs are significant at the 1% level). In addition, acquirers lose irrespective of the target firms' gain or loss; though acquirers of target firms that earn negative returns lose significantly more wealth than those of target firms that earn positive returns only in Period 2 (-6.70% vs. -1.1%). Moreover, it is worth noting that acquirers of target firms that earn negative returns lost significantly more in Period 2 than in Period 1. Thus, we conclude that there is no transfer of wealth from target firms to acquirers and that acquiring firms that are inefficient also take over target firms that are inefficient.

Finally, in the knowledge that using overvalued equity by acquirers is very common in the 1990s, we can argue that the larger losses for target firms that earn negative returns and their acquirers in Period 2 may be driven by the equity payment. In order to examine the overvaluation hypothesis, we calculate the PE ratio and the market to book ratio for the acquiring firms. We find that for the overall sample and the two subsamples, both ratios increase significantly during Period 2 over Period 1.

4.4 Predicting Target Firms' Loss

We run a logistic regression in order to search for the factors that predict the negative return earned by target firms. The dependent variable is a dummy that takes the value 1 if the target CAR is negative and 0 otherwise. The independent variables include dummies that take the value 1 if (i) the deal is hostile, (ii) the deal is between firms operating in related industries, or (iii) if the acquirer had at least 5% ownership in the target firm, and zero otherwise. We use two dummy variables to control for the three different methods of settlement: cash, equity, and mixed (which is taken to include all other situations). One dummy is used for equity exchange offers and the other for mixed deals. The model includes such variables for the characteristics of deals and target firms as are shown in Table 3: the merger premium, the relative size, $\text{Debt/Assets}_{(\text{Market})}$, $\text{OCF/Assets}_{(\text{Market})}$, Market/Book, and ROE. In order to test whether the merging parties' mechanisms of governance drive the negative target return, we use the G-Index of each firm as developed by Gompers *et al.* (2003).

The results of the logistic regressions are presented in Table 6. They reveal that, consistent with our univariate analysis and hypothesis, the G-index of the target firm is related significantly and negatively to the likelihood of loss. This result implies that the lower the index, the higher the likelihood of loss for the target firm. Our evidence means that if target firms that have a low G-Index (fewer ATPs) are inefficient, they are more likely to be disciplined (and quickly) by the market for corporate control. Such targets are also more likely to be paid a low premium than target firms that have a high G-Index (more ATPs). We also contend that the management of target firms that earn negative returns will not have a strong negotiating position when setting the terms of the deal (mainly the premium and method of payment), due to their inefficiency and low profitability. We also examine the effect of the acquirer's governance on the target firms' returns. Although we did not find the acquirer's G-Index to be significant in model 5, in section 2 we hypothesized that the relationship between the stock return of the target firm and the G-Index of the acquiring firm would be negative for share exchange offers if target firms did not require larger premiums to compensate them for the excess risk in the acquiring firm. In order to test this hypothesis, we use an interaction variable for the acquirer's G-Index and the shares payment dummy. We find the coefficient of this variable is significantly positive in models 6 and 7, which supports our hypothesis.

Table 6. Logistic Regression for the Factors Predicting the Negative Returns of Target Firms

The table presents logistic regressions that predict the likelihood of target firms' loss for non-financial deals completed by US acquirers between January, 1985 and December, 2003 as reported by the SDC, where the deal value is at least $ 1 million and the acquiring firm gains control of the target firm. The dependent variable is a dummy that takes the value of 1 if the target CAR is negative, 0 otherwise. The independent variables include dummies for the deal attitude, industry relatedness, equity exchange offers, mixed payment deals, and for the toehold presence in the target firm that take the value 1 if the deal is hostile, the deal is between firms that share the same two-digit SIC code, the method of payment is pure equity, mixed, and the acquirer owns at least 5% of the target firm's shares prior to the acquisition announcement, respectively. Other independent variables include the relative size of the target firm to the acquiring firm, the merger premium, the Debt/Assets$_{(Market)}$, OCF/Assets$_{(Market)}$, Market/Book, ROE, and G-Index of the target firm. We also include the Market/Book and the Gindex of the acquirer and we allow them to interact with the share payment dummy. The G-Index is based on the anti-takeover provisions (ATPs) as per (Gompers *et al.,* 2003).

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Intercept	-2.7220***	-1.682***	-2.9875**	-1.244	-3.3279***	-3.3571***	-2.6082**
Tar.Gindex			-0.1847**	-0.1623**			-0.1792**
Acq.Gindex					0.0567		
Acq.Gindex*Shares						0.1136***	0.1945***
Shares	1.0156***		2.6090**				
Mixed	1.1410***	0.6099***	2.6447**	0.8681*	0.9517***	1.533***	2.2966***
Acq. (M/B)*Shares		0.0703***		0.069**	0.1191***	0.0724*	0.0413
Relative size	0.0282	0.0593	0.6871***	0.5333**	0.4772*	0.4377*	0.7594**
Premium	-1.7438***	-1.8129***	-1.1580**	-1.6404***	-1.3093***	-1.2285***	-1.1522**
Hostile	-0.5780	-0.9846	0.8702	0.6186	-0.2938	-0.2459	0.3769
Industry Relatedness	0.2339	0.1507	0.6466	0.57	-0.0269	-0.093	0.5043
Toehold	-0.2236	0.1016	0.9017	0.4282	0.4488	0.5372	0.7202
Tar. (Debt/Assets $_{Market}$)	1.6440***	0.9259**	-0.00615	0.4418	1.7977***	1.8708***	0.2648
Tar. (OCF/Assets $_{Market}$)	-1.8263***	-0.7767**	-2.2210	-0.7346	-0.9836	-1.2265	-1.8423
Tar. (Market/Book)	0.1102*		-0.0165				
Tar. (ROE)	-0.0272	-0.0253	-0.2237	-0.2078	-0.073*	-0.0875**	-0.2182
Max-rescaled R-Square	0.1389	0.1201	0.2259	0.1771	0.1182	0.1373	0.2022
Number of observations	1448	1517	357	364	769	769	310
Obs.=1	162	175	35	35	67	67	29
Obs.=0	1286	1342	322	329	702	702	281

***, **, * Denote significance at the 1%, 5% and 10% levels respectively

The analysis also shows that the greater the relative size of the target firm, the greater its likelihood of loss, because the coefficient of the relative size is significant in most of the models. The significant positive coefficients of the payment method dummies (Shares and Mixed) imply that equity exchange offers and mixed payment deals are more likely to lead to negative gains to the target firm than are cash acquisitions. This is consistent with previous studies on M&As those document lower gains for the target firm for deals that are settled with equity than those settled with cash (e.g. Travlos, 1987). The coefficient of the variable for the target firm's leverage (Debt/Assets$_{(Market)}$) is also positive and significant in models 1, 2, 5, and 6. This implies that higher leverage leads to negative gains for the target firm, because this may signify that the firm has reached its maximum debt capacity and that therefore, there is little room for the acquirer to exploit financial synergies, which will result in the deal being settled with a lower premium. The coefficient of the premium variable is significantly negative across all models, which, once again, is consistent with the earlier univariate analysis and indicates that lower premiums are associated with negative returns to the target firm. We also use an interaction variable for the acquirer's Market/Book ratio and the shares payment dummy in order to test whether stock exchange offers drive the negative returns to the target firm, especially if the acquirer is using overvalued equity to settle the merger deal. We find the variable's coefficient to be significant in all models except model 7.

Other variables that are found to predict the negative returns to the target firms include the ROE and the OCF/Assets of the target firm. The former is significantly negative in models 5 and 6 and the latter is in models 1 and 2. The negative coefficients of these variables are consistent with the earlier univariate analysis and imply that inefficient targets are more likely to earn low returns because they are expected to receive lower premiums.

4.5 Determinants of target firms' returns

We run cross-sectional regressions for the determinants of the returns to the target firms. Using the same variables that we used in our logit models above, we find the results to be highly consistent with the logit regressions. Most important is the positive coefficient of the G-Index of the target firm, which leads us to conclude that target firms that have a higher G-Index (more ATPs) are associated with higher returns because such target firms present barriers to bidders and so in order to acquire them, bidders need to pay high premiums to induce the shareholders of the target firm to tender their shares and the management of the target firm to endorse the deal. This leads to higher stock returns. As for the acquirer governance variables, similar to the logit models, only the coefficient of Acq.G-Index*Shares is found to be associated negatively with the returns to the target firms, which signifies that when shareholders of target firms are offered shares in acquiring firms that have a high G-Index, their shares are more likely to fall in price if they do not require a high premium to compensate them for the excess risk in the acquiring firm. The coefficients of the method of payment dummies (Shares and Mixed) are negative and significant. This indicates that lower returns will accumulate to shareholders of target firms in equity exchange offers and in mixed acquisitions. Returns to target firms were also found to be related negatively to the acquirer's Market/Book ratio when equity is offered to settle the acquisition. Other variables that lead to results similar to the logit models include the relative size and the premium. By contrast, the hostile dummy is found to be related positively to the return to the target firm, which is consistent with the univariate analysis in Table 3 and with the results of previous studies that document higher premiums offered in hostile acquisitions (Baradwaj *et al.*, 1990; and Schwert, 2000). In addition, the Market/Book ratio of the target firm is found to be related negatively to the return, which supports our hypothesis that when targets have high valuation ratios (Market/Book and Price/Earnings ratios) prior to the acquisition, they are more likely to suffer a decline in share price, because the market is more likely to correct their valuation at the announcement of the deal. This is also consistent with the results of earlier studies that document a negative relationship between stock returns and valuation ratios (e.g. Rau Vermaelen, 1998; and Dong *et al.*, 2006).

5 Conclusion

Unlike previous studies, we concentrate on merger deals that result in negative returns to the target firm and examine whether practices of corporate governance for target and acquiring firms, among other factors, help to explain the market's reaction to such deals. We study a sample of 289 deals (from 1,952 M&A deals completed between 1985 and 2003) that result in the returns to the shareholders of the target firms being negative. We find a mean (median) cumulative abnormal return of -11.9% (-7.11%) to target firms that earned negative returns, which was not explained by run-up in stock price. We find supporting evidence for our hypothesis that the lower the G-index of the target firm, the higher the likelihood of loss. Target firms that have a low G-index are, if necessary, more likely to be disciplined by the market and paid a lower premium than target firms that have a high G-index. We find that when the acquiring firm has a high G-index and the deal is settled by the exchange of shares, the target firm is more likely to earn negative returns if it does not require larger premiums to compensate it for the excess risk in the acquiring firm.

Table 7. Determinants of Target Firms' Cumulative Abnormal Returns

The table presents ordinary least square regressions of the target firm's five-day cumulative abnormal returns using the market model for non-financial deals completed by US acquirers between January, 1985 and December, 2003, as reported by the SDC, where the deal value is at least $ 1 million and the acquiring firm gains control of the target firm. The independent variables include dummies for the deal attitude, industry relatedness, equity exchange offers, mixed payment deals, and for the toehold presence in the target firm that takes the value 1 if the deal is hostile, the deal is between firms that share the same two-digit SIC code, the method of payment is pure equity-mixed, and the acquiring firm owns at least 5% of the target firm's shares prior to the announcement of the acquisition, respectively. Other independent variables include the relative size of the target firm to the acquiring firm, the merger premium, the Debt/Assets$_{(Market)}$, OCF/Assets$_{(Market)}$, Market/Book, ROE, and G-index of the target firm. We also included the Market/Book and the G-Index of the acquiring firm and allowed them to interact with the share payment dummy. The G-Index is based on the anti-takeover provisions (ATPs) as per (Gompers *et al.*, 2003).

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Intercept	0.24995***	0.20834***	0.2217***	0.17295***	0.25659***	0.26287***	0.19413***
Tar.Gindex			0.00883***	0.00966***			0.00911***
Acq.Gindex					-0.00144		
Acq.Gindex*Shares						-0.00638***	-0.00678***
Shares	-0.08597***		-0.08632***				
Mixed	-0.10286***	-0.07102***	-0.10125***	-0.07564***	-0.09213***	-0.11101***	-0.10857***
Acq. (M/B)*Shares		-0.00427***		-0.00544***	-0.0081***	-0.00395*	-0.00348
Relative size	-0.01354***	-0.01417***	-0.04794***	-0.04199***	-0.06904***	-0.06549***	-0.07012***
Premium	0.17192***	0.18263***	0.14213***	0.16534***	0.17771***	0.17125***	0.15227***
Hostile	0.07009***	0.08972***	0.06769*	0.0779*	0.09517**	0.09069**	0.08176**
Industry Relatedness	-0.00943	-0.01532	-0.01277	-0.01734	-0.00611	-0.0017	0.0022
Toehold	-0.00791	0.00089674	0.00498	0.01486	0.01228	0.00836	0.02683
Tar. (Debt/Assets $_{Market}$)	-0.16351***	-0.15054***	-0.18995***	-0.20475***	-0.13894***	-0.14118***	-0.20179***
Tar. (OCF/Assets $_{Market}$)	-0.02126	-0.01639	0.07445	0.04476	-0.08476	-0.06932	0.14083
Tar. (Market/Book)	-0.01747***	-0.01774***	-0.01266**	-0.0126*	-0.01216***	-0.01221***	-0.00692
Tar. (ROE)	0.00063977	0.00033531	-0.01134	-0.01305	-0.00046364	-0.00029053	-0.01208
Adj R-Sq	0.2354	0.2153	0.272	0.2667	0.2557	0.2681	0.2926
F-Value	41.51***	35.8***	11.8***	11.24***	21.16***	22.49***	10.1***
Number of observations	1448	1396	348	339	705	705	287

***, **, * Denote significance at the 1%, 5% and 10% levels respectively

We find that acquirers of target firms that earn negative returns are less efficient than the acquirers of target firms that earn positive returns, which implies that inefficient acquirers do make bad acquisitions. The logistic regressions indicate that target firms that are large relative to the acquiring firm and that receive a low premium have a greater likelihood of loss. The regressions also show that equity exchange offers and mixed payment deals are more likely to lead to negative returns to the target firm than cash acquisitions. Greater leverage on the part of the target firm leaves little room for exploiting financial synergies, which also results in target firms earning negative returns. Finally, we run cross-sectional regressions for the determinants of target returns and similarly to prior studies, we discover a negative relationship between the Market/Book ratio of the target firm and the stock return.

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