DOES IT PAY FOR ACQUIRERS TO BE FRIENDLY?

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Abstract

Friendly acquisitions have lower premiums and legal fees, entail less disruption of target activities and are typically less controversial than hostile acquisition, but the market does not seem to distinguish between friendly and hostile acquisitions in the short term. We study the long-term performance and risk metrics of acquirers and find that friendly acquisitions, in conjunction with other acquisition characteristics such as method of payment and mode of acquisition, tend to be risk increasing transactions and may also show a decrease in long-term post-acquisition abnormal performance.

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1. Introduction

Mergers and acquisitions (M&A) are a significant portion of overall economic activity (e.g. Reid, 1968; Rock et al., 1994; Sirower, 1997; Lajoux, 1998), and to the extent permitted, have thrived under different regulatory environments.[1] Still, it is not clear why acquirer shareholders allow most acquisitions. In almost two-thirds of cases acquirer shareholders obtained negative returns around the time of the acquisition (Sirower and O'byrne, 1998) and market efficiency suggests expected long-term gains cannot systematically recoup such short-term losses.[2]

There is lack of consensus in literature about the effects of M&A on acquirer shareholders. [3] Synergistic benefits (e.g. Healy et al., 1997; Sirower, 1997) and market discipline (Manne, 1965; Jensen, 1988) are two broad purported motives for acquisitions, typically corresponding to friendly and hostile acquisitions respectively, and Conyon et al. (2001) suggest separating friendly transactions from hostile ones when studying M&A activities. Views regarding the impact of hostile takeovers have been contentious, ranging from the benefits of market discipline for maximizing efficient utilization of resources, to the damage of market myopia on the economy, on communities and on value built over years (McKee, 1989). Such debates can impact financial markets[4] and can be expected to expand as developing markets open up to foreign corporations and as economic power is redistributed amongst

[1] In the early 1900's when collusion was precluded, mergers in the US were monopolistic; in the 1920's when monopolies were disallowed, strong second-place firms were created; under the anti-trust regulations of the 1960's, unrelated firms conglomerated so that scientific principles of management could be applied across diversified companies; in the 1980's with loosening of the antitrust regulations, acquisitions were to break-up the conglomerates to increase focus and efficiency; in the 1990's industries such as utilities were restructured under deregulation to remove inefficiencies; and in the early 2000's while the Sarbanes-Oxley Act was expected to discourage acquisitions in the immediate period after its enactment when companies focused on compliance, it may have prompted companies to merge as implementation of controls and reporting procedures was purportedly cost-effective over larger entities (see for instance Shleifer and Vishny 1990 and 1991; Flowers, 1998; Jandik and Makhija, 2005; and Koehn, J.L., and DelVecchio, S.C., 2006).

[2] Fama (1998) states that under the market efficiency hypothesis, market under-reactions or overreactions occur by chance in individual cases and should not be systematic, and that the expected value of abnormal returns is zero.

[3] Buchholtz (1991) states that the results are so inconclusive that survey studies reviewing the same literature often come up with different interpretations, for example, Mueller (1980), Halpern (1983), Jensen and Ruback (1983), Lubatkin (1983), Conn (1985), and Caves (1989). See also Hubbard and Palia (1999), and Agrawal and Jaffe (2000).

[4] For instance Mitchell and Netter (1989) postulate that a factor in the 1987 stock market crash was a proposed tax bill discouraging hostile takeovers.

countries (see for instance Newman and Craze, 2006, for reactions to Mittal's bid for Arcelor).

Healy et al. (1997) suggest that friendly acquisitions do not disrupt target operations and are support by target management leading to greater synergistic gains. Friendly transactions involve relatively smaller premiums, and thus under the hypotheses of zero-impact (Dodd and Ruback, 1977) and hubris (Roll, 1986; Wansley et al., 1987), should outperform hostile acquisitions. Hostile acquisitions involve higher legal fees (e.g. Jensen and Ruback, 1983; Walkling and Long, 1984; Healy et al., 1997) and take longer to accomplish (Gilbert and Lyn, 1990). On the other hand, under competitive markets (Mandelker, 1974) higher premiums for hostile transactions could potentially be due to reluctance of acquirers to launch a hostile bid where expected gains are marginal (Jensen and Ruback, 1983), due to bid revisions (Lefanowics and Robinson, 2000), or could be a tradeoff relative to the price demanded by the target management for private information (Schintzer, 1996). Lambrecht and Myers (2007) mention that in some cases a potentially hostile acquirer could be better off negotiating with the target management for a merger and that such a situation reduces the power of the target shareholder to extract value from the bidder. Hostile acquisitions also involve swifter and more drastic changes in target operations in order to improve efficiency (Gilbert and Lyn, 1990). In both friendly and hostile acquisitions, overpayment can occur due to agency considerations of managerial objective maximization (Jensen and Meckling, 1976) by the acquirer management.

In the short-term, stock markets do not distinguish between friendly and hostile bidders (Schwert, 2000). Results from long-term empirical studies have variously suggested that the performance of friendly acquirers relative to hostile is similar (Franks et al., 1991), better in terms of operating returns, but not recognized by the markets (Healy et al., 1997) and worse (Loughran and Vijh, 1997). It is difficult to ascribe potential differences to the presence or otherwise of hostility due to factors such as the method of payment (cash versus stock), the mode of acquisition (tender offer versus merger) and whether the acquirer is glamour or value (low versus high book-to-market value), [5] some of which may be endogenous because hostile acquirers primarily tend to employ cash tender offers. While Franks et al. (1991) did not separate tender offers and mergers, Healy et al. (1997) used earnings before interest, taxes, depreciation and amortization (EBITDA) for operating returns instead of operating cash flow returns and restricted their study to 50 largest acquisitions of which only 15 were hostile, and Loughran and Vijh (1997) ascribed the observed superior performance of cash tender offers to the higher presence of hostility in such transactions. Beohme and Sorescu (2002) argue that post-acquisition abnormal performance in restricted samples is not necessarily an indication of market inefficiency, if accompanied by corresponding changes in risk factor loadings.

This paper studies the presence or otherwise of long-term post-acquisition abnormal stock-return performance along with any changes in risk, for friendly and hostile acquirers. Our primary research question is to determine whether friendly acquirers, who are not differentiated by the market over the short-term relative to hostile acquirers, recoup the benefits of lower premiums and fees, as well as synergy, over the long-term in terms of superior post-acquisition abnormal performance. We also investigate if the results are impacted by other factors that have been suggested as determinants of post-acquisition performance, including the mode of acquisition, the method of payment and the book-to-market value of the acquirers. Finally, since persistent long-term abnormal performance is generally treated as an indication of market inefficiency, following Boehme and Sorescu (2002) we investigate whether any abnormal performance can potentially be due to change in post-acquisition risk. We find that friendly acquisitions where there were no competing hostile bidders tend to increase equity risk and that friendly acquirers tend to under-perform post-acquisition in conjunction with the endogenous factors of the method of payment and mode of acquisition.

2. Data and Methodology

Our initial sample consists of acquisitions by non-financial, non-utility U.S. public[6] firms with CRSP (Center for Research in Security Prices database) share codes 10 and 11 (ordinary common shares), during 1975-1996, resulting in delisting of the target from the exchange, which is based on Robert Comment's M&A database (Schwert, 2000). Robert Comment's M&A database includes merger proposals, merger agreements, and inter-firm tender offers, totaling 2,346 successful or failed acquisition attempts, for all exchange-listed target firms in the period 1975 to 1996, obtained through various keyword searches of the Dow Jones News Retrieval (DJNR) database, inspection of the Wall Street Journal Index (WSJI), and from Commerce Clearing House's Capital Changes Reporter, the original source for Center for Research in Security Prices (CRSP)

[5] See for instance Franks et al. (1988, also 1991), Healy et al. (1992, 1997), Loughran and Vijh (1997), Rau and Vermaelen (1998), Hou et al. (2000), Mitchell and Stafford (2000) for findings related to the impact of the method of payment; Agrawal et al. (1992), Loderer and Martin (1992), Loughran and Vijh (1997) and Rau and Vermaelen (1998) for findings related to the mode of acquisition; and Rau and Vermaelen (1998) and Mitchell and Stafford (2000) for glamour versus value bidders.

[6] Companies that are listed on the NYSE (New York Stock Exchange), AMEX (American Stock Exchange) or NASDAQ (National Association of Securities Dealers Automated Quotation System).

delisting codes. There are 1182 successful acquisitions by exchange-listed acquirers during the period 1975-1996. After excluding the financial, utility and non-U.S. firms (352 observations), the acquisitions with incomplete data (272 observations) and firms that had multiple mergers within five years of an acquisition (284 observations), the initial sample reduces to 274 acquisitions with a median acquisition price[7] of $171 million with a maximum of $33.1 billion for friendly acquirers, and $433 million with a maximum of $10.3 billion for hostile acquirers. We select only isolated acquisitions, with no additional acquisitions for a period of five years before or after the announcement of the acquisition, to avoid cross-sectional dependence due to overlapping returns (Lyon et al., 1999), require five years pre-event data, so as to avoid new-listing bias and limit the acquisitions to those completed by the end of 1996 allowing for five years post-acquisition data that ends in 2001. Announcement dates and the month of the acquisition, the target management attitude towards the acquirer, mode of the acquisition and the terms of payment[8] are from Wall Street Journal Index (WSJI) and the Lexis-Nexis database.

Our final sample (Table 1) consists of 274 acquisitions. Of the 274 firms, 41 acquisitions were by hostile (H) acquirers, in that the term "rejected" or "advised against", but not "discussion of terms", was used by the target management in the initial offer. Sweetened bids by the acquirer led to acceptance of the offer in 17 of these cases. Lawsuits were filed by target management in the remaining 24 cases, 13 of which were dropped after the bidder sweetened the deal. In 11 cases, the lawsuit resulted in an unfavorable judgment for the target management. In 184 cases the acquirer was friendly and the competing unsuccessful bidders, if any, were not hostile (F). A separate case is that of 30 auctions where bidders other than the final acquirer were perceived to be hostile based on the criteria described above. These acquirers are denoted as "other hostile" (OH). The remaining 19 cases are neutral or undetermined. Apart from some clustering for other hostile acquisitions during 1980-1989, the sample of isolated acquisitions is distributed reasonably homogeneously over the entire time period, thereby reducing any bias due to the time period of the study.

Insert Table 1 about here

Subcategories are constructed based on the mode of acquisition and the method of payment employed. Tender offers tend to be cash-based, regardless of hostility. In our samples, 31 of 41 hostile acquirers are cash tender offers, while only 46 of the 184 friendly ones are cash tender offers, and so are 20 of the 30 other hostile acquirers. Mergers tend to use cash less often, with only 1 out of 8 hostile and 48 of 136 friendly mergers being cash, although 6 of the 10 other hostile acquirers are cash-based mergers. The presence of competing hostile bidders is seen to increase the use of tender offers and cash by the non-hostile acquirers designated "other hostile". In comparison to friendly acquisitions, hostile acquisitions in our sample involve larger targets relative to acquirers and take longer to accomplish in terms of the time elapsed between announcement and completion. Table 1 also indicates that the relative size of the target to acquirer in terms of market capitalization is lower for friendly acquirers, with a median value of 17 percent compared to acquisitions of hostile acquires where the median is 43 percent. Relatedness[9] of target and acquirer firm businesses in an acquisition is similar across the samples, with approximately two-thirds of the acquirers and their targets being unrelated or marginally related[10]. A two-step Heckman procedure[11] is carried out to verify the absence of any selection bias due to the non-random screening of firms from the M&A database.

Insert Table 2 about here

Table 2 presents the size-book-to-market value of equity (BMV) distribution of the sample firms based on NYSE size[12] and BMV[13] quintiles, at the end of the event month. For hostile acquirers, the full sample (Panel A) shows clustering toward the extremes quintiles for both size and BMV. Trends for cash tender offers (Panel B) are similar. For acquisitions with other hostile bidders (Panel C), the distribution is homogenous across BMV values, except that the number of firms in the lowest BMV quintile is lower. The distribution for size shows clustering toward larger firms. Friendly acquirers (Panel D) are distributed reasonably well over all BMV quintiles, except that there are fewer firms in the highest quintile, and some concentration toward larger size quintiles while friendly cash tender offers

[7] In 1996 dollars using the consumer price index from the Bureau of Labor Statistics.

[8] Acquisitions that are part tender offer and part merger, are classified as tender offers if an initial tender offer provides majority control to the acquirer and is followed by a clean-up merger for the remaining stock. For multiple payment methods, our preliminary classification of an acquisition as *primarily cash* if cash comprises more than 50 percent of the total payment in the method of payment employed by the governing mode of transaction for acquiring majority control provided reasonable results for our sample, as cash accounts for at least half the total payment in such acquisitions.

[9] Relatedness (not shown in Tables) is based on whether a target and an acquirer have matching four digit standardized industrial classification (SIC) code.

[10] The target and acquirer firms have unrelated businesses when they have different four digit SIC codes and marginally related when their SIC codes match only in the first digit.

[11] See Heckman (1979) and Greene (1981).

[12] Firm size refers to the market value of common equity calculated as price per share multiplied by shares outstanding at the end of the month.

[13] The book-to-market equity (BMV) is the ratio of the book equity divided by the market capitalization for the appropriate period.

(Panel E) have relatively higher BMV values. This is in general agreement with the previous findings that high BMV firms tend to use cash tender offers more frequently. To control for varying size and BMV distributions across samples, we also run analyses comparing 30 friendly cash tender offers matched as closely in distribution as feasible to 30 hostile cash tender offers.

The post-acquisition changes in the risk-adjusted abnormal return ($\alpha_{i\Delta}$), the systematic risk ($\beta_{i\Delta}$) and total equity risk (ΔK) for the sample firms during the one-year, three-year and five-year period around the acquisitions are estimated using the three-factor Fama-French regression following Boehme and Sorescu (2002). First, the three-factor Fama-French regression (1993) is estimated for each firm using monthly returns, for the (m-n, m+n) period, where m is the acquisition completion month, which is excluded from the estimation, and n is one of the 12, 36 or 60 month post-event horizons based on

$$R_{it} - R_{ft} = \alpha_i + \beta_i(R_{mt} - R_{ft}) + \gamma_i(SMB_t) + \delta_i(HML_t) + H_t\alpha_{i\Delta} + H_t\beta_{i\Delta}(R_{mt} - R_{ft}) + H_t\gamma_{i\Delta}(SMB_t) + H_t\delta_{i\Delta}(HML_t) + e_{it} \quad \ldots(1)$$

where H_t is a dummy variable with a value of one for calendar months after the acquisition and zero for calendar months before the acquisition. The cross-sectional averages for the coefficients of α_i, β_i, γ_i and δ_i over sample firms indicate the levels during the pre-acquisition period. Post-acquisition changes in the Fama-French factors relative to pre-acquisition are reflected in the coefficients of $_{i\Delta}$, $\beta_{i\Delta}$, $\gamma_{i\Delta}$ and $\delta_{i\Delta}$. Average change in equity risk, ΔK, during the post-acquisition period for each sample is estimated by using the mean monthly Fama-French factors over the sample period (1975-1996) as

$$\Delta K = (\beta_{i\Delta} * \text{mean}\,[R_{mt}\text{-}R_{ft}]) + (\gamma_{i\Delta} * \text{mean}\,[SMB_t]) + (\delta_{i\Delta} * \text{mean}\,[HML_t]) \quad \ldots(2)$$

We run this analysis twice, first using only acquirer firms for pre-acquisition period values, and second using market value-weighted average of combined acquirer and target firms for pre-acquisition period values.

In order to control for cross-sectional correlation we also run calendar time regressions similar to Boehme and Sorescu (2002) where for each calendar month, *t*, we form a portfolio of firms which have accomplished an acquisition in the past 60 months and another portfolio of firms that accomplish an acquisition during the subsequent 60 months, and run the regression for the time period corresponding to the duration of our sample of acquisitions.

$$R_{post,t} - R_{pre,t} = \alpha_{p\Delta} + \beta_{p\Delta}(R_{m,t} - R_{f,t}) + \gamma_{p\Delta}(SMB_t) + \delta_{p\Delta}(HML_t) + e_{pt} \quad \ldots(3)$$

Here $R_{post,t}$ is the portfolio return in month t for firms that have had an acquisition in the 60 months prior to month *t* and $R_{pre,t}$ is the corresponding portfolio return for firms that accomplish an acquisition in the 60 months following month *t*. Following Boehme and Sorescu (2002), we run the Fama-French regression above and test Equation (2) as a restriction for the regression in order to determine the statistical significance of the post-acquisition changes in equity riskΔK. The coefficients $\alpha_{p\Delta}$, $\beta_{p\Delta}$, $\gamma_{p\Delta}$ and $\delta_{p\Delta}$provide the change in Fama-French factors, pre- to post-acquisition. The significance of the coefficients is tested using Weighted Least Squares with the weights being the square root of the average size of the pre- and post-acquisition portfolios for that month, using White's (1980) correction.

We obtain market-related data for firms from the monthly CRSP database, and accounting data from the annual Compustat database, with manual searches in various Moody's manuals, the Lexis-Nexis Academic Universe database, the Global Access database, SEC (Securities and Exchange Commission) filings, or the ValueLine Investment Survey for any missing Compustat data. Monthly Fama-French factors are from the online database of Kenneth R. French. [14]

3. Results

Table 3 presents the results of event-time regressions based on Equations 1 and 2, for one, three and five years around the acquisition. Table 4 presents results of calendar-time regressions based on Equations 2 and 3 which further control for cross-sectional correlation, for five years around the acquisition.

Insert Tables 3 and 4 about here

Table 3 Panel A shows that the full sample of friendly acquirers showed a decrease in abnormal performance ($\alpha_{i\Delta}$) and an increase in the systematic risk ($\beta_{i\Delta}$) and the equity risk (ΔK) relative to pre-acquisition values of the combined acquirer and target firm for one, three and five years around the acquisition. The full sample of hostile acquirers does not show any change in performance or in the systematic risk or equity risk around the acquisition. Other hostile acquisitions, where hostility was present due to a competing hostile bidder, do not show an increase in equity risk and only show an increase in systematic risk for the comparison for three years around an acquisition, while their abnormal performance is negative only for the comparison for five years around the acquisition. Results relative to the pre-acquisition acquirer shown in Table 3 Panel B are similar in trend, except that the change in systematic risk for friendly acquirers is insignificant (p = 0.113) for three years around the acquisition, and hostile acquirers show a marginally significant decrement in abnormal performance for three and five years around the acquisition (p = 0.083 and 0.099 respectively). Table 4 Panel A shows that the systematic risk ($\beta_{p\Delta}$) increased for friendly acquirers

[14] Data Library, http://mba.tuck.dartmouth.edu/pages /faculty/Ken.French/Data_Library

relative to both pre-acquisition combined acquirer and target as well as pre-acquisition acquirer values and this increase was not observed in hostile acquisitions. Other hostile acquisitions showed a marginally significant increase relative to combined target and acquirer and no increase relative to pre-acquisition acquirer values. The equity risk (ΔK) increased significantly only for friendly acquirers relative to pre-acquisition acquirer values, the increase relative to combined acquirer and target pre-acquisition values had a p-value of 0.106. Hostile and other hostile acquirers had no change in equity risk. Only friendly acquirers showed a significant decrease in abnormal performance $(\alpha_{p\Delta})$, pre- to post-acquisition.

Table 3 Panel C presents the results for the subset of cash tender offers of all three samples, friendly, hostile and other hostile, relative to pre-acquisition combined target and acquirer. Most hostile acquisitions are cash tender offers and this controls for method of payment and mode of acquisition. However the sample of other hostile firms only has 20 cash tender offers and so results must be interpreted with care for these acquirers. Except for the time period of one year around the acquisition, friendly cash tender offers do not show any decrease in abnormal performance. However, except for the 3 year period around the acquisition where the p value for increase in systematic risk is 0.109, friendly cash tender offers continue to show an increase in both systematic risk and equity risk. Hostile cash tender offers do not show any change in abnormal performance or in systematic risk and equity risk. Results from Table 3 Panel D, for comparison relative to pre-acquisition acquirer values show the same trend, except that the increase in equity risk for friendly acquirers is no longer significant for the time period of three years around the acquisition. For the subset of cash tender offers, Table 4 Panel B shows no significant change in either risk or performance for either friendly or hostile cash tender offers for five years around the acquisition. Results for other hostile acquirers are based on 20 firms, and are not discussed here.

Further controlling for book-to-market and size differences in the subsets of friendly and hostile acquirers, results reported in Table 3 Panels E and F show that except for marginally significant decrease in performance for one year around the acquisitions, friendly cash tender offers matched to hostile ones based on size and book to market do not show any change in abnormal performance while they show significant increases in systematic risk and equity risk. From Table 4 Panel C, for friendly and hostile cash tender offers matched on size and book to market value, friendly acquirers showed a marginally significant increase in equity risk for five years around the acquisition relative to pre-acquisition acquirer values. There was no change in systematic risk and no change in abnormal performance.

Table 3 Panel G shows that friendly cash mergers, for the pre- to post-acquisition comparison for five years around the acquisition, showed an increase in equity risk and a decrease in performance, which is in line with the results of Table 4 Panel D.

For friendly stock mergers, for the pre- to post-acquisition comparison for five years around the acquisition, Table 3 Panel H shows a decrease in abnormal performance, an increase in systematic risk and a marginally significant increase in equity risk, while Table 4 Panel D shows a decrease in performance, an increase in systematic risk and no change in equity risk.

For friendly acquirers, Table 4 Panel E shows that based on method of payment, without regard to mode of acquisition, cash transactions show a decrease in performance and an increase in equity risk. Stock also show a decrease in performance and tend to increase the systematic risk. Based on mode of acquisition without regard to method of payment, mergers show a decrease in abnormal performance and an increase in equity risk, and tend to increase the systematic risk, tender offers do not show any change.

4. Discussions

Our results show that it does not pay for acquirers to be friendly, even though such acquisitions have lower premiums and costs, may provide higher synergy, and generate less controversy, in that such acquirers did not show any superior long-term abnormal performance post-acquisition. While hostile acquirers showed no change in long-term post-acquisition abnormal performance, friendly acquirers in many cases were worse-off than before, or at best showed no change.

Our results also indicate that mode of acquisition and method of payment affect the post-acquisition performance and risk change. Comparing cash tender offers of friendly acquirers to those of hostile acquirers, we find no pre- to post- change in abnormal performance. There is a marginal increase in equity risk for friendly cash tender offers in pre- to post-comparisons based on acquirer firm only, when the cash tender offer samples are further controlled for size and book-to-market value of the acquirer. The full sample of friendly acquires and its other subsets such as cash mergers and stock mergers show a decrease in performance. Except for stock mergers which showed an increase in systematic risk, the decrease in abnormal performance for friendly acquirers was accompanied by an increase in equity risk. This would suggest that if the market anticipates some increase in equity risk for such friendly acquirers, it could reduce the acquirer stock price to compensate for that even if the premium paid is not as high as for hostile acquirers. Furthermore if a portion of the risk change is unanticipated and arises post-acquisition, it could lead to persistent abnormal performance but not necessarily due to market inefficiency. For stock mergers we note that it has

been suggested that managers tend to employ stock when they feel it is overvalued, which implicitly assumes market mispricing. Our results seem to support this conclusion.

Market efficiency is a key concern with regard to acquirer shareholders consistently acquiescing to a decrease in wealth. Healy et al. (1997) suggest that lack of abnormal stock return performance is not necessarily an indication of market efficiency as in their study markets appeared to ignore the superior underlying operating performance of friendly acquirers. Using operating cash flow returns instead of EBITDA as used by Healy et al. (1997), Dube et al. (2007) find that the full sample friendly acquirers tended to show negative abnormal operating performance, but this was not the case for the subset of friendly cash tender offers. The stock performance results in the same study were not for change in abnormal performance pre- to post-acquisition, but only considered post-acquisition abnormal performance. They did not show evidence for post-acquisition abnormal performance or differences in post-acquisition performance due to friendly or hostile nature of the acquirer. In line with their operating performance results, we find a decrease in abnormal stock return performance, pre- to post-acquisition, for all sub-samples of friendly acquirers except for friendly tender offers and cash tender offers. We cannot ascribe the negative performance directly to the friendly nature of acquirers, because in comparison with hostile acquirers after controlling for mode and acquisition and method of payment, and also furthermore on book-to-market value and size, the difference in performance vanishes. We note however that only friendly acquirers employ stock and mergers widely and thus the effects may be endogenous. Our results are in line with Loughran and Vijh (1997) who found superior performance for tender offers relative to mergers. The performance of other hostile acquirers, those who were not hostile but faced off a competing hostile bidder does not seem to be impacted negatively, with the sole case of negative performance observed using the event time approach not being corroborated by calendar time portfolios.

Boehme and Sorescu (2002) have pointed out the need to consider risk changes in the post-acquisition period. Our results for risk are in line with the conclusions of Dube and Glascock (2006) that cash and mergers seem to be risk increasing transactions. For friendly acquirers, cash transactions, mergers and cash mergers all showed an increase in equity risk while friendly stock transactions and tender offers were not associated with such an increase. Friendly stock mergers did not show an increase in equity risk but show an increase in systematic risk. Our event time approach shows an increase in equity risk for friendly cash tender offers which is not corroborated by our calendar time portfolio approach and although our p-values for friendly acquirers were lower than those for hostile cash tender offers they were not significant. Comparing friendly cash tender offers to hostile ones matched on size and book to market value, the event time approach shows a significant increase in equity risk and the calendar time portfolios also provide a marginally significant increase in risk for friendly acquirers while hostile cash tender offers do not show any change.

Overall our results support the conclusions of Sirower (1997) that the benefits of synergy are overrated. We do not find any negative impact of hostility for acquirers in the long-term, and neither do we find based on long-term post-acquisition abnormal performance change, any benefits of synergy in friendly takeovers that the market fails to incorporate around the time of the acquisition.

5. References

1. Agrawal, A., Jaffe J., Mandelker G.N., 1992. The Post-Merger Performance of Acquiring Firms: A Re-Examination of an Anomaly. Journal of Finance 47 (4).
2. Agrawal, A., Jaffe, J., 2000. The Post-Merger Performance Puzzle. Printed in Advances in Mergers and Acquisitions, New York: JAI Series (1) Elsevier Science, 7-41.
3. Boehme, R., Sorescu, S., 2002. The Long-Run Performance following Dividend Initiations and Resumptions: Underreaction or Product of Change. Journal of Finance 57.
4. Buchholtz, A.K., 1991. The Effects of Takeover Threat on Corporate Performance: An Analysis of the Implications of the Efficiency and Myopia Perspectives. Ph.D. Dissertation, New York University.
5. Caves, R.E., 1989. Mergers, Takeovers, and Economic Efficiency: Foresight vs. Hindsight. International Journal of Industrial Organization 7, 151-174.
6. Conn, R., 1985. A Reexamination of Merger Studies That Use the Capital Asset Pricing Model Methodology. Cambridge Journal of Economics 9, 43-56.
7. Conyon, M., Girma, S., Wright, P., Thompson, S., 2001. Do Hostile Mergers Destroy Jobs? Journal of Economic Behavior and Organization 45, 427-440.
8. Dodd, P., Ruback, R., 1977. Tender Offers and Stockholders Returns: An Empirical Analysis. Journal of Financial Economics 5, 351-373.
9. Dube, S., Glascock, J.L., 2006. Effects of the Method of Payment and Mode of Acquisition on Performance and Risk Characteristics. International Journal of Managerial Finance, 2 (3), 176-195.
10. Dube, S., Glascock, J.L., Klock, M., 2007. Is Hostility in the Merger and Acquisition Market Wasteful? Empirical Evidence of the Economic Costs of Hostility. Journal of Business and Securities Law 7, 10-49.
11. Fama, E.F., 1998. Market Efficiency, Long Term Returns and Behavioral Finance. Journal of Financial Economics 49, 283-306.
12. Fama, E.F., French, K., 1993. Common Risk Factors in Returns on Stocks and Bonds. Journal of Financial Economics 33, 3-56.

13. Flowers, E.B., 1998. U.S. Utility Mergers and the Restructuring of the New Global Power Industry. Westport, Connecticut, London: Quorum Books.
14. Franks, J., Harris, R., Mayer, C., 1988. Means of Payment in Takeover: Results for the United Kingdom and the United States. Printed in Corporate Takeovers: Causes and Consequences, A.Auerbach, Editor, National Bureau of Economic Research, University of Chicago Press.
15. Franks, J., Harris, R., Titman, S., 1991. The Post-Merger Share-Price Performance of Acquiring Firms. Journal of Financial Economics 29, 81-96.
16. French, K., Data Library. http://mba.tuck. dartmouth.edu/pages/faculty/Ken.French/DataLibrary
17. Gilbert, E.W., Lyn, E.O., 1990. The Impact of Target Managerial Resistance on the Shareholders of Bidding Firms. Journal of Business Finance and Accounting (Autumn).
18. Greene, W., 1981. Sample Selection Bias as a Specification Error: Comment. Econometrica 49 (3).
19. Halpern, P.J., 1983. Corporate Acquisitions: A Theory of Special Cases. Journal of Finance 38, 297-317.
20. Healy, P.M., Palepu, K.G., Ruback, R.S., 1992. Does Corporate Performance Improve after Mergers? Journal of Financial Economics 31, 135-175.
21. Healy, P.M., Palepu, K.G., Ruback, R.S., 1997. Which Takeovers are Profitable? Strategic or Financial? Sloan Management Review (Summer).
22. Heckman, J., 1979. Sample Selection Bias as a Specification Error. Econometrica 47 (1).
23. Hou, K., Robinson, D.T., Olsson, P., 2000. Do Takeovers Increase Stockholder Value? Working Paper (January), University Of Chicago.
24. Hubbard, R.G., Palia, D., 1999. A Reexamination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View. Journal of Finance 54 (3).
25. Jandik, T., Makhija, A.K., 2005. Can Diversification Create Value? Evidence from the Electric Utility Industry. Financial Management, 34 (1).
26. Jensen, M.C., 1988. Characteristics of Hostile and Friendly Takeover Targets: Comment. Proceedings of Conference on Corporate Takeovers: Causes and Consequences, Alan Auerbach, Editor, University of Chicago Press (May).
27. Jensen, M.C., Meckling, W.H., 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics 3 (4).
28. Jensen, M.C., Ruback, R.S., 1983. The Market for Corporate Control: The Scientific Evidence. Journal of Financial Economics 11, 5-50.
29. Koehn, J.L., DelVecchio, S.C., May 2006. Revisiting the Ripple Effects of the Sarbanes-Oxley Act. The CPA Journal Online, The New York Society of CPAs. Retrieved September 12, 2006, from http://www. nysscpa.org/cpajournal/2006/506/essentials/p32.htm
30. Lajoux, A.R., Weston, J.F., 1998. Do Deals Deliver on Post-Merger Performance? Mergers & Acquisitions 33 (2).
31. Lambrecht, B.M., Myers, S.C., 2007. A Theory of Takeovers and Disinvestment. Journal of Finance 62 (2), 809-845.
32. Lefanowicz, C.E., Robinson, J.R., 2000. Multiple Bids, Management Opposition, and the Market for Corporate Control. Financial Review 35 (4).
33. Loderer, C., Martin, K., 1992. Post Acquisition Performance of Acquiring Firms. Financial Management 21 (3), 69-79.
34. Loughran, T., Vijh, A.M., 1997. Do Long-Term Shareholders Benefit from Corporate Acquisitions? Journal of Finance 52 (5).
35. Lubatkin, M., 1983. Mergers and the Performance of the Acquiring Firm. Academy of Management Review 8 (2), 218-225.
36. Lyon, J.D., Barber, B.M., Tsai, C., 1999. Improved Methods for Tests of Long-Run Abnormal Stock Returns. Journal of Finance 54 (1).
37. Mandelker, G., 1974. Risk and Return: The Case of Merging Firms. Journal of Financial Economics 1, 303-335.
38. Manne, H., 1965. Mergers and the Market for Corporate Control. Journal of Political Economy 74.
39. Mckee, D.L., Editor, 1989. Hostile Takeovers: Issues in Public and Corporate Policy. New York: Praeger Publishers.
40. Mitchell, M.L., Netter, J.M., 1989. Triggering in the 1987 Stock Market Crash: Antitakeover Provisions in the Proposed House Ways and Means Tax Bill? Journal of Financial Economics 24.
41. Mitchell, M.L., Stafford, E., 2000. Managerial Decisions and Long-Term Stock Price Performance. Journal of Business 73 (3).
42. Mueller, D.C., 1980. The Determinants and Effects of Mergers: An International Comparison. Cambridge, England: Oelgeschlager, Gunn, and Hain.
43. Newman, M., Craze, M., June 5, 2006. Hostile bid stirs anger in Arcelor hometown. International Herald Tribune. Retrieved March 27, 2007 from
44. http://www.iht.com/articles/2006/03/23/bloomberg/bx arcelor.php
45. Rau, P.R., Vermaelen, T., 1998. Glamour, Value and the Post-Acquisition Performance of Acquiring Firms. Journal of Financial Economics 49, 223-253.
46. Reid, S.R., 1968. Mergers, Managers, and the Economy. New York: Mc-Graw Hill Inc.
47. Rock, M.L., Rock, R.H., Sikora, M., Editors, 1994. The Mergers and Acquisitions Handbook. New York: Mc-Graw Hill Inc.
48. Roll, R., 1986. The Hubris Hypothesis of Corporate Takeovers. Journal of Business 59 (2), Part 1.
49. Schnitzer, M., 1996. Hostile versus Friendly Takeovers. Economica 63, 37-55.
50. Schwert, G.W., 2000. Hostility in Takeovers: In the Eyes of the Beholder? Journal of Finance 55 (5).
51. Shleifer, A., Vishny, R.W., 1990. The Takeover Wave of the 1980s. Science 249 (4970).
52. Shleifer, A., Vishny, R.W., 1991. Takeovers in the '60s and the '80s: Evidence and Implications. Strategic Management Journal (Winter).
53. Sirower, M., 1997. Synergy Trap: How Companies Lose the Acquisition Game. Free Press.
54. Sirower, M., O'byrne, S., 1998. The Measurement of Post-Acquisition Performance: Toward a Value-Based Benchmarking Methodology. Journal of Applied Corporate Finance 11 (2).
55. Walkling, R.A., Long, M.S., 1984. Agency Theory, Managerial Welfare, and Takeover Bid Resistance. The Rand Journal of Economics (Spring), Mount Morris.
56. Wansley, J., Lane, W., Yang, H., 1987. Gains to Acquiring Firms in Cash and Securities Transactions. Financial Review 22, 403-414.

Appendices

Table 1. Descriptive Statistics: Acquisitions by Non-Financial, Non-Utility, U.S. Public Firms

This table provides descriptive statistics for the following three samples of acquisitions completed by non-financial, non-utility, U.S. public firms during 1975-1996: Acquisitions with hostile acquirers (H, Panel A); non-hostile acquirers with other hostile bidders (OH, Panel B); and friendly acquirers (F, Panel C) with no other hostile bidders. Hostility is perceived when the target firm aggressively rejects a public offer made by a bidder firm based on information in the Wall Street Journal Index. Acquisition mode (merger or tender offer), the method of payment, acquisition price, relative target size, presence of multiple bidders (auction), average number of months elapsed between acquisition announcement and the completion (time spent in acquisition), and number of firms with different two-digit and one-digit standardized industrial classification (SIC) codes are presented. Acquisition price paid for the takeover is in 1996 millions of dollars using Consumer Price Index from the Bureau of Labor Statistics. Relative target size is the ratio of the target firm's market capitalization five months before the announcement from CRSP to that for the acquirer firm.

	Full Sample	Tender Offers	Mergers
Friendly			
Total Acquisitions	184	48	136
Cash Transactions	94	46	48
Stock Transactions	86	0	86
Debt Transactions	1	1	0
Undetermined Payment Method	3	1	2
Acquisition Price Range	[$5-$33,090]	[$13-$15,252]	[$5-$33,090]
Median Acquisition Price	$171	$230	$164
Relative Target Size (Median)	17%	19%	17%
Number of Auctions	15	8	7
Time spent in Acquisition (Months)	4.2	2.9	4.6
# of 2-digit SIC codes represented	32	21	32
# of 1-digit SIC codes represented	7	5	7
Hostile			
Total Acquisitions	41	33	8
Cash Transactions	32	31	1
Stock Transactions	8	2	6
Debt Transactions	1	0	1
Undetermined Payment Method	0	0	0
Acquisition Price Range	[$12-$10,269]	[$12-$10,269]	[$24-$3,536]
Median Acquisition Price	$433	$433	$430
Relative Target Size (Median)	43%	37%	48%
Number of Auctions	16	15	1
Time spent in Acquisition (Months)	6.61	6.02	8.82
# of 2-digit SIC codes represented	22	20	8
# of 1-digit SIC codes represented	7	6	4
Other Hostile			
Total Acquisitions	30	20	10
Cash Transactions	26	20	6
Stock Transactions	3	0	3
Debt Transactions	1	0	1
Undetermined Payment Method	0	0	0
Acquisition Price Range	[$30-$20,235]	[$30-$20,235]	[$34-$4,315]
Median Acquisition Price	$394	$296	$649
Relative Target Size (Median)	21%	21%	28%
Number of Auctions	30	20	10
Time spent in Acquisition (Months)	4.77	2.84	8.64
# of 2-digit SIC codes represented	19	15	8
# of 1-digit SIC codes represented	6	5	5

Table 2. The Distribution of Non-Financial Non-Utility US Acquirers by Size and Book-to-Market Value of Equity (BMV) Characteristics

This table shows the size and BMV distributions of acquirers in our acquisition samples. Panel A is for the full sample of hostile acquirers. Panel B is for cash tender offers of hostile acquirers. Panel C shows the full sample of other hostile acquirers where the acquirer was not hostile, but hostility was present due to existence of other hostile bidders. Panels D and E are for the full sample and cash tender offers of friendly acquirers, respectively. The twenty five size-BMV portfolios used for distributions are the intersection of size and BMV rankings formed on the basis of NYSE breakpoints at the end of the event month. Size is the market capitalization (i.e., common stock price * # of common stocks outstanding) of acquirer firms. BMV is the ratio of book value of equity to market value of equity. Market values are from CRSP and book values are from Compustat.

Panel A. Full Sample of Hostile Acquirers (N=41)

BMV Quintile	Size Quintile					
	Largest	Quintile 2	Quintile 3	Quintile 4	Smallest	Total
High	2.44%	7.32%	2.44%	9.76%	4.88%	26.83%
Quintile 2	9.76%	4.88%	2.44%	0.00%	4.88%	21.95%
Quintile 3	7.32%	0.00%	2.44%	0.00%	4.88%	14.63%
Quintile 4	7.32%	0.00%	0.00%	0.00%	7.32%	14.63%
Low	4.88%	4.88%	4.88%	2.44%	4.88%	21.95%
Total	31.71%	17.07%	12.20%	12.20%	26.83%	100.00%

Panel B. Cash Tender Offers of Hostile Acquirers (N=31)

BMV Quintile	Size Quintile					
	Largest	Quintile 2	Quintile 3	Quintile 4	Smallest	Total
High	3.23%	9.68%	3.23%	12.90%	6.45%	35.48%
Quintile 2	9.68%	3.23%	3.23%	0.00%	0.00%	16.13%
Quintile 3	6.45%	0.00%	3.23%	0.00%	3.23%	12.90%
Quintile 4	6.45%	0.00%	0.00%	0.00%	6.45%	12.90%
Low	6.45%	6.45%	3.23%	3.23%	3.23%	22.58%
Total	32.26%	19.35%	12.90%	16.13%	19.35%	100.00%

Panel C. Full Sample of Other Hostile Acquirers (N=30)

BMV Quintile	Size Quintile					
	Largest	Quintile 2	Quintile 3	Quintile 4	Smallest	Total
High	6.67%	10.00%	3.33%	3.33%	3.33%	26.67%
Quintile 2	3.33%	10.00%	6.67%	0.00%	0.00%	20.00%
Quintile 3	6.67%	10.00%	0.00%	0.00%	6.67%	23.33%
Quintile 4	13.33%	0.00%	6.67%	0.00%	0.00%	20.00%
Low	6.67%	0.00%	3.37%	0.00%	0.00%	10.00%
Total	36.67%	30.00%	20.00%	3.33%	10.00%	100.00%

Panel D. Full Sample of Friendly Acquisitions (N=184)

BMV Quintile	Size Quintile					
	Largest	Quintile 2	Quintile 3	Quintile 4	Smallest	Total
High	2.72%	1.63%	2.72%	4.89%	2.72%	14.67%
Quintile 2	6.52%	5.98%	3.80%	3.26%	1.63%	21.20%
Quintile 3	9.24%	4.89%	1.63%	2.17%	2.72%	20.65%
Quintile 4	5.98%	8.15%	2.72%	2.72%	1.63%	21.20%
Low	11.96%	4.35%	4.35%	0.54%	1.09%	22.28%
Total	36.41%	25.00%	15.22%	13.59%	9.78%	100.00%

Panel E. Cash Tender Offers of Friendly Acquisitions (N=46)

BMV Quintile	Size Quintile					
	Largest	Quintile 2	Quintile 3	Quintile 4	Smallest	Total
High	6.52%	0.00%	8.70%	6.52%	2.17%	23.91%
Quintile 2	6.52%	4.35%	0.00%	6.52%	2.17%	19.57%
Quintile 3	15.22%	2.17%	4.35%	6.52%	2.17%	30.43%
Quintile 4	4.35%	2.17%	4.35%	2.17%	0.00%	13.04%
Low	2.17%	8.70%	2.17%	0.00%	0.00%	13.04%
Total	34.78%	17.39%	19.57%	21.74%	6.52%	100.00%

Table 3. Post-Acquisition Risk Changes: Full Samples and Cash Tender Offers

Full samples include all acquirer firms regardless of the payment terms or mode of the acquisition. Cash Tenders Offers include all successful acquisitions completed through cash tender offers during 1975-1996 by non-financial non-utility U.S. public firms. *Hostile* shows the sample of acquisitions with hostile acquirers. *Friendly* is the sample of acquisitions where acquirers were friendly and other bidders, if present, were not hostile to targets. *Other Hostile* is the sample of acquisitions with non-hostile acquirers and other hostile competing bidders.

Following **Boehme** and Sorescu (2002), Fama-French three-factor model is regressed for each firm, for (m-n, m+n), where m is the acquisition completion month, which is excluded from the estimation, and n is one of the 12, 36 or 60 month post-event horizons:

$$R_{it} - R_{ft} = \alpha_i + \beta_i\left(R_{mt} - R_{ft}\right) + \gamma_i\left(SMB_t\right) + \delta_i\left(HML_t\right) + \mathrm{H}_t\alpha_{i\Delta} + \mathrm{H}_t\beta_{i\Delta}\left(R_{mt} - R_{ft}\right) + \mathrm{H}_t\gamma_{i\Delta}\left(SMB_t\right) + \mathrm{H}_t\delta_{i\Delta}\left(HML_t\right) + e_{it}$$

H_t is a dummy variable with a value of one for post-acquisition calendar months and zero for pre-acquisition months. (R_{mt} - R_{ft}) is the market risk premium, SMB_t is the difference between value-weighted return on small firms and the value-weighted return on big firms, and HML_t is the difference between the value-weighted return on high book-to-market firms and the value-weighted return on low book-to-market firms. Monthly data for Fama-French factors (R_{mt}, R_{ft}, SMB_t and HML_t) are obtained from Kenneth R. French's online research database. The cross-sectional averages for the coefficients β_i, γ_i and δ_i over sample firms during the pre-acquisition period, average post acquisition changes in these coefficients, i.e., $\beta_{i\Delta}$, $\gamma_{i\Delta}$ and $\delta_{i\Delta}$, and post-acquisition changes in equity risk, ΔK, which equals [($\beta_{i\Delta}$ * mean[R_{mt}-R_{ft}]) + ($\gamma_{i\Delta}$ * mean[SMB_t]) + ($\delta_{i\Delta}$ * mean[HML_t])], are shown.

Estimates of mean monthly Fama-French risk factors over the sample period are as follows:
Mean [R_{mt}-R_{ft}]= 0.0076 (p-value: 0.01);
Mean [SMB_t] = 0.0029 (p-value: 0.07);
Mean [HML_t] =0.0042 (p-value: 0.01).

Panels A-J report the results for various samples. Each sample has results for pre-to-post acquisition changes in variables mentioned above using *[Combined Firm]* as well as *[Acquirer Firm]*. Panels with the title *[Combined Firm]* use market value-weighted average of acquirer and target for pre-acquisition period while those with *[Acquirer Firm]* use only acquirer firms for pre-acquisition values. Panels A and B show the results for full samples regardless of mode of acquisition and method of payment. Panels C and D present the results for cash tender offers (*CTO*). Panels E and F provide the comparison of BMV matched samples between friendly and hostile cash tender offers. In the BMV matched subsamples, 30 cash tender offers of hostile acquirers are compared to a subgroup of 30 out of the 46 cash tender offers of friendly acquirers with the same size and BMV distributions as those in the hostile acquirers' group. The subgroup of cash tender offers by friendly acquirers is formed by selecting 30 firms from the group in a manner that each size-BMV partition in Table 2 for cash tender offers with friendly acquirers has the same number of firms as that for cash tender offers with hostile acquirers. The firms to be retained are selected randomly from among the firms in the size-BMV partition. If not enough firms are available in a size-BMV partition of cash tender offers by friendly acquirers, adjacent size deciles are used. One firm from the hostile acquirers sample is deleted, as there was no BMV match in the sample of friendly acquirers. Results for friendly cash mergers and friendly stock mergers are shown in Panels G and H, respectively. P-values from the significance tests are stated under each variable.

Panel A. Full Samples [Combined Firm]

	Friendly			Hostile			Other Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period									
β_i	1.009	1.026	0.969	1.053	1.055	0.942	1.066	0.991	1.214
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.541	0.466	0.465	0.722	0.628	0.480	0.483	0.456	0.735
p-value	0.000	0.000	0.000	0.000	0.000	0.053	0.001	0.004	0.017
δ_i	0.037	0.019	-0.062	0.211	0.136	0.356	0.235	0.049	0.435
p-value	0.460	0.768	0.611	0.020	0.231	0.156	0.017	0.721	0.117
Post-Acquisition Period									
$\beta_{i\Delta}$	0.141	0.091	0.293	0.105	-0.016	0.058	0.183	0.313	-0.085
p-value	0.001	0.068	0.007	0.310	0.890	0.768	0.135	0.036	0.693
$\gamma_{i\Delta}$	-0.043	0.072	-0.057	-0.136	0.050	0.327	-0.063	-0.066	-0.458
p-value	0.487	0.347	0.724	0.246	0.738	0.333	0.613	0.645	0.282
$\delta_{i\Delta}$	0.220	0.223	0.335	0.060	-0.225	-0.892	0.018	0.144	-0.282
p-value	0.005	0.018	0.076	0.708	0.406	0.074	0.914	0.495	0.472
$\alpha_{i\Delta}$	-0.005	-0.006	-0.008	-0.002	-0.005	-0.006	-0.008	-0.005	-0.009
p-value	0.000	0.000	0.012	0.592	0.217	0.305	0.019	0.186	0.165
	0.002	0.002	0.003	0.001	-0.001	-0.002	0.001	0.003	-0.003
ΔK	0.002	0.012	0.021	0.586	0.530	0.436	0.349	0.105	0.300

Panel B. Full Samples [Acquirer Firm]

	Friendly			Hostile			Other Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period									
β_i	1.018	1.036	0.952	1.033	0.984	0.822	1.101	1.047	1.453
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.491	0.458	0.529	0.718	0.551	-0.117	0.457	0.453	0.658
p-value	0.000	0.000	0.000	0.000	0.014	0.764	0.005	0.010	0.019
δ_i	0.024	-0.031	-0.099	0.212	0.089	-0.091	0.212	0.002	0.481
p-value	0.663	0.702	0.467	0.082	0.471	0.841	0.088	0.989	0.076
Post-Acquisition Period									
$\beta_{i\Delta}$	0.132	0.081	0.310	0.125	0.055	0.178	0.147	0.258	-0.324
p-value	0.002	0.113	0.006	0.283	0.646	0.378	0.204	0.077	0.170
$\gamma_{i\Delta}$	0.007	0.079	-0.121	-0.132	0.127	0.924	-0.037	-0.063	-0.381
p-value	0.921	0.335	0.537	0.438	0.570	0.060	0.797	0.703	0.321
$\delta_{i\Delta}$	0.232	0.273	0.371	0.059	-0.177	-0.445	0.041	0.191	-0.328
p-value	0.005	0.009	0.060	0.698	0.458	0.502	0.836	0.415	0.357
$\alpha_{i\Delta}$	-0.008	-0.009	-0.008	-0.005	-0.007	-0.009	-0.010	-0.007	-0.003
p-value	0.000	0.000	0.028	0.099	0.083	0.136	0.015	0.128	0.699
ΔK	0.002	0.002	0.004	0.001	0.000	0.003	0.001	0.003	-0.005
p-value	0.001	0.008	0.022	0.494	0.977	0.526	0.448	0.178	0.087

Panel C. CTO Samples [Combined Firm]

	Friendly			Hostile			Other Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period	0.985	0.990	0.897	1.075	1.134	1.155	1.064	1.045	1.092
β_i	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value	0.616	0.501	0.254	0.628	0.440	0.246	0.389	0.388	0.622
γ_i	0.000	0.000	0.169	0.000	0.004	0.271	0.021	0.040	0.036
p-value	0.057	0.038	-0.086	0.192	0.201	0.271	0.301	0.126	0.307
δ_i	0.533	0.732	0.676	0.019	0.094	0.281	0.006	0.429	0.260
p-value	0.150	0.152	0.375	0.044	-0.107	-0.085	0.199	0.320	0.105
Post-Acquisition Period	0.034	0.109	0.079	0.692	0.448	0.685	0.112	0.066	0.702
$\beta_{i\Delta}$	-0.087	0.104	0.199	-0.055	0.219	0.590	-0.105	-0.053	-0.088
p-value	0.402	0.378	0.557	0.246	0.129	0.068	0.496	0.772	0.823
$\gamma_{i\Delta}$	0.276	0.242	0.533	0.061	-0.311	-0.773	-0.075	0.139	0.080
p-value	0.023	0.211	0.129	0.697	0.367	0.130	0.730	0.622	0.843

$\delta_{i\Delta}$	-0.003	-0.005	-0.012	0.001	-0.002	-0.002	-0.003	0.002	-0.004
p-value	0.276	0.117	0.072	0.724	0.666	0.793	0.411	0.717	0.595
$\alpha_{i\Delta}$	0.002	0.002	0.005	0.000	-0.001	-0.002	0.001	0.003	0.001
p-value	0.025	0.093	0.076	0.751	0.420	0.447	0.641	0.218	0.831

Panel D. CTO Samples [Acquirer Firm]

	Friendly			Hostile			Other Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period									
β_i	0.989	0.988	0.836	1.049	0.998	0.908	1.077	1.097	1.384
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.610	0.543	0.266	0.560	0.343	-0.065	0.348	0.385	0.732
p-value	0.000	0.000	0.166	0.002	0.133	0.879	0.032	0.035	0.026
δ_i	0.072	0.073	-0.112	0.162	0.177	-0.180	0.293	0.084	0.436
p-value	0.477	0.539	0.559	0.182	0.182	0.718	0.020	0.636	0.073
Post-Acquisition Period									
$\beta_{i\Delta}$	0.146	0.155	0.436	0.070	0.029	0.162	0.186	0.268	-0.187
p-value	0.042	0.115	0.053	0.603	0.843	0.488	0.148	0.143	0.487
$\gamma_{i\Delta}$	-0.081	0.062	0.188	0.013	0.316	0.901	-0.064	-0.050	-0.198
p-value	0.467	0.635	0.575	0.945	0.223	0.067	0.688	0.803	0.655
$\delta_{i\Delta}$	0.261	0.207	0.559	0.092	-0.287	-0.322	-0.067	0.180	-0.050
p-value	0.037	0.276	0.085	0.509	0.338	0.632	0.777	0.553	0.898
$\alpha_{i\Delta}$	-0.004	-0.006	-0.011	-0.003	-0.004	-0.004	-0.004	0.002	0.005
p-value	0.207	0.105	0.072	0.270	0.366	0.558	0.287	0.689	0.490
ΔK	0.002	0.002	0.006	0.001	0.000	0.002	0.001	0.003	-0.002
p-value	0.037	0.136	0.044	0.491	0.967	0.668	0.632	0.281	0.552

Panel E. BMV Samples [Combined Firm]

	Friendly			Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period						
β_i	1.009	0.989	0.822	1.091	1.143	1.169
p-value	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.482	0.424	0.333	0.657	0.453	0.178
p-value	0.001	0.005	0.170	0.000	0.004	0.415
δ_i	0.003	-0.105	-0.143	0.199	0.200	0.220
p-value	0.981	0.489	0.625	0.019	0.107	0.384
Post-Acquisition Period						
$\beta_{i\Delta}$	0.233	0.300	0.622	0.027	-0.123	-0.149
p-value	0.008	0.011	0.026	0.824	0.399	0.473
$\gamma_{i\Delta}$	-0.026	0.186	0.051	-0.070	0.239	0.699
p-value	0.856	0.196	0.915	0.620	0.108	0.028
$\delta_{i\Delta}$	0.406	0.436	0.650	0.031	-0.323	-0.800
p-value	0.011	0.085	0.200	0.847	0.365	0.129

$\alpha_{i\Delta}$	-0.002	-0.006	-0.015	0.001	-0.002	-0.001
p-value	0.572	0.214	0.087	0.701	0.697	0.870
ΔK	0.003	0.005	0.007	0.000	-0.002	-0.003
p-value	0.002	0.016	0.079	0.922	0.402	0.410

Panel F. BMV Samples [Acquirer Firm]

	Friendly			Hostile		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period						
β_i	1.011	1.001	0.778	1.064	1.004	0.918
p-value	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.444	0.397	0.347	0.588	0.354	-0.149
p-value	0.005	0.008	0.177	0.001	0.134	0.730
δ_i	0.002	-0.092	-0.102	0.166	0.173	-0.250
p-value	0.988	0.575	0.701	0.183	0.205	0.625
Post-Acquisition Period						
$\beta_{i\Delta}$	0.232	0.287	0.665	0.054	0.016	0.103
p-value	0.013	0.018	0.025	0.697	0.916	0.658
$\gamma_{i\Delta}$	0.012	0.213	0.037	0.000	0.338	1.027
p-value	0.938	0.099	0.938	0.998	0.207	0.038
$\delta_{i\Delta}$	0.407	0.423	0.608	0.064	-0.297	-0.330
p-value	0.010	0.081	0.198	0.651	0.337	0.635
$\alpha_{i\Delta}$	-0.003	-0.006	-0.013	-0.003	-0.004	-0.003
p-value	0.523	0.199	0.098	0.287	0.390	0.614
ΔK	0.003	0.005	0.008	0.001	0.000	0.002
p-value	0.002	0.014	0.066	0.630	0.935	0.697

Panel G. Friendly Cash Mergers

	Combined Firm			Acquirer Firm		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period						
β_i	1.098	1.085	1.227	1.135	1.123	1.219
p-value	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.519	0.501	0.550	0.429	0.532	0.886
p-value	0.000	0.000	0.005	0.000	0.001	0.035
δ_i	0.063	0.017	0.030	-0.018	-0.173	-0.120
p-value	0.532	0.890	0.894	0.881	0.424	0.683
Post-Acquisition Period						
$\beta_{i\Delta}$	0.148	0.120	0.067	0.111	0.081	0.075
p-value	0.099	0.205	0.698	0.208	0.417	0.698
$\gamma_{i\Delta}$	0.005	0.007	-0.154	0.094	-0.023	-0.490
p-value	0.969	0.962	0.593	0.489	0.884	0.328
$\delta_{i\Delta}$	0.329	0.397	0.389	0.409	0.587	0.538
p-value	0.068	0.052	0.330	0.032	0.024	0.242
$\alpha_{i\Delta}$	-0.005	-0.004	0.000	-0.009	-0.008	0.004
p-value	0.046	0.229	0.953	0.005	0.087	0.576
ΔK	0.003	0.003	0.002	0.003	0.003	0.002
p-value	0.055	0.058	0.477	0.033	0.036	0.591

Panel H. Friendly Stock Mergers

	Combined Firm			Acquirer Firm		
Years Relative to the Acquisition Year	-5:+5	-3:+3	-1:+1	-5:+5	-3:+3	-1:+1
Pre-Acquisition Period						
β_i	0.971	0.998	0.880	0.965	1.011	0.861
p-value	0.000	0.000	0.000	0.000	0.000	0.000
γ_i	0.517	0.426	0.569	0.464	0.357	0.518
p-value	0.000	0.000	0.001	0.000	0.000	0.004
δ_i	-0.002	-0.020	-0.117	0.009	-0.030	-0.099
p-value	0.978	0.849	0.565	0.918	0.781	0.651
Post-Acquisition Period						
$\beta_{i\Delta}$	0.133	0.061	0.371	0.138	0.048	0.390
p-value	0.041	0.426	0.033	0.040	0.543	0.032
$\gamma_{i\Delta}$	-0.041	0.097	-0.155	0.013	0.166	-0.104
p-value	0.671	0.432	0.535	0.906	0.219	0.690
$\delta_{i\Delta}$	0.160	0.163	0.226	0.150	0.173	0.208
p-value	0.164	0.211	0.421	0.237	0.201	0.469
$\alpha_{i\Delta}$	-0.006	-0.008	-0.011	-0.009	-0.011	-0.013
p-value	0.007	0.003	0.044	0.000	0.000	0.031
ΔK	0.002	0.001	0.003	0.002	0.002	0.003
p-value	0.088	0.194	0.173	0.087	0.165	0.151

Table 4. Post-Acquisition Risk Changes: Calendar Time Portfolio Regressions

Full samples include all acquirer firms regardless of the payment terms or mode of the acquisition. Cash Tenders Offers include all successful acquisitions completed through cash tender offers during 1975-1996 by non-financial non-utility U.S. public firms. *Hostile* shows the sample of acquisitions with hostile acquirers. *Friendly* is the sample of acquisitions where acquirers were friendly and other bidders, if present, were not hostile to targets. *Other Hostile* is the sample of acquisitions with non-hostile acquirers and other hostile competing bidders.

For each calendar month, a post-acquisition calendar time portfolio and a pre-acquisition calendar time portfolio are constructed. A post-acquisition calendar time portfolio in calendar month *t* is a portfolio of sample firms that have completed an acquisition within the past 5 years. Similarly, a pre-acquisition calendar time portfolio is a portfolio of sample firms that have an acquisition announcement within the next 5 years. The following three factor Fama-French *(FF3)* regression (1993) is used to estimate the average pre- to post-acquisition changes in monthly abnormal return, $\alpha_{p\Delta}$, and Fama-French factors, $\beta_{p\Delta}$, $\gamma_{p\Delta}$ and $\delta_{p\Delta}$:

$$R_{post,t} - R_{pre,t} = \alpha_{p\Delta} + \beta_{p\Delta}\left(R_{m,t} - R_{f,t}\right) + \gamma_{p\Delta}\left(SMB_t\right) + \delta_{p\Delta}\left(HML_t\right) + e_{pt}$$

where $R_{pos,t}$ and $R_{pre,t}$ are average portfolio returns in calendar month *t* for the post-acquisition calendar time portfolio and pre-acquisition calendar time portfolio, respectively, (R_{mt} - R_{ft}) is the market risk premium, SMB_t is the difference between value-weighted return on small firms and the value-weighted return on big firms, and HML_t is the difference between the value-weighted return on high book-to-market firms and the value-weighted return on low book-to-market firms. Monthly data for Fama-French factors (R_{mt}, R_{ft}, SMB_t and HML_t) are obtained from Kenneth R. French's online research database. Weighted least squares method is used to estimate the regression and White (1980) adjusted statistics are reported. Weight used for the weighted least squares regression is the square root of the average of the number of observations in the post-acquisition and pre-acquisition calendar time portfolios. Statistical significance of the post-acquisition change in equity risk, ΔK, is determined by running *FF3* regression above and testing the following restriction for the FF3 regression (Boehme & Sorescu, 2002):

$$\Delta K = (\beta_{p\Delta} * \text{mean}[R_{mt}-R_{ft}]) + (\gamma_{p\Delta} * \text{mean}[SMB_t]) + (\delta_{p\Delta} * \text{mean}[HML_t])$$

where mean[R_{mt}-R_{ft}], mean[SMB_t] and mean[HML_t] are the mean monthly Fama-French risk factors over the sample period.

Panels A-E report the results for various samples. Each sample has results for pre-to-post acquisition changes in variables mentioned above using *Combined Firm* as well as *Acquirer Firm*. Results listed under *Combined Firm* use market value-weighted average of acquirer and target for pre-acquisition period while those listed under *Acquirer Firm* use only acquirer firms for pre-acquisition values. Panel A shows the results for full samples regardless of mode of acquisition and method of payment. Panel B presents the results for cash tender offers (*CTO*). Panel C provides the comparison of BMV matched samples between friendly and hostile cash tender offers. In the *BMV* matched subsamples, 30 cash tender offers of hostile acquirers are compared to a subgroup of 30 out of the 46 cash tender offers of friendly acquirers with the same size and BMV distributions as those in the hostile acquirers' group. The subgroup of cash tender offers by friendly acquirers is formed by selecting 30 firms from the group in a manner that each size-BMV partition in Table 2 for cash tender offers with friendly

acquirers has the same number of firms as that for cash tender offers with hostile acquirers. The firms to be retained are selected randomly from among the firms in the size-BMV partition. If not enough firms are available in a size-BMV partition of cash tender offers by friendly acquirers, adjacent size deciles are used. One firm from the hostile acquirers sample is deleted, as there was no BMV match in the sample of friendly acquirers. Results for friendly cash mergers and friendly stock mergers are shown in Panel D while Panel E illustrates the results for four subcategories of friendly samples: friendly cash transactions regardless of the mode of acquisition (*FC*), friendly stock transactions regardless of the mode of acquisitions (*FS*), friendly mergers regardless of the method of payment used in the acquisition (*FM*) and friendly tender offers regardless of the method of payment (*FTO*). P-values from the significance tests are stated under each variable. N is the number of calendar month observations.

Panel A. Full Samples

	Combined Firm			Acquirer Firm		
	Friendly (N:254)	Hostile (N:236)	Other Hostile (N:224)	Friendly (N:254)	Hostile (N:236)	Other Hostile (N:224)
$\beta_{p\Delta}$	0.131	0.111	0.185	0.124	0.122	0.099
p-value	0.004	0.250	0.064	0.012	0.255	0.268
$\gamma_{p\Delta}$	-0.261	-0.168	-0.327	-0.191	0.009	-0.246
p-value	0.002	0.397	0.094	0.035	0.970	0.163
$\delta_{p\Delta}$	0.130	-0.031	-0.085	0.152	-0.036	-0.092
p-value	0.052	0.814	0.540	0.033	0.822	0.480
$\alpha_{p\Delta}$	-0.007	-0.004	-0.001	-0.008	-0.005	-0.003
p-value	0.000	0.313	0.809	0.000	0.249	0.326
ΔK	0.001	0.000	0.000	0.001	0.001	0.000
p-value	0.106	0.811	0.919	0.040	0.487	0.720

Panel B. CTO Samples

	Combined Firm			Acquirer Firm		
	Friendly (N:254)	Hostile (N:236)	Other Hostile (N:157)	Friendly (N:254)	Hostile (N:236)	Other Hostile (N:218)
$\beta_{p\Delta}$	0.063	0.060	0.314	0.071	0.078	0.232
p-value	0.306	0.565	0.023	0.270	0.502	0.034
$\gamma_{p\Delta}$	-0.158	-0.051	-0.376	-0.148	0.197	-0.310
p-value	0.227	0.812	0.178	0.280	0.418	0.135
$\delta_{p\Delta}$	0.176	-0.019	0.100	0.192	-0.022	0.036
p-value	0.099	0.899	0.526	0.078	0.904	0.783
$\alpha_{p\Delta}$	-0.003	-0.001	0.001	-0.003	-0.002	0.001
p-value	0.255	0.826	0.897	0.325	0.751	0.809
ΔK	0.001	0.000	0.002	0.001	0.001	0.001
p-value	0.249	0.840	0.151	0.174	0.453	0.286

Panel C. BMV Samples

	Combined Firm		Acquirer Firm	
	Friendly (N:254)	Hostile (N:236)	Friendly (N:254)	Hostile (N:236)
$\beta_{p\Delta}$	0.089	0.060	0.104	0.049
p-value	0.253	0.565	0.200	0.676
$\gamma_{p\Delta}$	-0.096	-0.051	-0.078	0.227
p-value	0.570	0.812	0.669	0.352
$\delta_{p\Delta}$	0.217	-0.019	0.251	-0.050
p-value	0.122	0.899	0.076	0.787
$\alpha_{p\Delta}$	-0.002	-0.001	-0.001	-0.001
p-value	0.586	0.826	0.751	0.787
ΔK	0.001	0.000	0.002	0.001
p-value	0.140	0.840	0.070	0.566

Panel D. Friendly Mergers

	Friendly Cash Mergers		Friendly Stock Mergers	
	Combined Firm (N:247)	Acquirer Firm (N:247)	Combined Firm (N:226)	Acquirer Firm (N:226)
$\beta_{p\Delta}$	0.083	0.015	0.130	0.131
p-value	0.303	0.863	0.042	0.058
$\gamma_{p\Delta}$	-0.024	0.151	-0.314	-0.231
p-value	0.878	0.372	0.003	0.054
$\delta_{p\Delta}$	0.227	0.259	0.083	0.054
p-value	0.097	0.050	0.426	0.634
$\alpha_{p\Delta}$	-0.010	-0.012	-0.006	-0.008
p-value	0.002	0.001	0.004	0.000
ΔK	0.002	0.002	0.000	0.001
p-value	0.082	0.064	0.560	0.464

Panel E. Friendly Acquisitions

	Combined Firm				Acquirer Firm			
	FC (N:254)	FS (N:226)	FM (N:247)	FTO (N:254)	FC (N:254)	FS (N:226)	FM (N:247)	FTO (N:254)
□$_{p□}$	0.093	0.130	0.132	0.055	0.072	0.131	0.094	0.065
p-value	0.099	0.042	0.016	0.366	0.231	0.058	0.093	0.307
□$_{p□}$	-0.174	-0.314	-0.212	-0.132	-0.090	-0.231	0.018	-0.133
p-value	0.095	0.003	0.034	0.294	0.421	0.054	0.823	0.328
□$_{p□}$	0.191	0.083	0.144	0.170	0.235	0.054	0.159	0.197
p-value	0.029	0.426	0.070	0.103	0.007	0.634	0.076	0.075
□$_{p□}$	-0.006	-0.006	-0.008	-0.003	-0.007	-0.008	-0.010	-0.003
p-value	0.003	0.004	0.000	0.271	0.001	0.000	0.000	0.233
□ K	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001
p-value	0.097	0.560	0.066	0.256	0.039	0.464	0.039	0.169