## Acquiring Firms' Shareholder Wealth Effects of Selected Asian Domestic and Cross-Border Takeover Bids: China and India

#### 1999-2003

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#### **ABSTRACT**

This study investigates the shareholders' wealth effects of mergers and acquisitions of Chinese and Indian acquiring companies. It examines market reactions to 157 Indian and 109 Chinese mergers and acquisition (M&A) deals with a value of at least US\$1million during the period from 1999 to 2003. It is found that acquirers react positively with statistically significant bid announcement effects for the Indian sample for short window periods. However in a 301-day event window centred on announcement day, cumulative average abnormal returns for both samples are negative but statistically insignificant for Indian acquirers and statistically significant for Chinese acquirers. Another finding is that domestic M&As trigger higher wealth effects than cross-border operations for Indian acquirers while Chinese acquirers generate higher returns through cross-border M&As. Low market to book value ratio (MTBV) acquirers seem to out-perform high MTBV glamour acquirers based on both Indian and Chinese samples. There is strong evidence that the means of payment and tender offers have a substantial impact on the share prices of both Chinese and Indian acquirers. By way of policy implications of our findings, Chinese and Indian shareholders can use differential financing methods and varied wealth outcomes arising from investments based on style-characteristics of firms. For policy makers in these countries such as government authorities dealing with company mergers, they have an important role to play in creating a good competitive market environment for M&As.

Key Words: Mergers and Acquisitions, India, China, Wealth Effects, Event Study Method.JEL Classification: G20, G34

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#### **1. INTRODUCTION**

Increased level of mergers and acquisitions are one of the most important developments in corporate finance in the last few decades. Whether M&A create value for the shareholders of the acquiring firms has become a very important issue for researchers. M&A are economically relevant if they promote massive reallocation of resources in a short period of time, both within and across industries and regions, and potentially leading to wide-ranging institutional and organizational changes (Ferraz and Hamaguchi 2002). Therefore companies use M&A as a tool to gain competitive advantage, to generate efficiency gains, and also to enhance growth potential.

There is substantial evidence to support the view that M&A, in general, can add value to combined entity. However, a high level of wealth gain is often achieved by target firms, while the insignificant and even negative wealth changes are generated by bidder firms (see Jensen and Ruback 1983; Morck, Shleifer and Vishny 1990; Servaes 1991; Kaplan and Weisbach 1992). Hence shareholder wealth effects of M&A are still an area not fully understood, especially for the shareholders of acquiring firms.

As the world economy tends to be more integrated, a typical phenomenon of recent M&A wave is that the acquisitions tend to be global (Cosh and Hughes 1996). Although not all cross-border M&A are financed through foreign direct investment (FDI), cross-border M&A account for a significant share of global FDI flows. Therefore, the fast growth in cross-border M&A has a significant impact on the magnitude and direction of global FDI flows. (Chen and Findlay 2003) Thus, one important question that needs to be addressed is: do cross-border M&A increase shareholders' value of acquiring firms? In this study, an attempt is made to answer this question.

Previous studies on M&A have examined shareholders' wealth effects of domestic and cross-border bids in the developed countries (Mathur, Rangan, Chhachhi and Sundaram 1994, Eckbo and Thorburn 2000, Mauthur and Danbolt 2002). In general such research is lacking for developing countries excluding Japan due to economic and cultural characteristics. The limited M&A research on Asian region shows results of shareholders' wealth changes similar to those in developed western countries (Ding 1999, Yeh and Hoshino 2002, Bae, Kang and Kim 2002). However, no study has yet investigated the shareholders' wealth effects of acquiring firms of M&A deals of currently fast-growing two countries: China and India.

In the 1990s there was a rapid growth in M&A activity in Asia due to financial deregulation, liberalization, privatization and corporate restructuring. Thus the late 1990s to 2003 would be an interesting period to examine M&A activity in the Asian region, in particular China and India.

There is considerable gap in cross-country research on the acquiring shareholder wealth effects of domestic and cross-border M&A deals in heavily populated Asian developing countries. This study is expected to fill up that gap by (1) using more recent data from 1999 to 2003 and (2) by investigating shareholder wealth effects of domestic and cross-border M&A deals in the two countries: China and India

This study addresses three research questions. They are: in China and India, (i) do domestic and cross-border mergers and acquisitions increase shareholder value for acquiring firms? (ii) how bidder firms' financing and performance decisions and target firms' reactions about mergers and acquisitions impact on the shareholder wealth of acquiring companies? (iii) do target and bidder firms' style characteristics impact on the shareholder wealth of acquiring companies? To answer these three research questions, five hypotheses are formulated for empirical investigation.

The rest of this study is organised as follows. Section 2 presents a review of the existing literature on the issue of short-term acquirer shareholder wealth effects of mergers and acquisitions. It also identifies the five hypotheses that will be tested in

this study to answer the three research questions. Section 3 outlines the data sets and testing methodologies employed in this research. Section 4 then presents the results obtained from employed methodologies as well as the discussion of these results. Finally, concluding remarks along with resulting policy implications are outlined in section 5.

#### 2. EXISTING EVIDENCE

#### 2.1 Share Holder Wealth Change: Bidder Firms

Berkovitch and Narayanan (1993) researched three motives of M&A: (i) synergy, (ii) agency and (iii) hubris. M&A make economic sense if the whole is worth more than the sum of its parts, or stated otherwise, if synergy exists. The surplus value of horizontal mergers can be attained by: economies of scale in production and distribution, access to new markets, having a combined main office, removal of inefficient management, greater financial possibilities and combined intangible assets such as patents, trademarks and licenses. Vertical mergers shorten the industrial chain and savings can be made in procurement. They are also conducive for more efficient communication and as their production can be more focused on market developments. This implies that M&A deals can add value to the acquirers.

The second motive for M&As is agency related: in this case, the self-interest of the management of the bidder company is the prime reason for takeover offers. Managers may prefer to maximize corporate growth rather than corporate value as their private benefits tend to increase in line with firm size. Hence, managers may be tempted to use free cash flow for "empire building" (Jensen 1986). Managers may make acquisitions such that the combined entity will depend even more on their personal expertise. Hence, they may exploit this dependency and extract value from the bidder's shareholders. Consequently both the total value of the combined entity as well as the wealth of the bidder's shareholders may be lower.

The third M&A motive may be the bidding company management's hubris, which hinges on the assumption that the management makes mistakes in evaluating potential targets (Roll 1986). If there is an equal probability that managers are over- or under-estimating the synergies of potential M&A deals, and they make a bid after having overestimated synergy values, they may pay too much for the target. As a result, the higher the target's gain, the lower the bidder's gain, such that there is a wealth transfer from the bidder to the target with the total gain being zero (Berkovitch and Narayanan 1993).

In the literature examining the performance of acquirers, the existing empirical evidence seems to be mixed as to whether M&A increase value for the shareholders of the bidder firms. Walker (2000) reported results for the US acquirers during the period from 1980 to 1996 showing that returns to bidder firm shareholders at the time of bid announcement are quite ambiguous. Mitchell and Stafford (2000) report small negative returns for the US acquirers in the period from 1953 to 1993, whereas Eckbo and Thorburn (2000) as well as Schwert (2000) report zero or small positive returns for US acquirers of foreign target firms in 1990s. In another recent study examining the abnormal returns to acquirers of listed and unlisted targets during the announcements periods in 17 Western European countries between 1996-2001, Faccio, McConnell and Stolin (2006) find that acquirers of listed targets earn an insignificant average abnormal return of -0.38%, while acquirers of unlisted targets earn a significant average abnormal return of 1.48%.

Based on the above-mentioned three motivations and empirical findings, the first hypothesis in relation to research question 1 (in China and India do domestic and cross-border mergers/acquisitions increase acquiring firms' shareholders value?) is formulated as:

#### H1: Returns to acquiring firm shareholders are quite ambiguous.

#### 2.2 Share Holder Wealth Change: Cross-Border Mergers and Acquisitions

With the advent of globalisation there has been exponential growth of cross-boarder M&A activity as barriers to entry into international markets are reduced. The targets of cross-border M&A generate a large abnormal returns similar to the domestic M&A according to Harris and Ravenscraft (1991), Cheng and Chan (1995) and Danbolt (2002). But the wealth effects of cross-border M&A bidders are ambiguous. Doukas and Travlos (1988, p.1166) reported insignificant positive abnormal returns of around 2% for the US bidders in the time period (-10, +10) days around the announcement day. Harris and Ravenscraft (1991) argue that there is no expected difference between abnormal returns of target firms in domestic acquisitions and those of target firms in cross-border acquisitions provided that capital and factor markets are not segmented internationally. Still, foreign direct investment theory posits that multinational firms have a competitive advantage over local firms if market imperfections exist. Hence, cross-border acquisitions are expected to generate more wealth than domestic acquisitions (Kang 1993). However, using US data for the 1984 to 1988 period, Mathur, Rangan, Chhachh and Sundaram (1994, p.112) found that foreign bidders show negative but not significant cumulative abnormal returns (CARs) of -0.082% over the (-1, 0) day period, while CARs of -1.429% (+2, +6) and -1.797% (+1, +15) are negative and significant. Conn (2003, p.1) reports that, of the 15 studies reviewed, the primary conclusion is the dominance of zero or negative cumulative abnormal returns for acquiring firms (in both U.S. and U.K.). Analysing data for the period of 1993 to 2000, Goergen and Renneboog (2004) find no significant difference between announcement of abnormal returns for Europe-wide targets of mergers and acquisitions and those of cross-border takeovers, whereas a higher announcement returns for cross-border bidders in the European region. But using data for the period of 1985 to 1995, Moeller and Schlingemann (2005, p.533) show that US firms which acquire cross-border targets relative to those that acquire domestic targets experience significantly lower announcement returns of approximately 1%.

The theoretical foundation for positive returns from cross-border M&A is based on the assumption that firms enter foreign markets to exploit the target firms' specific resources to take advantage of imperfections in the markets (Buckley and Casson 1976 and Morck and Yeung 1992). There is evidence that cross-border M&A provide integrating benefits of internalization, synergy, and risk diversification and thereby create wealth for both acquirer and target-firm shareholders (Morck and Yeung 1991, 1992; Kang 1993, Markides and Ittner 1994). Market reactions to cross-border M&A deals are noticeably different from those for domestic M&A deals, which often report a reduction in the acquirer's shareholder value while only improving the target's shareholder value (Kaplan and Weisbach 1992).

The above extended analysis of issues is related to research question (1): in China and India do domestic and cross-border mergers/acquisitions increase acquiring firms' shareholders value? The second hypothesis is based on foreign direct investment theory of Buckley and Casson (1976) and Morck and Yeung (1992) as discussed above. They argue that firms enter foreign markets to exploit the target firms' specific resources to take advantage of imperfections in the markets. Therefore the second hypothesis is proposed as follows:

H2: Acquirers will generate higher cumulative average abnormal returns (CAARs) through cross-border M&As than domestic M&As.

#### 2.4 Tender Offers

Whether bidder firms' decisions about forms of acquisitions and target firms' reactions affect the shareholder wealth is contained in the second research question. In that context, Bradley and Kim (1985) argue that the choice between merger and tender offer in an acquisition is motivated by cost and the cost of acquiring a firm is linked to the control premium required by the target's management. A premium for control need not be offered unless the target management's shareholdings are sufficient to block the transfer of control. Mergers permit payment of this control

premium directly to target firms' management in the form of post-acquisition contracts. Otherwise, control-related increments in the tender premium or exchange ratio go to all shareholders, including non-managers. Thus, merger agreements allow separate payment of the control premium to those parties that require it, implying target firm's shareholders will earn lower premiums in mergers (Huang and Walkling 1987). Gregory (1997), Loughran and Vijh (1997) and Lang, Stulz and Walkling (1989) report higher abnormal returns in the form of tender premiums for bidders in tender offers. Moreover, by analyzing 857 European bids between 1993 to 2001, Martynova and Renneboog (2006) find that takeover via a tender offer is anticipated by the market and evaluated positively.

Based on the above discussion, in relation to research question (2) (do characteristics of bids, mergers/acquisitions impact on the acquirer shareholder wealth in China and India?) the following hypothesis can be formulated:

# H3: The announcement of tender offers in M&A deals generates higher bidder returns than the announcement of non-tender offers in M&A deals.

#### 2.5 Means of Payments

Existing empirical evidence shows that using cash as the mean of payment can generate higher targets' and acquirers' returns than using stocks (Huang and Wallking 1987; Servaes 1991; Sudarsanam and Mahate 2003). Myers and Majluf (1984), Fishman (1989) and Eckbo and Thorburn (2000) develop theories of acquisition payment choice based on asymmetric information. They suggest that a bidder will use stocks as the vehicle of exchange if there is a broad belief that its own shares are overvalued or there is a high uncertainty on the target firm's value, and use cash as medium of exchange if the bidding firm's shares are undervalued or there is high uncertainty of the bidding firm's own value. However, Goergen and Renneboog (2004, p.24) using data for the period of 1993 to 2000 find shareholders of acquiring firms favour more equity offers (1%) than cash offers (0.4%) in the European region.

Goergen and Renneboog (2004, p.27) argue that " the choice to make an all-equity offer does not suggest to the market that the bidder's equity is overvalued. Within the sample of large takeover bids, the relatively small ones are all-cash bids whereas the relatively larger ones involve equity. Consequently, it may be that the market realizes that for large deals the choice of means of payment is restricted." Yeh and Hoshino (2000, p.193) find most of their sample of Taiwanese firms financed by cash from 1987 to 1998 period have been subjected to negative change in liquidity but no difference in leverage, and also report positive significant acquiring cumulated abnormal returns in a 9 day window period.

Cash acquirers experience flat to slightly positive abnormal returns (Travlos 1987; Andrade, Mitchell and Stafford 2001). The negative stock price reaction to stock-financed mergers is often taken as support for information-based theories of financial policy (Myers and Majluf 1984) and investment policy (Jensen 1986 and Shleifer and Vishny 2003). Common interpretations of the negative stock price reactions are that acquirers use stock as the mode of payment when their share price is overvalued or that the market perceives the merger to be a value-destroying investment. Mitchell, Pulvino, and Stafford (2004) suggest that a substantial part of the negative reaction to stock merger announcements is due to downward price pressure caused by merger arbitrage short selling of acquirers' stocks around merger announcement dates. More recently, using data on 4,429 European bids over the 1996-2001 interval, Faccio, McConnell and Stolin (2006) find that all-cash bids can generate positive CARs while all-equity bids obtain negative CARs regardless listing effect.

In order to answer research question (2) again: (do characteristics of bids, mergers/acquisitions impact on the acquirer shareholder wealth in China and India?) the following hypothesis is formulated:

H4: All-cash bids generate higher bidder returns than stock-for-stock acquisitions.

#### 2.5 Style Characteristics: Growth Firms vs. Value Firms

High or low market to book value (MTBV) ratios are style characteristics of bidder and target firms. In the context of the third research question, glamour acquirers (growth firms) that have high MTBV are considered to be overvalued and expected to have high growth or investment opportunities, while value acquirers are those undervalued firms that have low MTBV.

Rau and Vermaelen (1998) put forward the extrapolation hypothesis to explain the differential performance of glamour and value acquirers. Acquirers commanding a high market rating due to their recent performance and expected future performance (glamour acquirers) may act out of overconfidence or hubris in making acquisitions. Stocks of such companies may also be overvalued. Managers of such companies may be aware of such overvaluation but the stock market is not. The acquirer company managers capitalize on this asymmetric information but over time (in the long run) the overvaluation is corrected and glamour stocks are rated down leading to significant decline in value. The opposite rationale applies to value acquirers with low pre-bid market rating. This extrapolation hypothesis is consistent with the empirical evidence reported by Rau and Vermaelen (1998). They employ MTBV as a proxy for the glamour/value status, since price to earnings ratio (another proxy) is often restricted to sectoral valuation (e.g., property company targets).

Very few studies have investigated the differential performance of acquirers based on their market to book ratios. Rau and Vermaelen (1998) examine a sample of 987 US takeovers during the period 1980 to 1991. Their results show that glamour acquirers (i.e., those with high market to book ratios) enjoy significantly higher announcement returns but lower post-acquisition returns than value acquirers (i.e., those with low market to book ratios). Rau and Vermaelen (1998) argue that these results are consistent with the "extrapolation hypothesis". However, using UK data for the sample period 1983-1995, Sudarsanam and Mahate (2003) show contrary results in the announcement period but confirm long-run results of Rau and Vermaelen (1998).

If the type of extrapolation in Rau and Vermaelen (1998) exists, in answering the third research question in this study, the following hypothesis can be formulated:

H5: Shareholders of low MTBV acquirers (value acquirers) experience larger wealth gains than high MTBV acquirers (glamour acquirers) in longer term, but smaller wealth gains during the bid announcement period.

#### **3. DATA AND METHODOLOGY**

#### 3.1 Data

Data sets on Chinese and Indian M&A were extracted from ZEPHYR - Worldwide Database on Mergers and Acquisitions. The Data must meet the following criteria:

(1) Observations are from 01/01/1999 to 31/12/2003;

(2) Deals must be completed;

(3) Transaction values must be available;

(4) Companies with multiple M&A deals during the period are included;

(5) Acquiring Companies must be listed companies, and Chinese acquiring companies must be listed as A shares and listed in Shanghai or Shenzhen Stock Exchanges while Indian acquirers must be listed in the Bombay Stock Exchange;

(6) Only transactions greater than US\$1 million are included;

(7) The transactions are classified as capital repurchases and certain asset acquisitions are excluded;

(8) Market capitalization, financial and accounting data for the sample companies must be available in Thomson DataStream International. The final sample includes 157 transactions with 95 acquirers for India and 109 transactions with 85 acquirers for China between 01/01/1999 and 31/12/2003.

Panel A of Tables 1 and 2 reports the annual numbers, aggregate values, and mean values of acquisitions completed during 1999-2003. The total sample includes 157 acquisitions for India and 109 acquisitions for China. There is a trend in the data: few transactions took place before 2002 (in particular in China) and the number of acquisitions continuously increased after 2002. The smaller number of M&A deals during the 1999-2001 period may have resulted from the Asian financial crisis of 1997. The subsequent lagged effect of which evidently stretching past 2001.

Panel B of Tables 1 and 2 present acquisitions by primary security industry code (SIC). In India over 50% of the 157 transactions and 82 firms are in manufacturing industries (SIC 20 to 39). The rest of the transactions are distributed across several industries. In China 60% of firms and more than 20% of transactions are in the manufacturing industries (SIC 20 to 39). However more than 50% of transactions have been in the communications sector (SIC 40)

Tables 1 & 2 provide descriptive statistics on M&As for India and China. They show the breakdown according to the year, SIC Code and the nature of the transaction. During the period 1999-2003 there were 157 M&A transactions in India as opposed to 109 in China. The highest number of transactions for India were in the manufacturing industry (SIC 20-39). These resulted in over 50% of total transactions. The results wee similar in China as more than 50% of the transactions were in the same industry. For both countries the majority of the transactions were in related industries and comparatively China had more cross-border transactions than India.

Panel C of Table 1 and 2 categorize the two sample data sets based on the nature of their transactions. There are 122 (77.70%) of all transactions are between firms with the same primary SIC codes in India and 66 (60.55%) in China. There were 34 (21.66%) cross-border transactions for India and 5 (4.59%) cross-border transactions for China. For India (Table 3.1.), there were 118 (75.16%) cash payments. 22 stock payments (14.01%) and 17 (10.83%) mixed payments. In the case of China (Table 3),

there were 83 (76.15%) cash payments, 11 stock payments (10.09%) and 15 (13.76%) mixed payments. Finally, there are 30 (19.11%) tender offers for India and only two tender offer transactions for China. The smaller number of tender offers is consistent with prior studies (Loughran and Vijh, 1997; Rau and Vermaelen. 1998 and Andre, Kooli and L'Her 2004)

Panel D of Tables 1 and 2 show that Indian and Chinese sample sets have been divided into three equal-sized portfolios based on their respective average MTBV 240 trading days prior to the bid announcement. The mean MTBV value for the High MTBV portfolio is 2.54 (1.87/0.70) and 12.76 (8.93/0.70) times larger than that of Medium and Low MTBV portfolios respectively, while the median MTBV value for the High MTBV portfolio is 2.29 (1.67/0.73) and 7.38 (5.39/0.73) times larger than that of the Medium and Low MTBV portfolios respectively in the Indian sample. In the case of Chinese sample, the High portfolio has a mean value of 7.85 compared to 3.35 and 2.20 for the Medium and Low portfolios respectively while the corresponding median values are 5.67, 3.25 and 2.25 for the High, Medium and Low MTBV portfolios respectively.

## **Table 1: Descriptive Statistics for India**

The Sample consists of 157 completed Indian mergers and acquisitions during the 1999-2003 period. Data were collected form ZEPHYR - Worldwide Database on Mergers and Acquisitions and Datastream International.

Panel A. Distribution by Year			
Year	No. of Transactions	Total Value ( \$ mil)	Avg. Value (\$ mil)
1999	24	850.7	35.45
2000	33	1,523.44	46.16
2001	12	372.65	31.05
2002	41	3,913.04	95.44
2003	47	1,756.24	37.37
Total	157	8,416.07	53.61

#### Panel B. Distribution by Primary SIC Code

SIC	No. of Firms	No. of Transactions Total Value (\$mil)		Avg. Value (\$mil)
10 Minerals	2	6	996.76	166.13
20-39 Manufacturing	43	82	4688.49	57.18
40 Communications	6	7	525.50	75.07
50 Trade	1	1	95.20	95.20
60 Financial	13	22	1145.30	52.06
70-89 Services	15	39	964.82	24.74
Total	80	157	8416.07	53.61

#### Panel C. Frequency Distribution

		No. of Transactions	%
Related	Yes	122	77.70
	No	35	22.30
Cross-border	Yes	34	21.66
	No	123	78.34
Payment	Cash Only	118	75.16
	Mixed	17	10.83
	Stock Only	22	14.01
Tender Offer	Yes	30	19.11
	No	127	80.89

Panel D. Distribution by MTBV

	Low MTBV portfolio	Medium MTBV portfolio	High MTBV portfolio
Mean	0.70	1.78	8.93
Median	0.73	1.67	5.39
Sample Size	52	53	52
Percentage	33.12	33.76	33.12

## **Table 2: Descriptive Statistics for China**

The Sample consists of 109 completed Chinese merger and acquisitions during the 1999-2003 period. Data were collected form ZEPHYR - Worldwide Database on Mergers and Acquisitions and Datastream International.

Panel A. Distribution by	Year
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Year	No. of Transactions	Total Value ( \$ mil)	Avg. Value (\$ mil)	
1999	4	47.52	11.88	
2000	11	565.77	51.43	
2001	2	26.44	13.22	
2002	37	2,566.12	69.35	
2003	55	1,899.49	32.22	
Total	109	5,105.34	46.84	

#### Panel B. Distribution by Primary SIC Code

SIC	No. of Firms	No. of Transactions	Total Value (\$mil)	Avg. Value (\$mil)
10 Minerals	2	8	419.03	52.35
20-39 Manufacturing	54	60	1063.06	17.72
40 Communications	10	19	3096.44	162.97
50 Trade	2	2	46.20	23.10
60 Financial	13	15	432.61	28.84
70-89 Services	4	5	48.00	9.60
Total	85	109	5105.34	46.84

Panel C. Frequency Distribution

		No. of Transactions	%
Related	Yes	66	60.55
	No	43	39.45
Cross-border	Yes	5	4.59
	No	104	95.41
Payment	Cash Only	83	76.15
	Mixed	15	13.76
	Stock Only	11	10.09
Tender Offer	Yes	2	1.83
	No	107	98.17

#### Panel D. Distribution by MTBV

	Low MTBV portfolio	Medium MTBV portfolio	High MTBV portfolio
Mean	2.20	3.35	7.85
Median	2.25	3.25	5.67
Sample Size	36	37	36
Percentage	33.03	33.94	33.03

#### 3.2 Methodology

#### 3.2.1 Cumulative Average Abnormal Returns

The abnormal returns are calculated as the difference between the actual daily returns and the expected returns obtained from the following equation including the CAPM:

$$AR_{j_t} = R_{j_t} - \left[R_j + \beta_j * (R_{m_t} - R_j)\right]$$
 (Equation 1)

where:

 $AR_{jt}$  = stock j's abnormal return on day t;

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

- $R_f$  = the return on the risk free asset on day t;
- $\beta_j$  = company j's market risk; and

 $R_{mt}$  = the return on the market index on day t.

For each day t within the event window, the average abnormal return  $(AAR_t)$  for the acquiring firms is:

$$AAR_{t} = \frac{1}{N} \sum AR_{jt}$$
 (Equation 2)

where:

N is the number of firms in the sample and t, j, and  $AR_{jt}$  is as defined earlier.

The cumulative average abnormal return (CAARs) is the accumulation of the AAR's from time 0 to time t. The CAARs provides a clear indication of the direction and magnitude of the aggregated acquiring firm stock price movement during the event window:

$$CAAR_{i} = \sum AAR_{i}$$
 (Equation 3)

#### 3.2.2 Beta Estimation

This study uses a dynamic beta specification method (Faff, Hodgson and Saudaqaran 2002) to estimate the systematic risk  $\beta_j$  of company j, in Equation 1, which allows for conditional volatility interaction between an acquiring company's stock and the market. In order to estimate a company's dynamic beta, Faff, Hodgson and Saudaqaran (2002) employed a multivariate GARCH (M-GARCH) model, which allows cross-variable and time-varying conditional volatility interaction.

Most empirical studies use the market model to estimate CAPM beta, which is a constant beta (Faff, Hodgson and Saudaqaran 2002). One of the advantages of assuming a constant historical beta in event studies is simplicity. However, this assumption is rather restrictive, since a company's systematic risk changes due to factors such as market volatility and cyclical economic conditions. Therefore, it may be too restrictive to assume beta is constant throughout the event window. Therefore a dynamic beta specification is used to estimate CAPM beta in this study.

As explained in Faff, Hodgson and Saudaqaran (2002), capital market theory hypothesizes that investors are only rewarded for systematic risk as measured by beta, and that the beta coefficient is a key parameter in determining the asset's risk profile. Beta coefficients have typically been estimated from a static market model using the ordinary least square (OLS) regression in event studies. However, when the volatility of a stock's return is conditional on its past volatility or the risk characteristics suddenly change, the beta coefficient will be unstable. Therefore, under the condition that beta is time varying, OLS estimates of beta will not be best linear unbiased.

Although the use of market model to estimate abnormal return has a long standing; a growing body of evidence exists which suggests that both individual stock and

portfolio betas are conditional in that beta varies over time (Fabozzi and Francis 1978, Bos and Newbold 1984). Explicitly modelling time varying betas avoids the problem of fallacious abnormal returns inducted by a misspecification of beta's characteristics (Lepetit, Patry and Rous 2004).

In this study M-GARCH model is employed to estimate dynamic beta for acquiring firms during the entire event. The M-GARCH model<sup>1</sup> is formulated as follow:

$$\hat{\beta}_{jt} = \frac{\hat{\text{cov}}_{jmt}}{\hat{\text{var}}_{mt}} = \frac{\hat{\rho}_{jm} * \hat{\sigma}_{jt}^2}{\hat{\sigma}_{mt}^2} \qquad \text{(Equation 4)}$$

where:

 $\hat{\beta}_{jt}$  = the dynamic beta of stock j at day t;

and  $\hat{\rho}_{jm}$  is an estimate of the correlation between the return on the market and the return on stock j under the Bollerslev (1987) constant correlation assumption.  $\hat{\sigma}_{jt}^2$  and  $\hat{\sigma}_{mt}^2$  are GARCH (1,1) estimates of the volatility of the return on stock j and the return on the market at time t respectively. This model can capture the volatility interaction between the returns on the market and stock j.

Once the dynamic beta is computed, it is then super-imposed into Equation 1 to obtain abnormal returns.

#### 3.2.3 Significant Test

The standard significant tests are the ones from Kothari and Warner (1997). The one-day test statistic is:

<sup>&</sup>lt;sup>1</sup> Faff, Hodgson and Saudaqaran (2002,p371), for further details

$$\frac{AR}{\sigma(AR)}$$
, where  $\sigma(AR) = \sqrt{\frac{1}{199} \sum_{t=-240}^{t=-41} (AR_t - \overline{AR})^2}$  (Equation 5)

The test statistic for CARR is:  $\frac{CAAR}{\sigma(AR)\sqrt{T}}$  where T is the number of time

observations.

#### 3.2.4 Multi-Variable Testing

A multi-vairable analysis allows us to perform robust tests on shareholder wealth effects For this purpose, a regression model is formulated to be estimated using OLS.

 $CAARs_{j} = \alpha + \beta_{1}tender_{j} + \beta_{2}cash_{j} + \beta_{3}relativesize_{j} + \beta_{4}ROA_{j} + \beta_{5}ROE_{j} + \beta_{6}debtratio_{j} + \beta_{7}revgrowth_{j} + \beta_{8}MTBV_{j} + \beta_{9}SIC_{j} + \beta_{10}domestic_{j} + \beta_{11}US / UK_{j} + \varepsilon_{j}$ 

#### (Equation 6)

Where:

*CAARs* is the cumulative average abnormal returns, which is the dependent variable;

 $\alpha$  is the intercept;

*tender* is a dummy variable that equals 1 if the bid is made in tender offers, otherwise 0;

*cash* is a dummy variable that equals 1 if the bid is made in cash only, otherwise 0;

*relativesize* is relative size which is calculated as target capitalization divided by bidder capitalization;

*ROA* is return on assets;

*ROE* is return on equity;

debtratio is debt ratio;

*revgrowth* is the net profit growth prior the mergers and acquisitions announcement;

MTBV is market to book value ratio;

*SIC* is a dummy variable that equals 1 if the target and bidder were in same industry, otherwise 0;

*domestic* is a dummy variable that equals 1 if the transaction is a domestic M&A, otherwise 0;

US/UK is a dummy variable that equals 1 if the target firm is located in UK or US, otherwise 0; and

 $\varepsilon$  is the residual term.

#### 4. EMPIRICAL RESULTS AND DISCUSSION

#### 4.1 Hypothesis One: CAARs of Bidders

Based on Table 3 this subsection provides a discussion of empirical results of hypothesis two. Panel A of Table 3 shows that for (-1, +1) and (-2, +2) event windows, the CAARs of Indian acquirers are 1.92% and 1.52% (both significant at 1% level) is realized respectively. As the CAARs over the event window starting 40 trading days prior to and including the event date amount to about 2.13% but not statistically significant, it seems that the bid was anticipated but the rumours or insider trading have a little impact on the acquiring firm. However, the acquiring shareholders have a considerable decline in wealth in the longer periods, such as (-60, +60) and (-150, +150) window periods, where the small pre-announcement positive abnormal returns are reduced to the post-announcement underperformance. The CAARs for (-60, +60) and (-150, +150) window periods are -2.16% and -2.54% but not statistically significant. These findings are consistent with Goergen and Renneboog (2004, p.19), which report 0.70% significant CAARs during the bid announcement period and insignificant -0.48% CAARs for the (-60, +60) event window for a European sample.

Panel B of Table 3 indicates that the effects of the M&A announcement ((-1, +1) event window) on the wealth of the Chinese acquiring shareholders is small with

CAARs of 0.34% but not statistically significant. For the (-2, +2) event window, there is a no statistically significant CAARs of 0.46%. But CAARs over the event window starting 40 trading days prior to and including the event date amount to about -1.63% (statistically significant at 10% level). This may be because the Chinese acquiring firms' shareholders are overly confident of the M&A deals transactions of the company and overestimate the rumours and insider trading information. In the longer event windows, the CAARs are negative and statistically significant at the 5% level, which are -3.98% and -6.48% for the (-60, +60) and (-150, +150) event windows respectively. These negative CAARs include the effects of all revisions in expectations and in the offer price, hence being a more complete measure of the takeover wealth effect for the shareholders of the acquiring firms. The small insignificant positive CAARs during the bid announcement period is consistent with previous findings of Walker (2000), Eckbo and Thorburn (2000) and Schwert (2000). The negative CAARs in the longer event window for China (though not statistically significant) support the findings from our Indian sample and those of Goergen and Renneboog (2004).

Although the results between Indian acquiring firms and Chinese acquiring firms are not quite consistent with each other both our Indian and Chinese samples show small positive CAARs in the shorter event window centered on the announcement day and negative CAARs for the long term. These results imply that M&A can add little value to the acquirers during the bid announcement period and the small positive announcement returns are "buried" in the longer term by the post-announcement negative CAARs. Our findings therefore gives support to the first hypothesis, which postulates that returns to acquiring firm shareholders are quite ambiguous.

### **Table 3: Cumulative Abnormal Returns for Acquiring Firms**

This table shows cumulative average abnormal returns measured over several event windows for Indian and Chinese acquiring firms. The day of the bid announcement is day 0.The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

Panel A. India		
Time Interval	CAAR (%)	t-value
(-1, +1)	1.92	5.13***
(-2, +2)	1.52	3.14***
(-40, 0)	2.13	1.54
(-60, +60)	-2.16	-0.91
(-150, +150)	-2.54	-0.68
Observations		142
Panel B. China		
Panel B. China Time Interval	CAAR (%)	t-value
Panel B. China Time Interval (-1, +1)	<b>CAAR (%)</b> 0.34	<b>t-value</b> 1.29
Panel B. China         Time Interval         (-1, +1)         (-2, +2)	<b>CAAR (%)</b> 0.34 0.46	<b>t-value</b> 1.29 1.36
Panel B. China         Time Interval         (-1, +1)         (-2, +2)         (-40, 0)	CAAR (%) 0.34 0.46 -1.63	t-value 1.29 1.36 -1.67 <sup>*</sup>
Panel B. China         Time Interval         (-1, +1)         (-2, +2)         (-40, 0)         (-60, +60)	CAAR (%) 0.34 0.46 -1.63 -3.98	t-value 1.29 1.36 -1.67* -2.38**
Panel B. China         Time Interval         (-1, +1)         (-2, +2)         (-40, 0)         (-60, +60)         (-150, +150)	CAAR (%) 0.34 0.46 -1.63 -3.98 -6.48	t-value 1.29 1.36 -1.67* -2.38** -2.45**

\*\*\*\* ,\*\* and \* statistically significant at 1%, 5% and 10% level, respectively.

#### 4.2 Hypothesis Two:- Domestic vs. Cross-Border Abnormal Returns M&As

In relation to the second hypothesis Panel A of Table 4 shows in the window period (-1,+1) that the announcement effects of Indian domestic and cross-border acquirers amounts to 2.05% and 1.48% respectively but not statistically significant, and the difference (Domestic deals less Cross-Border deals column) is also not statistically significant. However, when the event window is expanded to (-2, +2) centred by announcement day, a statistically significant difference (within the 5% level) of -0.23% (1.47%-1.7%) is found. The negative sign with a difference of -0.23% reveals that the cross-border M&A deals add more wealth than domestic deals to acquirers in the five days. The CAARs over the pre-announcement day that is the event window starting 40 trading days prior to and including the event date, amount to 2.79% (statistically significant) for domestic acquirers but -0.04% (statistically insignificant) for cross-border acquirers. The difference in CAARs (40,0) is a statistically significant 2.83%. When the event window is expanded to (-60, +60), the small positive CAARs achieved by cross-border acquirers in (-2, +2) window are buried by a -8.02% CAARs, and the difference between domestic and cross-border deals is 7.63% and statistically significant at the 1% level. Moreover, the CAARs generated by domestic and cross-border acquirers in the (-150, +150) event window are 3.8% and -23.46% statistically significant respectively and the difference is 27.26% significant at the 1% level. Furthermore, as reported in Panel A of Table 4, the CAARs obtained by the full sample of domestic and cross-border acquirers is -2.54%. Therefore the underperformance of cross-border M&A deals (last two columns of Panel A of Table 4), which devoured the contribution of domestic acquirers is the main reason for driving the CAARs of the full sample to be negative in the longer (-60, +60) and (-150, +150) event windows. Our findings from the Indian sample are close to the findings of Doukas and Travlos (1988) and Mathur et al. (1994). These findings do not support our H2 that cross-border M&As will generate higher CAARs than domestic M&As.

Panel B of Table 4 reports the CAARs of 104 Chinese domestic bids and 5 cross-border bids. For Chinese acquirers, the CAARs (-1, +1) of domestic bids and cross-border bids are 0.34% and -0.19% respectively but not statistically significant, and the difference is also statistically insignificant. In contrast, difference of CAARs between domestic and cross-border bids over (-2, +2) window is -1.33% which is significant at the 10% level. The CAARs over the pre-announcement day that is the event window of (-40, 0) amount to about -1.83% statistically significant for domestic acquirers but -0.07% statistically insignificant for cross-border acquirers. The difference of CAARs (domestic and cross-border) stands at -1.76% (statistically significant). Chinese acquirers realize insignificant CAARs of 3.12% for cross-border bids and significant -4.14% CAARs for domestic bids during the (-60, +60) intervals. In particular, the difference of CAARs over (-60, +60) between domestic and cross-border bids (-7.26%) is significantly different from zero at the 1% level. Furthermore, Chinese cross-border acquirers attain significant CAARs of 10.16% in the (-150, +150) event window, which is the longest time interval in this study, while the domestic acquires get a -6.98% CAARs statistically significant in the same time interval. The statistically significant difference of -17.59% reported in Panel B of Table 4 reinforces the results for the (-40, 0) and (-60, +60) window period. From the results reported in Panel B of Table 4, it is clear that Chinese cross-border acquirers totally edged out domestic acquirers, especially for the longer window periods. These findings support the view that cross-border acquisitions enable multinational firms to exploit imperfections in product, factor, and capital markets, and in so doing create substantial gains for their shareholders (Harris and Ravenscraft 1991; Kang 1993). Even though these findings are in conflict with the results from our Indian sample they support our second hypothesis: acquirers will generate higher CAARs through cross-border M&A than domestic M&A.

Although there are no consistent results between our Indian and Chinese sample, all our findings are consistent with those of previous empirical studies. In reference to hypothesis two under research question one we conclude that Indian acquirers contrastingly will generate lower CAARs through cross-border M&A deals as opposed to domestic M&A deals while Chinese acquirers will generate higher CAARs through cross-border M&A deals than domestic M&A deals.

#### 4.3 Hypothesis Three: Tender offers

In relation to the third hypothesis Table 5 reports that in the (-2, +2) event window, Indian acquirers generate statistically significant 2.80% CAARs for tender offers and 1.54% CAARs for non-tender offers as Chinese acquirers obtain 14.29% and 0.17%, respectively, and the difference between tender offer bids and non-tender offer bids for both countries are statistically significant. In the period of 40 trading days prior to the announcement day, a statistically significant difference (within 1% level) of 2.35% (4.20% -1.15%) for India (last two columns, Panel A, Table 4.3) is found as well as a 20.54% difference for China (last two columns, Panel B, Table 4.3).

#### **Table 4: Cumulative Abnormal Returns of Domestic and Cross-Border Transactions**

This table shows cumulative averages abnormal returns for different event windows for Indian and Chinese acquiring firms of domestic and cross-border acquisitions. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

#### Panel A. India

	Domestic M&A		Cross-border M&A		Domestic l	Domestic less Cross-border	
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	Difference (%)	t-value for difference	
(-1, +1)	2.05	4.59***	1.48	1.62	0.57	0.45	
(-2, +2)	1.47	2.54**	1.70	1.44	-0.23	-4.09**	
(-40, 0)	2.79	1.68*	-0.04	-0.01	2.83	10.81 ***	
(-60, +60)	-0.39	-0.14	-8.02	-1.38	7.63	20.09 ***	
(-150, +150)	3.80	0.85	-23.46	-2.56*	27.26	23.47 ***	
Observations		122		34			

\*\*\*\* ,\*\* and <sup>\*</sup> significant at 1%, 5% and 10% level respectively

#### Table 4: Cumulative Abnormal Returns of Domestic and Cross-Border Transactions (continued)

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms of domestic and cross-border acquisitions. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

#### Panel B. China

	Domestic M&A Cross-border M&A		Domestic less Cross-border			
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	Difference (%)	t-value for difference
(-1, +1)	0.34	1.23	-0.19	-0.17	0.54	1.63
(-2, +2)	0.38	1.06	1.71	1.16	-1.33	-2.57*
(-40, 0)	-1.83	-1.77*	-0.07	-0.02	-1.76	-6.25 ***
(-60, +60)	-4.14	-2.34**	3.12	0.43	-7.26	-24.76***
(-150, +150)	-6.98	-2.50**	10.61	0.93	-17.59	-40.42***
Observations		104		5		

\*\*\* \*\*

and <sup>\*</sup> significant at 1%, 5% and 10% level respectively. ,

Both Indian and Chinese tender offer acquirers can attain more CAARs as the event window expands. When the event window expands from 121 days (-60, +60) to 301 days (-150, +150), Indian tender offer acquirers shift CAARs from 9.19% to 17.83% and Chinese tender offer acquirers increase their CAARs from 23.18% to 34.84% but are not statistically significant. The difference for both samples showing that the above time intervals are statistically significant at 1% level showing that tender offers provide substantially higher returns than non-tender offers.

The above findings support the argument that the control-related increments in the tender premium or exchange ratio go to all shareholders including non-managers (Bradley and Kim 1985 and Huang and Walkling 1987). Moreover, Gregory (1997), Loughran and Vijh (1997) and Lang, Stulz and Walkling (1989) report higher abnormal returns for bidders in tender offer. Therefore, tender offer bids can help acquirers generate more wealth in M&As and similarly it is a profitability driver of M&As, which is consistent with the third hypothesis. These findings lead to the conclusion that the market reacts positively to takeovers via tender offers.

#### Table 5: Cumulative Abnormal Returns of Tender Offers and Non-Tender Offers Bids

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms of tender offers and non-tender offers acquisitions. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirer while China A Share Market Index returns for Chinese acquirer and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

#### Panel A. India

	Tender o	offers	Non-tender	Offers	Tender less Non-tender		
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	Difference (%)	t-value for difference	
(-1, +1)	2.61	4.12 ***	1.99	4.58 ***	0.62	0.30	
(-2, +2)	2.80	3.43 ***	1.54	2.74 ***	1.26	3.92**	
(-40, 0)	4.20	1.79 <sup>*</sup>	1.85	1.15	2.35	2.88 ***	
(-60, +60)	9.19	2.28 **	-4.15	-1.51	13.34	8.92 ***	
(-150, +150)	17.83	2.81 ***	-6.55	-1.51	24.38	15.98 ***	
Observations		30		127			

 $^{\ast\ast\ast\ast}$  ,  $^{\ast\ast}$  and  $^{\ast}$  significant at 1%, 5% and 10% level, respectively.

#### Table 5: Cumulative Abnormal Returns of Tender Offers and Non-Tender Offers Bids (continued)

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms of tender offers and non-tender offers acquisitions. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

#### Panel B. China

	Tender o	offers	Non-tender	Offers	Tender less Non-tender		
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	Difference (%)	t-value for difference	
(-1, +1)	6.51	3.50*	0.19	0.73	6.32	2.36	
(-2, +2)	14.29	5.94*	0.17	0.49	14.12	5.93 ***	
(-40, 0)	18.40	2.67	-2.15	-2.18**	20.54	10.92 ***	
(-60, +60)	23.18	1.96	-4.32	-2.55 **	27.49	17.77 ***	
(-150, +150)	34.84	1.87	-6.92	-2.59 **	41.76	27.55 ***	
Observations		2		107			

and significant at 1%, 5% and 10% level respectively.

#### 4.4 Hypothesis Four: Means of Payment

This section reports the CAARs to acquirers classified by means of payment in testing the fourth hypothesis. M&A are classified into three categories: the merger/acquisition is made with (i) an all cash offer or (ii) an all equity offer or (iii) a combination of cash, equity and/or loan.

Panel A of Table 6 reports the all-cash, all equity and combined offer CAARs generated by Indian acquirers in the different event windows. Indian cash offers trigger statistically significantly positive CAARs during the bid announcement period [(-1, +1) and (-2, +2) windows]. Although all-equity offers generate no significant positive CAARs (statistically not significant) during the bid announcement period [(-1, +1) and (-2, +2) windows] and pre-announcement period (-40, 0 window}, there are substantially high statistically significant negative CAARs for the longer terms ((-60, +60) and (-150, +150) window periods) of -31.63% and -37.41%, respectively.

Panel B of Table 6 reports the significance of differences in Indian acquirers between the three methods of payments. The differences of CAARs between all-cash offers and all-equity offers (Difference (%) column of Cash less Equity in Panel B of Table 6) are positive in all time intervals (statistically significant only in the longer windows) starting from (-40,0), which reveal that all-cash offers can outperform all-equity offers. This finding support the fourth hypothesis: all-cash bids generate higher bidder returns than stock-for-stock acquisitions. Moreover, the differences of CAARs between all-equity offers and combined offers (Difference (%) column of Equity less Combined in Panel B of Table 6 are negative (mostly statistically significant) in all time intervals except (-1, +1) window period, which reveal that hybrid offers do better than all-equity offers with exception in (-1, +1) time interval. Refer to the Difference (%) column of Cash less Combined in Panel B of Table 6 although the differences of CAARs between all-cash offers and combined offers are positive in the (-1, +1) and (-2, +2) intervals (both statistically not significant), the differences are negatively statistically significant in the (-60, +60) and (-150, +150) window periods.

#### Table 6: Cumulative Abnormal Returns of Indian and Chinese Acquirers by Means of Payment

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms by means of payment (all-cash, all-equity or a combination of cash, equity and/or loan notes). The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	Cash offers		Equity	Offers	<b>Combined Offers</b>		
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	CAAR (%)	t-value	
(-1, +1)	2.02	4.50 ***	1.72	1.29	1.26	0.97	
(-2, +2)	1.64	2.82***	0.62	0.36	0.98	0.59	
(-40, 0)	2.00	1.20	0.17	0.03	3.20	0.67	
(-60, +60)	0.84	0.30	-31.63	-3.76***	2.94	0.36	
(-150, +150)	0.49	0.11	-37.41	-2.82 ***	9.01	0.69	
Observations		118		22		17	

#### Panel A. CAARs of Indian Acquirers by Mean of Payment

\*\*\* , \*\* and \* significant at 1%, 5% and 10% level respectively.

#### Table 6 Cumulative Abnormal Returns of Indian and Chinese Acquirers by Means of Payment (continued)

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms by means of payment (all-cash, all-equity or a combination of cash, equity and/or loan notes). The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirer while China A Share Market Index returns for Chinese acquirer and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	Casl	n less Equity	Cash I	ess Combined	Equity less Combined		
Time Interval	Difference (%)	t-value for difference	Difference (%)	t-value for difference	Difference (%)	t-value for difference	
(-1, +1)	0.31	1.02	0.77	0.24	0.46	0.60	
(-2, +2)	1.02	1.85	0.66	0.43	-0.36	-2.25	
(-40, 0)	1.83	8.46 ***	-1.20	-2.01	-3.04	-7.16 ***	
(-60, +60)	32.48	13.95 ***	-2.10	-12.57 ***	-34.58	-9.07 ***	
(-150, +150)	37.90	16.03 ***	-8.52	-34.03 ***	-46.42	-20.70 ***	

#### Panel B. Significance of Differences in Indian Acquirer CAARs Between Types of Payment

\*\*\*\* ,\*\* and \* significant at 1%, 5% and 10% level, respectively.

#### Table 6: Cumulative Abnormal Returns of Indian and Chinese Acquirers by Means of Payment (continued)

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms by means of payment (all-cash, all-equity or a combination of cash, equity and/or loan notes). The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	Cash offers		Equity	Offers	<b>Combined Offers</b>		
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	CAAR (%)	t-value	
(-1, +1)	0.36	1.13	0.08	0.10	0.34	0.46	
(-2, +2)	0.60	1.44	-0.70	-0.71	0.39	0.41	
(-40, 0)	-1.47	-1.24	-3.62	-1.28	0.03	0.01	
(-60, +60)	-3.33	-1.64	-12.27	-2.51 **	-1.79	-0.38	
(-150, +150)	-5.81	-1.81*	-20.85	-2.71 **	1.64	0.22	
Observations		83		11		15	

#### Panel C. CAARs of Chinese Acquirers by Mean of Payment

and \* significant at 1%, 5% and 10% level respectively.

#### Table 6: Cumulative Abnormal Returns of Indian and Chinese Acquirers by Means of Payment (continued)

This table shows cumulative average abnormal returns for different event windows for Indian and Chinese acquiring firms by means of payment (all-cash, all-equity or a combination of cash, equity and/or loan notes). The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	Casl	n less Equity	Cash I	ess Combined	Equity less Combined		
Time Interval	Difference (%)	t-value for difference	Difference (%)	t-value for difference	Difference (%)	t-value for difference	
(-1, +1)	0.28	0.34	0.03	1.95	-0.26	1.40	
(-2, +2)	1.30	0.64	0.21	2.49*	-1.09	0.81	
(-40, 0)	2.15	7.69 ***	-1.50	-3.03 ***	-3.65	-5.32 ***	
(-60, +60)	8.93	12.56 ***	-1.55	-4.76 ***	-10.48	-6.51 ***	
(-150, +150)	15.04	22.28 ***	-7.45	-10.63 ***	-22.49	-19.77 ***	

#### Panel D. Significance of Differences in Chinese Acquirer CAARs Between Types of Payment

\*\*\*\*, \*\*\* and \* significant at 1%, 5% and 10% level respectively.

The findings based on Chinese Sample further support the fourth hypothesis, since the differences of CAARs between all-cash offers and all-equity offers (Difference (%) column of Cash less Equity in Panel D of Table 6) are positive at all time intervals.

There is no doubt that cash-offers acquisitions can beat stock-to-stock acquisitions in the all time intervals. Both our Indian and Chinese results provide strong support to the fourth hypothesis which states that all-cash bids generate higher target and bidder returns than stock-for-stock acquisitions. The means of payment as a characteristic of bids will therefore have an impact on the acquirer's shareholder wealth. These findings support the results of previous studies such as Yolk (2000) and Huang and Walkling (1989).

#### 4.5 Hypothesis Five: Market to Book Value Ratio

This section examines empirical evidence relating to the fifth hypothesis. Panels A and B of Table 7 shows the CAARs for the three portfolios partitioned on the basis of the Indian acquirers' MTBV ratios and for the five windows. It is found that at bid announcement (-1, +1) as well as (-2, +2), low MTBV Indian acquirers experience higher (statistically significant) CAARs than high MTBV Indian acquirers. High MTBV Indian acquirers experience (statistically significant) CAARs of 1.29% statistically significant and 1.17% statistically insignificant whereas acquirers with low MTBV earn statistically significant 3.17% and 2.72%. However, the tests of whether CAARs differ between the two groups are not statistically significant at the 10% level (Low less High column – Table 7, Panel B). This finding is consistent with Fama and French (1992) and Barber and Lyon (1996), which have found that low market to book value companies outperform high market to book value companies around the bid announcement.

In the (-40, 0) event window, we find that CAARs for low and high MTBV acquirers are statistically insignificant at 1.21% and -0.70% respectively. On contrast the

differences in CAARs are statistically significant at the 1% level for (-40, 0) window (Panel B). The difference in returns between the low and high MTBV Indian acquirers is 1.91% and significant at 1% level. Thus, during the price run-up period ((-40, 0) window) Indian glamour acquirers are rated down relative to Indian value acquirers.

Over (-60, +60) and (-150, +150) event windows, CAARs for the whole Indian sample of acquirers are -2.16% and -2.54% (see Table 3, Panel A). Over the same period it is found that, for high MTBV Indian acquirers, CAARs are statistically insignificant at -3.19% and -10.35%, but for low MTBV Indian acquirers CAARs are statistically insignificant at -0.64% and 1.46%. CAARs for both the high and low MTBV portfolios are significantly different from zero at the 1 % level. The tests of significantly underperform low MTBV acquirers. Value acquirers outperform glamour acquirers and the difference is statistically different from zero at the 1% level in the longer windows. These results are consistent with previous studies which find low MTBV firms outperform high MTBV firms in the longer windows (see Strong and Xu 1997, Rau and Vermaelen 1998 and Sudarsanam and Mahate 2003).

Although there are positive difference between low MTBV and high MTBV during the bid announcement period, it is statistically insignificant (Table 7, Panel B). Thus, the Indian results provide support to the fifth hypothesis that shareholders of low MTBV acquirers (value acquirers) experience larger wealth gains than high MTBV acquirers (glamour acquirers) in longer window (such as, (-60, +60) and (-150, +150)), but smaller wealth gains during the bid announcement period.

Table 7 (Panels C and D) shows the CAARs for three groups of acquirers partitioned on the basis of their MTBV and for five periods for the Chinese sample. At bid announcement (-1, +1) as well as (-2, +2) event window we find that high MTBV, Chinese glamour acquirers experience statistically insignificant CAARs of 0.36% and 0.71%, while the CAARs are 0.09% to 0.28% for Chinese value acquirers (Panel C). The differences between the two groups (Low less High) are -0.27% and -0.44%, which is not statistically significant for bid announcement but significant for the 5-day interval at the 10% level. This finding is similar to the Rau and Vermaelen (1998) extrapolation hypothesis which argues that the market favours glamour acquirers with high MTBV at the time of the bid announcement.

Not somewhat similar to the Indian results, during the price run-up period (-40, 0) it is found that Chinese value acquirers generate higher and positive return of 1.30% than glamour acquirers and the difference is statistically significant at 1% level.

For the (-60, +60) and (-150, +150) periods, Panel C of Table 7 shows that CAARs for high MTBV Chinese glamour acquirers are statistically insignificant at -4.79% and statistically significant at -10.79%. In the case of low MTBV, Chinese value acquirers, the CAARs are 1.30% and 4.40% but not statistically significant at 10% level. As shown in Panel D of Table 7 Chinese value acquirers can generate the significantly higher CAARs than glamour acquirers as well as medium MTBV acquirers at 1% significance level for the both (-60, +60) and (-150, +150) event windows.

Overall there is a shift from underperformance of Chinese value acquirers in the announcement period, albeit statistically insignificant, to strongly superior performance in the longer event periods. These results provide support for our fifth hypothesis in answering the third research question.

#### Table 7: Cumulative Abnormal Returns of Indian and Chinese Acquirers by MTBV

This table shows cumulative abnormal returns for different event windows for Indian and Chinese acquiring firms by MTBV. We divide our Indian and Chinese sample into three equally sized portfolios based on their respective MTBV 240 trading days prior to the bid announcement. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

#### **High MTBV** Medium MTBV Low MTBV **Time Interval** CAAR (%) CAAR (%) CAAR (%) t-value t-value t-value 4.95 2.59\*\* (-1, +1)2.07 1.29 1.99\* 3.27 3.18\*\*\* (-2, +2)1.17 1.40 1.44 1.40 2.72 (-40, 0)1.68\* -0.70-0.29 4.97 1.21 0.49 (-60, +60)-3.91 -0.95 -5.79 -1.14 -0.15 -0.64 (-150, +150)-10.35 -1.59 -3.12 -0.39 1.46 0.22 Observations 52 53 52

#### Panel A. CAARs of Indian Acquirers by MTBV

\*\*\*

and \* significant at 1%, 5% and 10% level respectively.

#### Table 7: Cumulative Abnormal Returns of Indian and Chinese Acquirers by MTBV (continued)

This table shows cumulative abnormal returns for different event windows for Indian and Chinese acquiring firms by MTBV. We divide our Indian and Chinese sample into three equally sized portfolios based on their respective MTBV 240 trading days prior to the bid announcement. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	L	ow less High	Lov	v less Medium	Medium less High		
Time Interval	Difference (%)	t-value for difference	Difference (%)	t-value for difference	Difference (%)	t-value for difference	
(-1, +1)	1.98	2.35	1.20	3.47*	0.78	0.78	
(-2, +2)	1.55	2.31	1.27	2.04	0.28	1.95	
(-40, 0)	1.91	4.44 ***	-3.77	-10.28 ***	5.68	9.20 ****	
(-60, +60)	3.27	1.11	5.16	6.84 ***	-1.89	7.69 ****	
(-150, +150)	11.81	8.69***	4.57	11.71 ***	7.23	6.34 ***	

Panel B. Significance of Differences in Indian Acquirer CAARs Between Levels of MTBV

, and significant at 1%, 5% and 10% level respectively.

#### Table 7: Cumulative Abnormal Returns of Indian and Chinese Acquirers by MTBV (continued)

This table shows cumulative abnormal returns for different event windows for Indian and Chinese acquiring firms by MTBV. We divide our Indian and Chinese sample into three equally sized portfolios based on their respective MTBV 240 trading days prior to the bid announcement. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	High MTBV		Medium	n MTBV	Low MTBV		
Time Interval	CAAR (%)	t-value	CAAR (%)	t-value	CAAR (%)	t-value	
(-1, +1)	0.36	0.76	0.40	0.87	0.09	0.21	
(-2, +2)	0.71	1.17	0.23	0.39	0.28	0.49	
(-40, 0)	-1.05	-0.60	-3.71	-2.16**	0.25	0.15	
(-60, +60)	-4.79	-1.59	-9.22	-3.12***	1.30	0.47	
(-150, +150)	-10.79	-2.27 **	-12.82	-2.75 ***	4.40	1.01	
Observations		36		37		36	

#### Panel C. CAARs of Chinese Acquirers by MTBV

\*\*\*\*, \*\*\* and \* significant at 1%, 5% and 10% level respectively.

#### Table 7: Cumulative Abnormal Returns of Indian and Chinese Acquirers by MTBV (continued)

This table shows cumulative abnormal returns for different event windows for Indian and Chinese acquiring firms by MTBV. We divide our Indian and Chinese sample into three equally sized portfolios based on their respective MTBV 240 trading days prior to the bid announcement. The day of the bid announcement is day 0. The abnormal returns are computed as the difference between the realized and CAPM model benchmark returns (refer to Equation 1). For each firm we calculate daily benchmark returns using Bombay Stock Exchange Market Index returns for Indian acquirers while China A Share Market Index returns for Chinese acquirers and the betas are estimated by M-GARCH dynamic beta specification (refer to Equation 4).

	L	ow less High	Low	v less Medium	Medium less High		
Time Interval	Difference (%)	t-value for difference	Difference (%)	t-value for difference	Difference (%)	t-value for difference	
(-1, +1)	-0.27	-0.52	-0.31	-1.57	0.05	1.20	
(-2, +2)	-0.44	-3.23*	0.05	1.53	-0.48	-1.25	
(-40, 0)	1.30	6.25 ***	3.95	15.73 ***	-2.66	-16.93 ***	
(-60, +60)	6.09	8.22 ***	10.53	21.59 ***	-4.43	-24.24 ***	
(-150, +150)	15.19	15.88 ***	17.22	23.26 ***	-2.03	-29.05 ***	

Panel D. Significance of Differences in Chinese Acquirer CAARs Between Levels of MTBV

\*\*\*\*, \*\*\* and \* significant at 1%, 5% and 10% level respectively.

#### 4.6 Multi-Variable Testing

Table 8 shows that tender offer (tender) is an important determinant of the short-term wealth effects for the acquiring firms of China and India. Tender offer bids trigger positive CAARs for the shareholders of both Indian and Chinese acquirers and significant at 10% level during the 30-day pre-announcement period and at 1% significance level for Chinese acquirers during announcement period.

The impact of the following target and bidder characteristics are also investigated: relative size (relativesize) of the target's market capitalization compared to that of the acquirer, acquirer's return on assets (ROA), return on equity (ROE), debt ratio (debtratio), one year prior to the announcement revenue growth (revgrowth), market-to-book ratio (MTBV), whether or not acquirer and target are operating in the same industry (SIC). Table 8 shows that relative size (relativesize) is statistically significant for the pre-announcement (-30,-1) period for India showing that as the relative size between target and acquirer increases by 1%, CAARs has a tendency to decline by 1.8781% for Indian acquirers and by 2.2791% for Chinese acquirers during the (-1, +1) period. Acquirers' ROA is statistically significant with positive sign only for China in the (-30,-1) window period. The acquirers' debt ratio (debtratio) has a statistically significant positive sign only for China during the (-1, +1) period. Table 8 also shows some evidence (at 5% level) for India that the acquirers' revenue growth (revgrowth) can affect wealth changes positively in statistically significant manner. For an acquirer with strong growth opportunities (as reflected by a high MTBV), results in Table 8 suggest that the market reaction is negatively related to acquirers' MTBV with statistical significance in the (+1, +30) event window. Chinese acquirers' CAARs are negatively related to acquirers' MTBV in a statistically significant manner during the announcement period. Table 8 also provides regression results that for the UK/US targets a statistically significant negative impact on acquirers' CAARs is shown only for Chinese acquirers for (+1, +30) window.

#### **Table 8: Determinants of Short-Term Wealth Effects for Acquiring Firms**

This table shows the results of the OLS regressions of the CAARs over different event windows for acquiring firms using Equation 6:  $CAARs_j = \alpha + \beta_1 tender_j + \beta_2 cash_j + \beta_3 relativesize_j + \beta_4 ROA_j + \beta_5 ROE_j + \beta_6 debtratio_j + \beta_7 revgrowth_j + \beta_8 MTBV_j + \beta_9 SIC_j + \beta_{10} domestic_j + \beta_{11}US/UK_j + \varepsilon_j$   $\alpha$  is the intercept. *tender* is a dummy variable that equals 1 if the bid is made by tender offers, and equal zero otherwise. The variable *cash* is set to 1 when the bid is made in cash only, and set to zero otherwise. *relativesize* is total capitalization of the target divided by total capitalization of the bidder. *ROA* stand for Return on assets. *ROE* stands for return on equity. *debtratio* is total debts divided by total assets. *revgrowth* is the net profit growth prior the mergers and acquisitions announcement *MTBV* is market to book value ratio *SIC* is whether bidder and target are in the same industry indicates whether the M&A is the result of a focus strategy (dummy equal to 1). *domestic* is a dummy variable indicating whether (1) or not (0) the target and the bidder are in the same country. *US* / *UK* is a dummy variable capturing whether the target firm is located in the UK or US.

	Indian Acquirers							Chinese Acquirers					
-	CAAR(-30, -1)		CAAR	CAAR(-1, +1)		CAAR(+1, +30)		CAAR(-30, -1)		CAAR(-1, +1)		-1, +30)	
Independent Variables	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	
α	-0.0513	-0.7188	0.0396	1.7702*	0.0290	0.4420	-0.0039	-1.0756	-0.0104	-0.9144	-0.0006	-0.1817	
<b>Bid Characteristics</b>													
tender	0.0742	1.9639*	0.0018	0.1320	-0.0046	-0.1344	0.0068	2.2102 **	0.0339	3.5061 ***	-0.0008	-0.2746	
cash	0.0370	1.0068	0.0077	0.5721	-0.0065	-0.1919	-0.0006	-0.6931	-0.0009	-0.3515	0.0003	0.3223	
Acquirer and target													
characteristics													
relativesize	-0.0442	-1.8781*	-0.0026	-0.3152	-0.0185	-0.8624	0.0002	0.2297	-0.0050	-2.2791***	0.0003	0.3981	
ROA	-0.2445	-0.6755	-0.1458	-1.1265	0.1275	0.4071	0.0184	1.9302 *	0.0020	0.0665	0.0061	0.6789	
ROE	-0.0503	-0.5640	0.0305	0.9190	0.1222	1.5308	0.0000	0.5503	-0.0001	-0.2921	0.0000	-0.2647	
debtratio	0.0484	0.4564	-0.0331	-0.8529	0.1113	1.1620	-0.0009	-0.5141	0.0118	2.0250**	-0.0023	-1.2110	

revgrowth	0.0375	2.4047 ***	0.0038	0.7252	-0.0065	-0.4573	-0.0002	-0.8193	0.0007	1.0084	0.0000	-0.0474
MTBV	0.0038	0.8282	-0.0017	-0.9928	-0.0099	-2.3552**	0.0002	1.0876	-0.0009	-1.6657*	0.0001	1.4723
SIC	0.0184	0.4945	-0.0176	-1.3029	0.0195	0.5753	-0.0005	-0.6717	0.0066	2.8778 ***	0.0000	0.0260
<b>M&amp;A</b> location												
domestic	-0.0491	-0.8563	0.0085	0.5972	-0.0615	-1.1759	0.0031	0.9927	0.0023	0.2354	-0.0007	-0.2229
US / UK	-0.0649	-0.9054	0.0025	0.1475	-0.1112	-1.7033*	0.0033	0.8137	-0.0097	-0.7572	-0.0015	-0.3803
****, *** and * significant at 1%, 5% and 10% level, respectively												
Observations	1	53	1:	53	-	153	1	106		106	10	06
R-squared	0.1	355	0.0	541	0.	0972	0.1	162	0.	2435	0.0	541
Adjusted R-squared	0.0	635	0.0241		0.	0220	0.0	0.0128		1550	0.0	567
Significance of	0.0	470	07	440	0.4	0254	0.0	)501	0	0020	0.0	062
F-statistics	0.0	4/2	0.7	449	0.0	0554	0.0	1321	0.	0039	0.0	003

#### 5. CONCLUDING REMARKS

The periods following the 1997 Asian financial crisis were characterized by a large increase in Asian M&A activity due to financial deregulation, liberalization, privatization and corporate restructuring. In this study we analyse the market reactions to 157 Indian and 109 Chinese M&A deals with a value of at least US\$1million to test the five identified hypotheses in order to answer the three research questions.

The short-term acquiring firm shareholder wealth effects found in this study are remarkably similar to those found by US and UK studies. We find that acquirers react positively with a statistically significant bid announcement effect ((-1, +1) window) of only 1.92% for India sample. However in (-150, +150) window period the CAARs are -6.48% statistically significant at 5% level for Chinese acquirers. We also show that the tender offer has a large impact on the wealth effects for the acquirer shareholders. For Indian acquirers, the bid announcement effect is higher (2.61% in (-1, +1) and almost 4.20% with (-40, 0)) than that of the M&A itself (1.99% in (-1, +1) and 1.85% in (-40, 0)). Hence, the market seems to expect that opposition against a bid will lead to a revision of and ultimately to a higher bid premium. This is confirmed by the share price reaction of Chinese acquiring firms: in (-1, +1) window period a tender offer acquisition triggers a substantially positive abnormal return of 6.15% whereas the announcement of a merger generates a positive abnormal return of 0.19%. Moreover, in the (-150, +150) event window, there are dramatic big differences between tender offers and non-tender offers for both Chinese and Indian acquirers of 41.76% and 24.36% at 1% level respectively. We also find that low MTBV value acquirers will outperform high MTBV glamour acquirers based on the both Indian and Chinese samples.

Similarly, we find that the means of payment has an impact on the wealth effect for the acquirers. In the longer term, for instance, (-150, +150) the differences between all-cash offers and all-equity offers are increased to 15.04% and 37.90% for Chinese and Indian samples with 1% significance. An interesting finding is that the combined offers can even "beat" all-cash offers in the longer term.

An interesting result is that domestic mergers and/or acquisitions trigger higher wealth effects than cross-border operations for Indian acquirers while the Chinese acquirers generate higher return through cross-border mergers and acquisitions. This is surprising as foreign direct investment theories predict that foreign bidders should be able to take advantage of imperfections in factor and capital markets and thereby generate more gains. Consequently, bidders in cross-border transactions were expected to pay higher premiums. However, the result of Indian sample shows that the opposite is the case.

Finally, we investigate determinates of short-run wealth effects for acquirers. Based on the Indian sample we find that tender offers, relative size between target and acquirer and acquirers' revenue growth ratio are the significant profitability drivers for the price run-up period while acquirers' ROE and MTVB for the post-announcement period. Tender offers and higher ROA of acquirers can trigger the higher cumulative abnormal returns for the Chinese acquirers during the pre-announcement period. Moreover, Chinese acquirers can generate higher returns during the bid announcement period with tender offers, higher debt ratios, smaller size comparing with target, lower MTBV, especially for the horizontal mergers and acquisitions.

This study focused on the acquirer shareholder wealth effects of M&A in China and India. Based on the findings of this study, there are some implications for Chinese and Indian shareholders of acquiring firms, which can be summarised as followed:

- 1. Cross-border M&A can add value to Chinese shareholder of acquiring firm while domestic M&A can increase value to Indian shareholder of acquiring firm;
- 2. Bid characteristics, such as, form of bids and mean of payment can impact on the wealth of shareholder of acquiring firm;
- Style characteristics, such as, MTBV can impact on the acquiring shareholders wealth.

As for policy makers such as government authorities dealing with company mergers, they have an important role to play in creating a good competitive market environment.

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