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Tanna, S. & Yousef, I.

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Authors

Sailesh TannaSchool of Economics, Finance and Accounting, Faculty of Business and Law, Coventry University, UK. E-mail addresses: s.tanna@coventry.ac.uk

Ibrahim Yousef, Department of Banking and Finance, Faculty of Administrative & Financial Sciences, University of Petra, Jordan. E-mail addresses: iyousef@uop.edu.jo

Abstract

This study investigates the impact of M&As on acquiring company market or systematic risk using a global sample of 34,221 completed deals that occurred between 1977 and 2012, covering 163 countries and 85 industries. The empirical analysis takes into account factors related to the method of payment, target status, diversification, and acquirers' bidding experience. For the overall sample, the results indicate that acquirers' market risk (and hence their cost of capital) tends to increase post-merger. However, further analysis reveals that increased acquirers' risk occurs only in cases where their *ex-ante* market risk is relatively low in relation to the risk of the market. We also show that cash payment deals for publicly listed targets contribute to reducing acquirers' risk while diversification, whether global or across industry, has no significant impact. On the other hand, for serial acquirers, the risk increases significantly with further M&As.

JEL Classification: G34

Keywords: M&As; Systematic Risk, Acquirers' Beta, CAPM, Risk Regressions

1. Introduction

Mergers and acquisitions (M&As) play an important role in the corporate world by facilitating the reallocation of the merged companies' assets for potential synergy gains, so that markets can appropriately reward their shareholders and reassess their risk.

While there is a large literature investigating shareholder wealth effects (or abnormal returns) of merger announcements, relatively few studies have examined their impact on acquirers' market or systematic risk. Although a firm's total risk is composed of both systematic risk and unsystematic risk, the literature examines mainly systematic risk using the capital asset pricing model (CAPM), since it is assumed that unsystematic risk is diminished with a well-diversified portfolio. Thus, according to CAPM theory, a firm's risk-return trade-off can be influenced via diversification achieved through M&As. Most of the studies have focussed on investigating acquirers' risk associated with geographical or industry level diversification. By contrast, studies on shareholder wealth effects of M&As have accounted for the relevance of other deal characteristics such as the method of payment, target status or acquirers experience, but there is little or no such prior evidence on acquirers' systematic risk. This study aims to fill the gap by providing evidence relating to the impact of diversification as well as of the other deal characteristics on the systematic risk of the acquirer.

A major contribution of the study is the utilisation of a worldwide sample of 34,221 completed deals covering 163 countries and 85 sub-industries over the period 1977-2012. While our unique dataset covers merger transactions across both financial and non-financial sectors, it facilitates investigation of several hypotheses to provide evidence for both developed and developing regions of the world. Extant research on M&As has generally utilised small or medium sized samples and mainly for developed countries[1]. This paper aims to establish evidence at broader cross-country level with particular focus on four main deal characteristics: the method of payment (cash versus stock), status of target (listed or unlisted), deal type (focus versus diversification), and acquirers' prior experience, while controlling for other relevant

[1] A majority of studies have used small samples, typically less than 1000 deals. For example, Raj and Uddin (2013) used a sample of 340 deals, Casu *et al*. (2015) used 272 international deals, and Amihud *et al.* (2012) used 214 deals. Studies involving relatively large samples include Ahern (2007) with 12,942 deals, and Moeller *et al.* (2005) with 12,023 deals. In the middle of the spectrum, Focarelli *et al.* (2008) used 1,400 deals; Jaffe *et al*. (2015) used deals involving 835 subsidiaries and 2,571 public targets.

firm and country level characteristics. To the best of our knowledge, except for diversification, the literature has not examined the impact of such deal characteristics on acquirers' risk.

The main purpose of our investigation is to examine whether acquirers' market/systematic risk changes significantly with M&As and how this is influenced by the aforementioned deal characteristics. In order to accomplish this, the statistical significance of the change in risk (before and after merger announcement) is tested using univariate analysis for the overall sample as well as for various categories of deals. The analysis is then extended to multivariate level using risk regressions to assess the impact on the change in systematic risk by incorporating acquirers' pre-merger (*ex-ante*) risk and various deal, firm and country level characteristics. This enables formal testing of our hypotheses relating to how acquirers' risk is influenced by the payment mode, target status, diversification and acquirers' experience. Although the results initially suggest that acquirers' risk (and hence their cost of capital) tends to increase post-merger, we find that the increased risk arises only in cases where the acquirers' pre-merger risk is relatively low in relation to the risk of the market, not otherwise. Further analysis reveals that cash payment deals incur lower risk for acquirers while stock payments deals generally increase their risk. On the other hand, diversification, whether cross-border or cross-industry, does not significantly affect acquirers' risk. Finally, consistent with the hubris motive, our findings reveal that, for serial acquirers, the risk increases significantly with further M&As.

The rest of this paper is organised as follows. Section 2 reviews the extant evidence on acquirers' risk from M&As. Section 3 discusses the relevant hypotheses while section 4 presents the methodology and data. Section 5 presents the empirical results and Section 6 concludes.

2. Related Literature

Focussing on systematic/market risk, portfolio theory suggests that this element of total risk cannot be reduced by creating a portfolio of diversified stocks that are uncorrelated[2]. Therefore, the main issue is whether M&As affect acquirers' systematic risk, as reflected in the cost of capital (beta) or the value of the firm.

The empirical evidence is generally mixed. While some studies reveal that M&As reduce acquirers' risk, others report evidence of either increased risk or no significant (or mixed) impact. Table 1 summarises the evidence of previous studies assessing different measures of portfolio risk, which include total and systematic risk, where total risk (measured by the variance of the acquirer's returns) is the sum of both systematic and unsystematic (or idiosyncratic) risk. Earlier studies focussed on industrial sectors, while more recent studies have concentrated on financial sectors, investigating the impact of focussed versus diversified M&As.

[Insert Table 1 here]

The earliest study by Lev and Mandelker (1972) argues that unless the returns to both parties involved in the merger are perfectly correlated, the variances of the combined firms' returns will be less than the weighted average of the variances of the individual firms' returns (based on the diversification principle of portfolio theory). However, they find no significant impact on systematic risk. Joehnk and Nielsen (1974) indicate that systematic risk tends to be responsive, in varying degrees, to major conglomerate mergers with betas changing in accordance with confined pre-merger values. Lubatkin and O'Neill (1987) show that while all mergers increase unsystematic risk, related mergers are associated with a significant decline in systematic and total risk.

Among later studies for industrial sectors, Chatterjee *et al.* (1992) indicate that mergers of non-competing products sharing core technologies are capable of reducing systematic risk due to different pre-merger risk characteristics depicted by related and unrelated bidders. Sharma and

[2] The empirical studies reviewed in this section investigate the impact of M&As on *systematic* risk, although in the aftermath of the recent global financial crises some recent studies have examined the effect of M&As on *systemic* risk pertaining to the stability of the financial (or banking) system. Given the composition of our global sample of M&A deals, which covers predominantly industrial categories, the analysis of systemic risk is beyond the scope of this paper.

Thistle (1996) propose increased market power as a possible source of reduction in systematic risk although their empirical findings reveal an insignificant effect of this attribute. Rahim and Ananaba (2000) show that the total risk of merged entities increased in both conglomerate and non-conglomerate mergers, while post-merger betas also increased significantly in both cases but less so for conglomerate mergers. Dube and Glascock (2006) analyse risk (and return) characteristics of M&As financed via different payment modes, and find that cash payment transactions significantly increase post-merger risk. Mei and Sun (2008) and Evripidou (2012) reveal that horizontal mergers reduced acquirers' systematic risk and generated synergy gains from increased cost/scale efficiencies.

Subsequent research has also examined the risk implications of M&As in the financial sectors. Allen and Jagtiani (2000) find that while total risk is reduced through diversification of banks into insurance sectors, non-bank activities tended to increase acquiring banks' systematic risk, leading them to conclude that such diversification benefits are not large enough to justify the increase in bankers' remit to operate in the insurance underwriting business and other non-bank securities. Amihud *et al.* (2002) find an insignificant impact on the total and systematic risk of acquiring banks. As a result, they emphasise that regulators need not be concerned with the risk implications of cross-border mergers. Similarly, Mishra *et al.* (2005) find an insignificant impact of non-conglomerate (bank with bank) U.S. mergers on the systematic risk of acquiring banks, while such mergers reduced their unsystematic risk (and hence total risk). On the other hand, Bozos *et al.* (2013) reveal that large bank mergers not only increase acquirers' systematic risk, but there is a tendency for the beta to rise immediately following deal announcements and remain relatively high for up to two years afterwards. Focarelli *et al.* (2008) find that acquirers' systematic risk increase overall after merger announcement, though risk is decreased in the case of cross-border bank acquirers that had high per-merger beta. Chen *et al.* (2011) find that systematic risk decreases after mergers between banks and insurance companies while total risk remained unchanged. Casu *et al.* (2015) find that mergers between banks and securities firms yield increases in total risk through higher levels of systematic and idiosyncratic risks.

Overall, the empirical evidence is inconclusive and, therefore, it is difficult to draw any clear conclusions about the implications of M&As on acquirers' risk. This may be because the evidence is generally industry-specific and relates mainly to diversification issues, ignoring the influence of other deal characteristics, such as payment method, target status and acquirers experience. Therefore, we exploit the diverse nature of our worldwide sample to provide robust

evidence examining not only the impact of diversification but also of these other associated deal characteristics.

3. Hypotheses Development

While our main investigation focusses on whether that there is any significant difference in acquirers' systematic risk from M&A announcements, as mentioned above we seek also to determine the impact on acquirers' risk of specific deal characteristics relating to merger type (focus/diversification), payment method, target status and acquirers' bidding experience.

With regard to the method of payment, Fuller *et al.* (2002) among others have proposed that stock is a less preferable payment mechanism than cash, owing to information asymmetry associated with bidder and target valuations as well as the uncertainty about the expected synergy. Since each party in the transaction is in a better position to judge whether their own stocks are overvalued or undervalued, from the perspective of the bidder the stock payment mechanism accounts for the valuation uncertainty. This implication follows from the overvaluation hypothesis, originally developed by Myers and Majluf (1984), which suggests that if the bidder offers stock the market perceives that its stock is overvalued, hence there would be a negative response to its stock price upon announcement. However, from the perspective of the target firm, since it is difficult to gauge the valuation of the bidder's stocks it would generally prefer cash payments. Correspondingly, if the bidder offers cash instead of stock, it conveys a stronger signal to the market about its valuation and expected synergy, which therefore yields a positive response from the market upon announcement. The foregoing analysis suggests that stock payments will typically yield negative abnormal returns while cash payments generate positive returns for bidder shareholders. Correspondingly, it can be inferred from the risk-return trade-off theory that cash payment deals will imply lower systematic risk for acquirers post-merger while stock payment deals will lead to higher risk. Therefore, our first hypothesis can be stated as:

H1: Cash method of payment is associated with systematic risk *decrease* while stock method of payment is associated with systematic risk *increase* for acquirers post-merger.

It should be noted that the overvaluation hypothesis is associated with targets being public (or listed). It does not necessary hold in cases of stock payment offers for non-public (unlisted) targets, where positive bidder returns have been observed in empirical studies by Fuller *et al.*

(2002), Moeller *et al.* (2004), and Jaffe *et al*. (2015). Their evidence shows that mergers with private or subsidiary targets should be treated differently from those with public targets, due to the differences in the information asymmetry associated with public versus private targets. Listed firms are exposed to the scrutiny of the stock market, as they are subject to regulations regarding transparency and the issuance of certain types of information, which implies less uncertainty regarding their value (Feito-Ruiz and Requejo, 2014). Private firms, by contrast, have more control over the kind of information they disclose to markets (Reuer and Ragozzino, 2008). The comparative lack of information about private targets increase the risk of inaccurately valuing the target's assets and so the acquiring company may be able to obtain shareholder gains by forcing a private target to accept a substantial discount in the purchase price (Makadok and Barney, 2001). The information asymmetry translates to a lack of effective competition among acquirers of such targets. Added to this argument is the claim that unlisted targets are typically less liquid than listed targets, which heightens the negotiating power of potential acquirers in seeking lower payment for the former, thus creating positive abnormal returns for acquirers (Capron and Shen, 2007). These considerations suggest that acquisitions of unlisted targets will yield positive abnormal returns while those of public targets will generate negative abnormal returns for the bidding firms. Correspondingly, merger deals with private targets will imply higher market risk for acquirers than deals with public targets. Our second hypothesis can be simply stated as:

H2: Public status of the target is associated with systematic risk *decrease* of acquirers post-merger

On the question of focussed versus diversified M&As, the risk implications may be dependent upon motives which are typically economic, finance or strategy based. In cross-border mergers, besides growth there may be other opportunities to exploit, such as imperfections in capital markets and differences in taxation (Weston *et al.* 2001), capturing rents resulting from market inefficiencies (Servaes and Zenner, 1994), or synergies based on different knowledge and skills which gets diffused through such mergers. In cases of inter-industry mergers, the market power theory suggests that the merged entity is able to influence the market price and hence beat the rivals (Pindyck and Rubinfeld, 2005). Thus, bidder abnormal returns are likely to be significantly higher in diversified M&A announcements than in focused ones. Correspondingly, diversification may reduce acquirers' systematic risk. However, diversified deals may also be riskier due to greater information asymmetry, uncertainty, potential costs of

monitoring and market-specific factors associated with expansion into different markets (Berger *et al.* 2017). These considerations suggest that diversification has no clear and unambiguous impact on acquirers' risk. This leads to our third hypothesis:

H3: Diversification has no significant impact on acquirers' systematic risk post-merger.

With regard to acquirers' bidding experience, the conventional view is that such experience aids acquirers insofar as they are able to learn from the past, which therefore helps them to be successful in subsequent attempts. Serial acquirers, who tend to have the experience and skills necessary to achieve success in merger deals, are recognised as being more likely to achieve positive outcomes in this regard where benefits may also be associated with the size and prestige of the target company (Aggarwal and Samwick, 2003). Nevertheless, the hubris or over-optimism motives of mergers, which stands in contrast to the rational, synergy-based theories, suggest that with increased experience, acquirers tend to destroy rather than improve shareholder value (Roll, 1986). Consequently, repeat acquirers with previous experience are likely to incur higher risk than single acquirers, which leads to the postulation of our fourth hypothesis:

H4: Systematic risk of serial acquirers increases with subsequent mergers.

4. Methodology and Data

In order to test the above hypotheses, we follow the approach of previous studies by comparing the acquirers' systematic risk for approximately one year before and one year after merger announcement (Amihud *et al.* 2002, Focarelli *et al.* 2008). A two-step approach is adopted. In the first step, an estimate of the acquirer's market risk is obtained using the CAPM model. The use of CAPM is necessary in order to obtain an estimate of the change in the acquirer's market risk (Δ Beta), which reflects its systematic volatility, brought about by the deal announcement. The second step involves conducting univariate and multivariate analyses (risk regressions) on the change in the acquirer's beta to formally test the above hypotheses relating to the impact of diversification, payment method, target status, and acquirers' prior experience.

4.1. Estimating Beta

Consider a standard CAPM model in the presence of a risk-free asset:

$$R_{ijt} = R_f + Beta_{ijt} \times \left(R_{mjt} - R_f\right) + \varepsilon_{ijt} \qquad (1)$$

Where R_{ijt} is the return of the stock of firm *i* in country *j* at time *t*, R_f is the risk-free rate, R_{mjt} is the return of market *m* index in country *j* at time *t*, $Beta_{ijt}$ is the measure of the firm's market risk, and ε_{ijt} is the firm-specific (idiosyncratic) shock.

Defining σ^2_{ijt} and σ^2_{mjt} as the variances of R_{ijt} and R_{mjt}, respectively, a measure of the firm's total risk (volatility) is derived by taking the variance of equation (1):

$$\sigma^2_{ijt} = Beta_{ijt} \,.\, \sigma^2_{mjt} + \sigma^2_{ejt} \qquad (2)$$

where:

$$Beta_{i,m} = \frac{Cov(i,m)}{\sigma^2_m} \qquad (3)$$

Thus, the firm's total risk is the sum of its systematic volatility, $Beta_{ijt} \cdot \sigma^2_{mjt}$, and idiosyncratic volatility, σ^2_{ijt}. It is well known from standard portfolio theory that idiosyncratic risk does not affect prices (e.g. Cochrane 2001). Therefore, to analyse the effect of a deal announcement on an acquirers' systematic risk (or cost of capital), we concentrate on the component reflecting systematic volatility and neglect the idiosyncratic volatility.

Using an event study approach, the change in acquirers' systematic risk is determined by the difference in its average beta value before and after deal announcement (i.e. ΔBeta = Beta after deal - Beta before deal). The acquirer's pre-merger (*ex-ante*) risk is calculated for the period –260 to –20 trading days before announcement day, and its post-merger risk is calculated for the period +20 to +260 trading days after announcement day[3]. This measure of the acquirer's change in beta as a result of the merger announcement represents an estimate of its systematic volatility brought about by the deal, and therefore affects its cost of capital (Focarelli *et al.* 2008; Evripidou 2012).

[3] In a year there are 260 trading days. The 40 days window around the event (-20, +20) is excluded from the calculation to avoid any distortion in the results caused by the announcement.

The daily market log-returns of all acquirers in the sample (based on their stock price) are calculated using the benchmark local price index (available in Datastream). An average beta value is then computed using the formulas (1)-(3) above separately for the event window before and after deal announcement, and the difference between the two corresponds to the change in the acquirer's systematic risk.

4.2. Risk Regressions

We use cross-sectional risk regressions as part of multivariate analysis to analyse the effect of various deal characteristics on acquirers' systematic risk, including the method of payment, target status, diversification and acquirer bidding experience. The process involves regressing the acquirers' ΔBeta on these four explanatory variables as well as a host of control variables which include the initial level of beta, other firm and country level factors. The regression model is postulated as follows:

$$\Delta Beta_i = \alpha + B_1 CSH_i + B_2 STC_i + B_3 MIX_i + B_4 PUB_i + B_5 GD_i + B_6 ID_i + B_7 EXP_i + B_8 logVT_i + B_9 logGDP_j + B_{10} Pre\_Beta_i + B_{11} logBS_i + B_{12} LIQ_J + B_{13} M/B_i + B_{14} IP_j + \varepsilon_i \quad (4)$$

Where $\Delta Beta_i$ is the change in the acquirer's market risk; CSH_i, STC_i and MIX_i are dummy variables denoting Cash only, Stock only and Mixed (combined cash and stock) payment methods respectively (each taking value 1 if the acquirer paid using the stated method, 0 otherwise); PUB_i represents targets which are publicly listed as opposed to unlisted (thus taking value 1 if target is listed, 0 otherwise). *GD* and *ID* are dummy variables representing geographic and industry diversification (taking value 1 for deals where the acquirer and target are located in different countries and industries, respectively, 0 otherwise); and EXP_i represents acquirer prior experience determined by the cumulative number of previous takeovers by the same acquirer during the three-year or five-year period prior to announcement (hereafter 3-Y or 5-Y, respectively). In the regressions, for brevity, we show the results for 3-Y only.

The control variables included in the regressions to allow for both firm-level and country-specific heterogeneity are: VT_i which denotes the value of transaction (logarithm of deal value in US $mil, i.e. total value of consideration paid by the acquirer excluding fees and expenses) to represent target size; GDP_j which represents (logarithm of) GDP per capita of country j where the target is located; Pre_Beta_i which is the acquirer's 'beta before deal'; BS_i which represents bidder's size (the logarithm of market value of bidder in US $mil, calculated by

multiplying the total number of bidder shares times its stock price four weeks prior to the announcement date); LIQ_j which is the legal institutional quality indicator for target country j; M/B_i, the acquirer's market-to-book ratio on announcement day; and IP_j which denotes investor protection (taking value 1 if the target is located in a country that applies common law, 0 otherwise).

4.3. Data

The M&A dataset includes all completed deals announced between 1977 and 2012[4]. The criteria for inclusion in the sample are: First, the acquirers are publicly listed and the targets should be public, private or subsidiary firms, which allows the sample to be distinguished according to the target type[5]. Second, the sample covers deals with transaction values of at least $1 million[6], as larger transactions have 'unthinly' traded stocks and a stronger effect on the share prices (Healy *et al.* 1992)[7]. Third, to avoid the confounding effects of multiple bids, we excluded deals with more than one bid made by a bidder over a window of 21 days. Fourth, for the same reason, we excluded M&A deals made by the same bidder within the previous 110 days. Finally, we excluded deals where acquirers' market value and share prices (and/or the local index prices) were not available in Datastream.

Applying the above criteria led to a total sample of 34,221 completed deals covering 163 countries and 85 industries over the period 1977-2012. Only completed deals were considered to avoid distortions caused by unsuccessful deals in the post-event period over which the change in beta is calculated[8]. The sample of deals distinguished according to year and acquirer-target countries showed that USA had the largest number of M&A transactions both as acquiring and target country, followed by UK and Japan.

[4] At the time of data collection, the status of many of the deals announced after 2012 was uncertain (incomplete) and so such deals could not be included, given that the analysis of acquirers' risk requires not only certainty about completed deals but also daily share price data availability for at least one year before and one year after announcement date. The information on deals and share price data are obtained from the Securities Data Corporation's (SDC) M&A database and Datastream, respectively.

[5] The acquirer must have an interest of 50% or more in a target to represent M&A deal, thus raising its interest from below 50% to above 50% (including acquiring the remaining interest up to 100%).

[6] We follow Fuller et al. (2002) and Moeller et al. (2004), among others, to employ a £1m USD deal value cut-off point as a means to avoid the results being affected by small deals, which amount to outliers.

[7] Firms whose stocks are thinly traded there can have high frequency of zeros which could result in non-normal distributions (Campbell and Wesley 1993).

[8] For example, we found 3,064 unsuccessful deals during the 364 days after announcement date, and therefore it is not appropriate to include such deals in the evaluation of acquirers' market risk.

5. Empirical Results

To analyse the impact of M&As on acquirers' risk (cost of capital), we measure acquirers' market risk (or beta) using the method outlined in section 4.1. The statistical significance of the change in beta (ΔBeta) for the overall sample as well as for the relevant sub-categories of deals is first conducted using univariate analysis. This is followed by multivariate analyses (risk regressions) to test the hypotheses postulated in section 3, relating to the impact of the method of payment, target status, diversification, and acquirers' prior experience.

5.1 Univariate Analysis

Table 2 presents the main results on acquirers' beta statistics for the entire sample of 34,221 completed deals as well as for the relevant sub-samples pertaining to the four categories (method of payment, target status, diversification, and acquirers' experience). Both parametric (independent samples t-test) and non-parametric (Mann-Whitney U test) tests are employed to test for mean differences in ΔBeta among the categories. For the sake of brevity, only the main results for the sub-samples are presented.

[Insert Table 2 here]

The results indicate that the acquirer's market risk increases after deal announcement. For the overall sample, the average 'Beta before deal' is 0.730, and the average 'Beta after deal' is 0.751. Thus, the increase in beta is 0.021 which is consistent with other empirical studies. For example, Amihud *et al.* (2002) and Focarelli *et al.* (2008) both report slight increases in average betas of 0.023. In the above results, ΔBeta is statistically significant, suggesting that acquirers' systematic risk increases after M&As. Furthermore, the results confirm that acquirers' risk increases irrespective of the nature of the deal, given that all categories of deals have a positive and statistically significant ΔBeta. However, the mean differences in ΔBeta within each category are not always statistically significant.

An explanation for the increase in the acquirer's post-merger risk is that its beta may be lower than the beta of the target. Hence, during the takeover process, there is likely to be an increase in the acquirer's beta in light of the fact that the beta value of the combined entity will reflect the betas of both the acquirer and the target. This is the conventional argument drawn from a portfolio investment perspective, and the increase is more likely in the case of higher agency

costs (greater information asymmetry between targets and acquirers). Furthermore, there are specific market risks associated with M&As, particularly with cross-border or cross-industry expansion, which may offset any risk reduction associated with diversification. For instance, increased risk could be associated with higher potential costs in diversified deals if the target firm's customer base is high.

5.2 Controlling for Acquirers' pre-merger risk

The above analysis does not consider the impact of M&As on acquirers' market risk while accounting for their pre-merger risk. Therefore, we examine whether the systematic risk demonstrated by acquiring company prior to a deal influence its risk post-merger. Our rationale for expecting different systematic risk effects for low and high market risk acquiring company is based on Furfine and Rosen (2011) who suggest that acquiring company use M&As as a tool to reach the target risk. Under this perspective, if we view the average systematic risk within the industry as a proxy for the systematic risk of the targets, we should observe that the riskiest acquiring company experiences a reduction in systematic risk, while the least risky one increases its post-merger risk towards the industry mean. Thus, we re-analyse the results by examining whether M&As reduce the market risk of acquirers with high *ex-ante* risk, and correspondingly increase the risk of acquirers with lower *ex-ante* risk (relative to the beta of the home market portfolio). Specifically, our analysis suggests that the main investigation relating to the overall impact of M&As can be broken down into the following propositions: (1) M&As increase acquirers' market risk if their *ex-ante* market risk is lower than the risk of the market portfolio (i.e. beta before deal < 1); and (2) M&As decrease acquirers' market risk if their *ex-ante* market risk is higher than the risk of the market portfolio (i.e. beta before deal > 1).

The above propositions can be tested by splitting the overall sample of M&A deals into two groups according to whether acquirers' 'pre-beta' values (i.e. beta before deal) are less than or greater than the beta of the market portfolio (equal to 1). Table 3 below presents the results for acquirers' beta statistics for the two sub-samples, which comprises of 24,058 deals with acquirers' pre-beta < 1 and 10,163 deals with pre-beta >1. The table also shows the statistics for the relevant sub-categories (as in Table 2), but in this case it is not necessary to test for mean differences.

[Insert Table 3 here]

The results show that, in the overall sample, ΔBeta is positive (0.1243) for acquirers with pre-beta <1 and negative (–0.2224) for acquirers with pre-beta >1. This result suggests that M&As increased systematic risk of acquirers with relatively low *ex-ante* market risk (in relation to the beta of the market portfolio) and reduced their risk in cases where their *ex-ante* market risk was high. These results are similar for all sub-categories of the sample, implying that the above finding holds irrespective of the nature of a deal.

There may be several reasons why acquirers benefit from risk-reduction through M&As if their pre-merger risk is high compared to that of the home market index. Diversification and synergy motives are obvious examples of risk reduction where efficiency/synergy gains are possible. However, this logic does not explain the opposite effect, i.e. where acquirers with lower systematic risk have their risk increased after M&As. Investigation of other deal characteristics is therefore important in explaining the increase in acquirers' risk post-merger. In general, the findings indicate that low-risk acquirers tend to increase their systematic risk with M&As while high-risk acquirers reduce their systematic risk by doing so.

5.3 Multivariate Analysis: Risk regressions

For further investigation of factors affecting acquirers' risk, including testing of hypotheses H1 – H4, we conduct cross-sectional regressions with relevant conditioning variables, which include target status, method of payment, diversification, and acquirers' prior bidding experience, alongside other control variables discussed above to account for firm and country level heterogeneity. Additionally, in all regressions, we account for industry, country and year fixed effects, and the minimum set of control variables which include acquirers' pre-beta (to control for their *ex-ante* risk), target size (proxied by deal value), bidder size (acquirers' market capitalisation), and the GDP per capita of the target countries. Additionally, in some regressions, we include acquirers' market-to-book ratio and control for investor protection (legal origin) and institutional quality in the target countries, noting that these added effects (which reduce the sample size) are intended mainly to assess the consistency of the results.

[Insert Table 4 here]

Table 4 presents the results of 11 models aiming to analyse the impact of the above M&A factors on acquirers' risk. The estimation of models 1-6 uses a sample of 33,488 completed deals (reduced from 34,221) as we selectively add relevant explanatory variables relating to

method of payment, target status, diversification, and bidding experience. Models 7-9 include all additional control variables which further reduces the sample size, and Models 10-11 are estimated for deals involving only U.S. and non-U.S. acquirers, respectively. All regressions are statistically significant, as confirmed by the value of the F-statistic. The explanatory power for the values of R^2 and adjusted R^2, albeit low, is consistent with most prior empirical research using cross-sectional M&As data.

The results relating to the method of payment (cash vs. stock) confirm a negative effect of cash payment deals and a positive effect of stock payment deals, both being statistically significant. In contrast, the impact of mixed-payment deals is not significant. Our results therefore support hypothesis H1, which suggests that cash-only payment deals lead to systematic risk decrease for acquirers while stock-only payment deals increase their risk; a finding which is generally consistent with the view that positive (negative) abnormal returns are typically observed for acquirers engaging in cash-only (stock-only) deals, as a result of the overvaluation hypothesis.

With regard to acquiring a public target, the results also confirm a negative and statistically significant impact on acquirers' risk across all models, which is consistent with the univariate results (Tables 2 and 3) in that deals with public targets incur lower risk for acquirers than deals with non-public (private or subsidiary) targets. This observation, which supports hypothesis H2 above, may be because of less information asymmetry associated with the acquisition of public (as opposed to non-public) targets. As this yields typically lower shareholder returns for the acquirers (due to the overvaluation hypothesis), their systematic risk is correspondingly reduced.

Turning to the impact of diversification, the results reveal no statistically significant impact (models 5-11) except for the sample of U.S. acquirers (model 10), for whom cross-border deals appear to increase risk slightly. Overall, consistent with hypothesis H3, our results indicate that diversification has little or no impact on acquirers' risk, a result which stands in contrast to standard portfolio theory which suggests that diversification may reduce risk. However, as explained earlier, there can be several other factors which may increase acquirers' risk with international diversification, and so the association between diversification and risk could be ambiguous (as posited in H3). Even after controlling for other factors in the risk regressions, the results confirm no significant impact of diversification on acquirers' risk.

With regard to acquirers' bidding experience, the results suggest a robustly positive and statistically significant impact on acquirers' risk. This finding is also in tandem with the univariate results in Tables 2-3, where acquirers' risk is found to be higher for multiple bidders than for single bidders. These results are therefore consistent with hypothesis H4, which suggests that, for serial acquirers, systematic risk increases significantly with further M&A's.

As for the control variables, the results confirm that acquirers' pre-beta is negatively associated with their post-merger risk, consistent with the univariate analysis. Hackbarth and Morellec (2008) argue that a pre-merger run-down on the acquirer's stock may occur if the acquirer's core asset beta values are lower than the target's core asset beta values, and the opposite may occur when bidder beta values are significantly larger than those of the target. Such a market response could therefore explain this negative effect of pre-beta on acquirers' risk. The results also reveal a positive impact of transaction value and bidder size. These factors may reflect the firm's leverage capacity, and therefore have a counterbalancing effect on risk (as opposed to pre-beta). Additionally, the results indicate a significant negative impact of target country GDP as expected. Since GDP represents a proxy for economic development, acquirers aiming for targets in bigger countries may benefit from geographical diversification, therefore implying a negative impact on their risk.

5.4 Robustness

As a robustness check, we report in Table 5 the regression results by splitting the global sample of deals into two groups according to whether acquirers' 'pre-beta' values (i.e. beta before deal) are less than or greater than unity, as with the univariate analysis above. As in Table 3, this sample-split reveals a higher proportion of acquirers with pre-beta <1. In these set of results, the diversification dummies are omitted since their effects are insignificant. The main results hold, in particular the negative impact on risk of cash-only and public target deals, and the positive impact of deals involving stock-only payment, private targets, and serial acquirers. Additionally, acquirers' pre-beta has a negative impact on risk in both samples, which is consistent with that found in the univariate results, confirming that acquirers' *ex-ante* risk has a negative influence on the change in acquirers' risk (ΔBeta). The effect of acquirers' size on risk is also consistently positive and significant throughout.

[Insert Table 5 here]

6. Conclusion

This paper investigates the impact of M&As on acquirers' risk using evidence based on global sample of M&A deals. We contribute to the literature by presenting evidence pertaining to systematic risk, calculated using the capital asset pricing model. The change is acquirers' risk post-merger is determined using an event study approach and then tested for mean differences across various sub-categories of deals, associated with target status, payment method, diversification and acquirers' bidding experience. Cross-sectional regressions are then performed to investigate several hypotheses which we formulate in relation to the impact on these deal characteristics on acquirers' risk. Our study makes a contribution by providing robust evidence on acquirers' risk using a very large and diverse sample of M&A deals and investigating not only the impact of diversification but also of the other aforementioned characteristics which, to our best knowledge, have not been previously examined in the literature.

The overall findings from univariate analysis indicate that, while acquirers' systematic risk (and hence their cost of capital) tends to increase post-merger, this is so only in cases where their pre-merger risk is relatively low in relation to the risk of the market. Acquirers' systematic risk decreases when their pre-merger risk is relatively high in relation to the risk of the market. An interpretation that follows from this analysis is that high risk acquirers (relative to the risk of acquiring peers in the home market) could benefit from risk reduction through M&As while low risk acquirers will correspondingly increase their risk. The results from cross-sectional regressions confirm this negative effect of acquirers' pre-merger risk.

Our results also indicate that diversification does not change acquirers' risk in any significant way, whereas other factors (e.g. target status, payment method and acquirers experience) do. In particular, cash payment deals and acquisitions of public targets reduce acquirers' risk, while stock-payment deals increase their risk. For serial acquirers, risk increases significantly with more acquisitions.

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Table 1: Studies on M&As and Acquirers' Risk

Authors	Period	Sector	Geography	Type of Deal	Type of Risk*	Results*
Lev and Mandelker (1972)	1952-1963	Diversified	U.S.	69 deals, Diversified	SR	No effect
Joehnk and Nielsen (1974)	1962-1969	Diversified	U.S.	21 Conglomerate and 23 Non-Conglomerate	SR	Increased SR
Lubatkin and O'Neill (1987)	1954-1973	Diversified	U.S.	297 Vertical, Related, and Unrelated Mergers	TR, SR, USR	Increase USR, reduce SR & TR
Chatterjee *et al*. (1992)	1962-1979	Concentric, conglomerate mergers	U.S.	120 Vertical Mergers	SR	Reduce SR
Sharma and Thistle (1996)	1981-1984	Diversified, excluded banking, insurance, investments	U.S.	120 Horizontal Mergers	SR	No effect
Allen and Jagtiani (2000)	1986-1994	Bank, Insurance, and Securities	U.S.	729 banks, Diversified	TR, SR	Increase SR, reduce TR
Rahim and Ananaba (2000)	1975-1992	Diversified	U.S.	148 Conglomerate, 117 Non-Conglomerate Mergers	TR, SR	SR & TR increase in both cases
Amihud, Delong, and Saunders (2002)	1985-1998	Banking	Europe, U.S., Australia, Canada, Japan.	214 Cross-Border Mergers	TR, SR	No effect
Mishra *et al*. (2005)	2002-2004	Banks with Banks	U.S.	14 banks, Non-Conglomerate	TR, SR, USR	Reduce TR & USR, no effect for SR
Dube and Glasscock (2006)	1975-1996	Non-financial and non-utility	U.S.	256 Domestic Mergers	TR, SR, Business	Increase TR, SR and business risk for cash payment deals
Mei and Sun (2007)	1990-2004	Forest Industry	U.S.	57 Horizontal Mergers	SR	Reduce SR
Focarelli, Pozzolo, and Salleo (2008)	1988-2007	Financial Industry	75 countries	1400 cross-border and cross-industry deals	SR	Increased SR & WACC
Chen *et al*. (2011)	1986-2004	Banks and Insurance	Europe	42 Domestic and Cross-Border	TR, SR	Reduce SR, no effect for TR
Evripidou (2012)	2005-2010	Airline Industry	European, U.S.	5 Horizontal Mergers	SR	Reduce SR & WACC
Bozos, Koutmos, and Song (2013)	1998-2010	Bank	U.S.	177 Large Deals	SR	Increased SR
Casu *et al*. (2015)	1991-2012	Bank/Non-Bank Combinations	U.S., Europe, Canada, Asia, Australia, South America, Africa	218 bank-insurance deals, 54 bank-securities mergers	TR, SR, USR	Bank-insurance increase SR, bank-securities increase TR

* Note: TR is total risk, SR is systematic risk, USR is unsystematic risk, WACC is weighted average cost of capital

Table 2: Univariate Results: Acquirers' Market Risk

'Beta before deal' and 'Beta after deal' refer to acquirers' pre-merger and post-merger market risk, respectively, calculated for the periods –260 to –20 before and +20 to +260 after announcement day, using a standard CAPM model. ΔBeta = Beta after deal – Beta before deal. Beta is the covariance between an acquirer's returns and the benchmark local price index returns (DataStream Code: LI) divided by the variance in the benchmark local price index returns. The relevant sub-samples for the categories are determined according to: (1) Cash-only is a dummy variable equal to '1' if the acquirer used cash-only as the method of payment, and '0' otherwise, (2) Stock-only is a dummy variable equal to '1' if the acquirer used stock only as the method of payment, and '0' otherwise, (3) Mixed method of payment (Mixed) is a dummy variable equal to '1' if the acquirer used mixed methods, and '0' otherwise, (4) Public Targets is a dummy variable equal to '1' if the deal involves a public target, and '0' otherwise, (5) Non-Public Targets is a dummy variable equal to '1' if the deal involves a non-public target (Private and Subsidiary), and '0' otherwise, (6) Global Diversification is a dummy variable equal to '1' if the acquirer and target are located in different countries, and '0' otherwise, (7) Industry Diversification is a dummy variable equal to '1' if the acquirer and target are operate in different industries (based on the initial two digits of their digit SIC codes), and '0' otherwise, (8) Dum. Exp. 3-Y is a dummy variable equal to '1' if the same bidder has two or more completed deals over the three preceding years, and '0' otherwise, (9) Dum. Exp. 5-Y is a dummy variable equal to '1' if the same bidder has two or more completed deals over the five preceding years (a serial acquirer), and '0' otherwise. The univariate tests of mean differences in ΔBeta test the null hypothesis that the deals belong to that category (e.g. Public) or not. The symbols ***, **, and * denote statistical significance at the levels of 1%, 5%, and 10%, respectively.

One-Sample Statistics						
	N	Mean	Median	Std. Dev.	Std. Error	Sig.
Beta before deal	34221	0.73	0.691	0.595	0.0032	0.000***
Beta after deal	34221	0.751	0.715	0.596	0.0032	0.000***
Δ Beta	34221	0.021	0.015	0.56	0.003	0.000***

Subsample Statistics		Independent Samples t-Test			Mann-Whitney U-test		
for deals with	N	Δ Beta	Mean Diff.	p-value	Mean Rank	Z	p-value
Cash-Only	10167	0.0092**	-0.0173	.003***	16843	-3.267	.001***
Stock-Only	8594	0.0329***	0.0155	.049**	17274	-1.765	.078*
Mixed	5101	0.0399***	0.0218	0.01***	17441	-2.584	.01***
Public Targets	10869	0.0179***	-0.005	0.406	17098	-0.169	0.865
Non-Public Targets	23352	0.0229***	-0.005	0.872	17117	-0.169	0.865
Global Diversification	8222	0.019***	-0.0023	0.672	17035	-798	0.425
Industry Diversification	15761	0.0169**	-0.008	0.186	17048	-1.095	0.274
Dum Exp. 3-Y deals	16382	0.0297***	0.008	.0161**	17324	-3.829	.000***
Dum Exp. 5-Y deals	19181	0.0301***	0.001	.0200**	17327	-4.573	.000***

Table 3: Univariate Results: Accounting for Acquirers' Pre-Beta

The overall sample of deals is divided according to whether acquirers' *ex-ante* beta values are less than or greater than 1. The relevant sub-subsamples for the categories are reported in Table 2. The symbols ***, **, and * denote statistical significance at the levels of 1%, 5%, and 10%, respectively.

		N	Mean	Std. Deviation	Std. Error Mean	p-value
Pre-Beta<1	Beta before deal.	24058	0.4421	0.3861	0.0025	.000***
	Beta after deal.		0.5664	0.4948	0.0032	.000***
	Δ Beta		0.1243	0.493	0.0032	.000***
Pre-Beta>1	Beta Before deal.	10163	1.4106	0.4251	0.0042	.000***
	Beta After deal.		1.1882	0.5858	0.0058	.000***
	Δ Beta		-0.2224	0.6283	0.0062	.000***

	Pre-Beta<1				Pre-Beta>1			
Δ Beta	Mean	Median	Std. Deviation	Std. Err.	Mean	Median	Std. Deviation	Std. Err.
All Sample	.1243***	0.0721	0.493	0.0032	-.2224***	-0.1707	0.6283	0.0062
Cash Only	.0926***	0.0569	0.383	0.0046	-.1792***	-0.1482	0.4435	0.0079
Stock Only	.1669***	0.0992	0.5874	0.0077	-.2482***	-0.2143	0.7149	0.0136
Mixed	0.1489***	0.0818	0.5105	0.0084	-0.2513***	-0.2184	0.6436	0.0173
Public Targets	.1133***	0.0728	0.4038	0.0047	-.1802***	-0.1524	0.5293	0.0089
Non-Public Targets	.1291***	0.0719	0.5273	0.0041	-.2449***	-0.1805	0.6741	0.0083
Global Div.	0.1171***	0.0674	0.4620	0.0062	-0.1904***	-0.1436	0.5740	0.0112
Industry Div.	0.1215***	0.0717	0.5181	0.0049	-0.2327***	-0.1714	0.6771	0.0099
Exp. 3-Y	.1295***	0.0814	0.4454	0.0042	-.1763***	-0.152	0.5926	0.0081
Exp. 5-Y	.1317***	0.0828	0.4487	0.0039	-.1831***	-0.1551	0.5905	0.0075

Table 4: Risk Regressions

The dependent variable is the change in acquirers' systematic risk (ΔBeta). The independent variables are: (1) cash-only, (2) stock-only, (3) Cash and Stock (mixed method of payment), (4) public targets, (5) global diversification, (6) industry diversification, (7) Exp. 3-Y: the cumulative number of completed takeovers by the same acquirer during the preceding three years, (8) logarithm of transaction values, (9) logarithm of the GDP per capita of the target country, (10) acquirers' pre-beta (beta before deal), measured over the period –260 to –20 before announcement day, (11) bidder size, measured by the logarithm of acquirers' market capitalisation four weeks prior to announcement day, (12) legal and institutional quality in target countries, (13) market-to-book ratio for acquiring firms on announcement day (M/B Ratio), (14) legal origin (represented by a common law dummy) for target countries. Models 1-9 are estimated using the entire sample, while Models 10-11 are estimated for U.S. acquirers and Models 12-13 are estimated for non-U.S. acquirers. Heteroskedasticity-corrected estimates are reported with p-values shown in parentheses. All estimations include year and industry effects, as well as country effects where possible (subject to avoidance of multicollinearity).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
No. obs	33488	33488	33488	33488	33488	33488	25468	25468	25468	10225	10225	15243	15243
R^2	0.170	0.172	0.169	0.171	0.174	0.172	0.179	0.180	0.174	0.213	0.221	0.160	0.322
Adjusted R^2	0.169	0.172	0.169	0.171	0.173	0.171	0.179	0.180	0.173	0.211	0.220	0.159	0.321
F-test	854.34	867.53	849.76	576.80	585.61	577.75	371.11	373.70	356.44	196.82	206.79	192.99	481.49
P-value(F)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.227	0.232	0.223	0.222	0.224	0.217	0.222	0.227	0.220	-0.030	0.010	0.309	0.308
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.834)	(0.943)	(0.000)	(0.000)
Cash-Only	-0.024			-0.022			-0.027			-0.042		-0.015	
	(0.000)			(0.000)			(0.000)			(0.000)		(0.014)	
Stock-Only		0.043			0.043			0.053			0.052		0.039
		(0.000)			(0.000)			(0.000)			(0.000)		(0.000)
Cash and Stock			0.013			0.013			0.005				
			(0.066)			(0.055)			(0.555)				
Public				-0.021	-0.025	-0.023	-0.028	-0.033	-0.029	-0.055	-0.059	-0.003	-0.009
				(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.646)	(0.209)
Global Diversification				-0.007	-0.005	-0.009	-0.003	0.000	-0.006	0.064	0.057	-0.010	-0.007
				(0.210)	(0.396)	(0.097)	(0.600)	(0.951)	(0.330)	(0.001)	(0.003)	(0.147)	(0.290)
Industry Diversification				0.005	0.006	0.004	0.007	0.008	0.004	0.001	-0.001	0.013	0.015
				(0.246)	(0.176)	(0.364)	(0.160)	(0.110)	(0.495)	(0.878)	(0.877)	(0.025)	(0.013)
Exp. 3-Y				0.003	0.002	0.003	0.006	0.005	0.006	0.005	0.004	0.010	0.009
				(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Value of Trans.	0.009	0.008	0.010	0.015	0.014	0.015	0.013	0.012	0.015	-0.010	-0.009	0.013	0.012
	(0.007)	(0.013)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.002)	(0.000)	(0.177)	(0.248)	(0.003)	(0.007)
GDP (Target)	-0.007	-0.012	-0.009	-0.008	-0.012	-0.009	-0.002	-0.006	-0.003	0.055	0.046	-0.023	-0.026
	(0.194)	(0.030)	(0.118)	(0.192)	(0.044)	(0.109)	(0.800)	(0.325)	(0.626)	(0.082)	(0.145)	(0.000)	(0.000)
Pre-Beta	-0.395	-0.399	-0.396	-0.396	-0.400	-0.398	-0.391	-0.398	-0.392	-0.433	-0.436	-0.368	-0.371
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Bidder Size	0.067	0.069	0.067	0.066	0.067	0.066	0.060	0.061	0.058	0.085	0.084	0.050	0.052
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Legal Ins Quality (Target)							-0.001	-0.003	-0.002	-0.004	-0.004	-0.004	-0.005
							(0.774)	(0.400)	(0.638)	(0.607)	(0.559)	(0.276)	(0.186)
M/B Ratio							0.001	0.000	0.001	0.002	0.002	0.000	0.000
							(0.192)	(0.240)	(0.168)	(0.000)	(0.000)	(0.000)	(0.000)
Common Law (Target)							0.026	0.025	0.026	0.049	0.039	-0.005	-0.004
							(0.000)	(0.000)	(0.000)	(0.053)	(0.121)	(0.459)	(0.557)
Country Dumm.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Industry Dumm.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5: Risk Regressions: Accounting for Acquirers' Pre-Beta

The dependent variable and independent variables are the same as reported in Table 4, except that the diversification dummies (global and industry), which are insignificant, are excluded from the regressions. Models 1-6 are estimated for the sample of deals with acquirers having pre-beta >1, and Models 7-12 are estimated for deals with acquirers having pre-beta <1. Heteroskedasticity-corrected estimates are reported with p-values shown in parentheses. All estimations include year and industry effects, as well as country effects where possible (subject to avoidance of multicollinearity).

	Pre-Beta>1						Pre-Beta<1					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
No. obs	9870	9870	9870	7749	7749	7749	23618	23618	23618	17719	17719	17719
R^2	0.135	0.136	0.133	0.128	0.131	0.125	0.085	0.086	0.085	0.088	0.085	0.122
Adjusted R^2	0.134	0.135	0.132	0.127	0.130	0.124	0.084	0.085	0.084	0.087	0.084	0.121
F-test	153.48	154.77	150.99	87.32	89.82	85.07	218.80	220.75	218.32	131.50	126.24	189.44
P-value(F)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.195	0.207	0.188	0.230	0.244	0.220	0.229	0.227	0.228	0.217	0.214	0.230
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cash-Only	-0.017			-0.016			-0.019			-0.021		
	(0.066)			(0.122)			(0.000)			(0.000)		
Stock-Only		0.048			0.057			0.031			0.042	
		(0.000)			(0.000)			(0.000)			(0.000)	
Cash and Stock			0.016			0.000			0.012			0.009
			(0.253)			(0.987)			(0.099)			(0.320)
Public	-0.042	-0.047	-0.042	-0.033	-0.040	-0.033	-0.007	-0.011	-0.008	-0.020	-0.024	-0.029
	(0.000)	(0.000)	(0.000)	(0.004)	(0.001)	(0.004)	(0.201)	(0.057)	(0.158)	(0.003)	(0.000)	(0.000)
Exp. 3-Y	-0.004	-0.004	-0.003	0.002	0.001	0.002	0.004	0.004	0.004	0.006	0.005	0.005
	(0.060)	(0.022)	(0.135)	(0.492)	(0.602)	(0.361)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Value of Trans.	0.012	0.011	0.013	0.007	0.006	0.009	0.011	0.011	0.011	0.010	0.010	0.008
	(0.074)	(0.084)	(0.049)	(0.337)	(0.416)	(0.189)	(0.004)	(0.004)	(0.003)	(0.021)	(0.028)	(0.030)
GDP (Target)	0.000	-0.005	-0.001	0.000	-0.006	0.000	-0.004	-0.007	-0.006	0.005	0.001	0.002
	(0.975)	(0.614)	(0.880)	(0.977)	(0.584)	(0.963)	(0.529)	(0.322)	(0.385)	(0.549)	(0.876)	(0.817)
Pre-Beta	-0.454	-0.459	-0.452	-0.462	-0.464	-0.458	-0.390	-0.392	-0.392	-0.377	-0.380	-0.383
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Bidder Size	0.112	0.113	0.111	0.092	0.093	0.088	0.047	0.048	0.046	0.044	0.048	0.041
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Legal Ins Quality (Target)				-0.008	-0.009	-0.008				0.000	-0.001	-0.002
				(0.248)	(0.187)	(0.227)				(0.973)	(0.800)	(0.646)
M/B Ratio				0.009	0.008	0.010				0.000	0.000	0.000
				(0.025)	(0.061)	(0.013)				(0.421)	(0.447)	(0.519)
Common Law (Target)				0.038	0.041	0.041				0.015	0.015	0.013
				(0.000)	(0.000)	(0.000)				(0.028)	(0.033)	(0.051)
Country Dumm.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dumm.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes