Mergers and Value Creation in a Post-Liberalized Environment: The Case of India

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Abstract

The purpose of this paper is to examine domestic merger and acquisitions in the Indian market following the economic liberalizations in 1995. We find that in in Indian mergers both parties gain with acquirers showing higher abnormal returns and targets showing lower abnormal returns relative to their counterparts in the U.S. Contrary to our expectation that the takeover market in India has become more competitive since 1995, we find little evidence that acquirers' abnormal returns have declined or target abnormal returns have increased over time. In addition, we find evidence that large group affiliated firms have higher announcement returns, and this directly translates into lower target returns. Further, targets belonging to groups can exploit their affiliation and achieve higher abnormal returns.

I. Introduction

We examine the merger and acquisitions activities in India after the liberalization of the Indian economy in 1995. One part of the economic liberalization policy included the relaxation of general corporate climate including the easing of rules regarding corporate control changing activities. During the post-1991 period, policies governing takeovers underwent progressive relaxation following the elections of governments from different parties.

The purpose of this essay is to examine the incidence and nature of control changing transactions; thus, documentation providing insight into the role of regulatory relaxation and its impact on aggregate mergers and acquisitions (hereafter M&A) activity in an economy. We also examine stock price response to the announcement of control changing events. Additionally, we examine the cross-sectional determinants of the abnormal returns in such transactions.

As one important theme of this paper, we study the role of group affiliated companies in Indian M&As. Khanna and Palepu (2000) argue in the context of conglomerate value creation, that the larger group affiliated companies in India are better positioned to create value compared to medium or small group companies. Their argument is based on the possibility of larger companies being able to better harness managerial skills, effectively utilize internal capital markets, and engage in regulatory rent extraction compared to the medium and smaller sized group companies. In the context of M&A, we can argue that these firms are likely to gain based on the same types of advantages. With this focus, we expect to find that larger group affiliated firms achieve higher acquirer gains possibly as a consequence of wealth transfer from the target, whereas, the targets facing large group firm acquirers achieve lower levels of gains.

M&A activity in India subsequent to the economic liberalization period provides a unique laboratory experiment to the researcher. The dismantling of antitakeover regulation and the proactive introduction of control-enabling legislations allow pursuit of richer research questions. For example, one could ask if the acquirers in nascent takeover markets earn positive abnormal returns, a response that is rarely observed in more developed and established economies where the acquirers experience a decline in stock price. Faced with possibilities of great economic

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gains to the merger, both parties to the transaction may well experience positive stock price response.

II. Indian Political and Economic Scene

A. Political Impetus for Change

The Industrial Policy changes promulgated on July 24, 1991 by the Government of India (GOI) addressed a host of policy issues. In particular it encouraged entrepreneurship, development of technology, dismantling of the regulatory system, development of capital markets, and increased competitiveness for the benefit of the common man, which was the main objective of the newly articulated policy. Foreign investment and technology collaboration were to be encouraged to enable acquisition of higher quality technology and to increase and expand the productive base of the Indian economy. The GOI intended to abolish monopolies in all sectors so that the public sector, i.e., government owned industries, would be more limited in scope relative to its prior predominant role in the economy.

The changes in Industrial Policy led to a series of initiatives regarding the abolition of the industrial licensing policy, moving away from capacity licensing, and the system of reservations for public sector undertakings. In order to increase foreign investments, the allowed levels of foreign equity holdings in various industries were increased. Foreign technology agreements were accorded priority to inject dynamism to Indian industry, and pre-entry scrutiny as required by the Monopoly and Restrictive Trade Practices (MRTP) Act was no longer necessary. Based on these policy promulgations there were substantive changes in the bureaucratic protocols and procedures followed by enactment of the strong new laws. The immediate impact of the regulatory and legislative changes was felt on the economic and trade policies which were eventually followed by new laws regarding corporate structures, ownership, and governance, and stock exchange structures.

B. Takeover Regulations in India

There was no organized framework for takeover laws in India prior to 1994. Earlier laws such as the Companies Act of 1956 and Income Tax Act of 1961 addressed some broad issues regarding acquisitions in the pre-liberalization period.

Laws in India use the term “amalgamation” in lieu of merger. Mergers can be effected through “absorption” or by “consolidation”. In absorption, two or more companies merge (amalgamate) into an existing company with one company remaining as the sole survivor. In consolidation, two or more companies combine to form a new company. In an acquisition, an acquiring company takes control of another company with each company possibly remaining independent. Typically, takeovers involve acquisition of not less than 25% of the voting shares of the acquired company. We use the terms mergers and acquisitions interchangeably when there is control changing activity.

The Companies Act (1956) as amended in 2006 lays down specific requirements for mergers and acquisitions. Amalgamation is permitted under the memorandum of association of

the company; otherwise, the permissions of the shareholders, board of directors, and Company Law Board are necessary. Both firms are required to inform the stock exchanges of the proposed merger. The Board of Directors of each company must approve the draft proposal. The board must move the High Court to approve the proposal. In India, each state has its High Court and the parties usually move the High Court in the state of their headquarters. The date of the High Court's hearing is required to be published in two newspapers and the Company Law Board intimated of these actions by the companies.

The shareholders and creditors must approve the draft in separate meetings with 75% majority. After approval by the shareholders and creditors, the High Court approves the amalgamation if it is considered to be fair and reasonable. The High Court's order is then filed with the Registrar of Companies. The assets and liabilities of the acquired company are next transferred in accordance with the High Court's approval. Finally, the exchange of cash or shares depending on the terms of acquisition takes place.

Pursuant to the requirements of the Companies Act, there are a number of activities that must thus take place before a merger is effective. Not all of these transactions are well reported by the financial media in India. We provide a sample of transactions and their report date as culled from the Prowess database published by the Center for Monitoring the Indian Economy (CMIE). The coverage provided in the LexisNexis database is substantially less complete. One consequence of the sequence of activities is the possibility of information leaking prior to the first announcement date in the media. To the extent that the first date is smeared, the observed market response may not fully capture the impact of the announcement: the observed abnormal return is likely to be downward biased.

The Competition Act of 2002 has an impact on merger activity in India. The Competition Commission is authorized to regulate a combination by taking into account competitive effects of the combination and preventing adverse or harmful impact of competition in the relevant product markets. The Monopolies and Restrictive Trade Practices Act of 1969 (MRTP) also applies to mergers to the extent that a merger may cause actual or potential restrictive or unfair trade practices. Many of the restrictive provisions of the MRTP Act relating to mergers and takeovers of businesses were removed subsequent to the economic liberalizations of 1991.

The Foreign Exchange Regulation Act of 1973 (FERA) was substantially amended in 1993 to reverse earlier policies restricting foreign investments in asset and firm acquisition. All restrictions on FERA companies regarding raising funds in India and taking over or holding stakes in Indian companies were removed. This Act was repealed in 2000 and replaced by the Foreign Exchange Management Act or FEMA. Appendix I provides a list of major changes in India's policy regime during the 1991-2005 period.

C. The Takeover Code

The Securities and Exchange Board of India (SEBI) was established under the SEBI Act of 1992. SEBI is the primary regulator of securities markets in India. Primarily there are two

SEBI regulations that govern the M&A transactions in India, and these regulations provided the first set of organized rules to govern such transactions.

The guidelines contained in a regulation called Substantial Acquisition of Shares and Takeovers (popularly called the Takeover Code) were promulgated in 1994, and were subsequently revised and amended. The Takeover Code provides an organized set of laws for regulating takeover activities and guidance to market participants. Guidelines for disclosure of acquired shares, public announcement of identity, purpose, price, offer period, and minimum amount of public acquisitions (at least 20% of shares outstanding) are given.

The Disclosure and Investor Protection Guidelines of 2000 establish guidelines for takeover transactions including contents of offer documents, structure of prospectus, guidelines for advertisement, book building and other necessities. These guidelines address mandatory undertaken by investment bankers and counsels for all parties to a transaction. The promulgation of these regulations has helped remove the fog of uncertainty from the transactions.

Prior to the promulgation of the regulations, there were a plethora of government Ministries and Agencies at the federal level that could impede such transactions at will. Furthermore, any takeover attempt could be challenged by any interested party in a court of law. The legal system moves very slowly in India. Potentially lengthy court actions coupled with uncertain outcomes and the possibility of random bureaucratic intervention greatly impeded takeover activity in India prior to the mid-1990s. Conversely, the clarity in the regulatory environment brought about various regulatory changes and helped M&A transactions starting around 1995.

III. Literature Review

A. Acquirer and Target Abnormal Returns

There is a large body of literature which empirically examines the size of acquirer and target price response and conditions them on the type of industry, time period, type of acquisition, and various characteristics of the transaction. Moeller, Schlingemann, and Stulz (2004) investigate a large sample of U.S. acquirers in the 1980-2001 period. They report that the 3-day cumulative abnormal return (CAR) is 1.10% for the entire sample. However, this abnormal return is entirely caused by small acquirers reporting a 2.32% 3-day CAR; whereas large acquirers generally exhibit positive but insignificant 3-day CAR. Fuller, Netter, and Stegemoller (2002) examine M&As of U.S. firms acquiring domestic or foreign targets in the 1990-2000 period. The sample consists of 3,135 bids made by 539 unique acquirers during this period. They find that bidders gain when they take over a private firm or a subsidiary, but lose when they acquire a public firm. The authors also find a positive relation between the bidders' return and the size of targets and show that bidders gain when they offer stock for acquisition. Kaplan and Weisbach (1992) investigate stock price reaction for both acquires and targets in the 1971-1982 period. They report that the 10-day CAR to be -1.49% for acquirers and 26.9% for targets. Datta, Iskandar-Datta, and Raman (2001) investigate how executive compensations determine M&A decisions. They find that stock price performance is positively related to equity-based compensation of acquiring firms' managers around the announcement date.

Overall, the literature on the U.S. M&As suggests that acquirers (targets) face zero or negative (positive) abnormal returns (see Andrade, Mitchell, and Stafford, 2001). Similar reaction, around the announcement, is observed in the international markets, although there are exceptions. Alexandridis , Petmezas , and Travlos (2010) find that except for acquirers in highly competitive takeover market such as U.S., U.K., or Canada, acquirers in other countries on average benefit from paying lower premium. In addition, they find that even in share-to-share offers, acquirers break even at worst. Interestingly, in these markets targets benefit notably less indicating that the synergy benefits are more equally divided between the two parties compared to in U.S. and other highly competitive markets. Chari, Ouimet, and Tesar (2010) find 1.16% CAR3 for acquirers of developed countries when the acquirers take majority control in an emerging market target. The CAR3 is positive and significant only when targets are from emerging markets. The authors do not find similar results when the acquirer takeover target is in other developed countries. They also find a relation between the size of acquirers' stock price increase and the contracting environment in the emerging market: the weaker the contracting environment the higher the stock price increase.

B. Indian Group-Affiliated Firms

Many Indian companies belong to industrial groups. Such groups have elements similar to Keiretsus in Japan or to Chaebols in Korea. Typically, the Indian group companies are composed of a number of firms having manufacturing focus in different industries. It is possible that the development of such industrial organizational structure was a consequence of and in response to ownership constraints in various industries imposed by government regulations. Large groups such as the Reliance group or the Tata group would have presence in twenty or more different and widely divergent industries.

One important area where Indian groups differ from the Japanese or Korean group structures is in the typical absence of financial firms (banks) as members of the groups. Lensink, Molen, and Gangopadhyay (2003) explore the effect of group affiliation on corporate investment behavior in India. They find that compared to stand-alone firms, group affiliates in India have better access to external financing due either to superior access to financial institutions or due to the presence of well functioning internal capital markets.

Gopalan, Nanda, and Seru (2007) examine a number of issues relevant to internal capital markets in Indian business groups. They find that group firms effectively utilize intra-group loans to shift cash between the group members and support weaker firms or those with negative earning shocks. They show that group firms use loans to avoid default, and the possible spill-over effect to the rest of the group. They also report that after one of the group firms goes bankrupt, other group affiliates, including financially healthier members, are more likely to go bankrupt.

The link between characteristics of firms and their financial performance is examined by Kakani, Saha, and Reddy (2001). A firm's share price is directly related to its size, marketing expenses, and international diversification. Size can lead to superior market power and financial influence while marketing expenditure can lead to higher market share. Size and marketing expenses can potentially attract the attention of investors and analysts and influence share price.

Khanna and Palepu (2000) provide a careful analysis of diversified Indian business groups. They document that firms within a great number of diversified Indian business groups have lower Tobin's *q* relative to unaffiliated firms, yet firms affiliated with large, prominent business group exhibit a higher Tobin's *q* than unaffiliated firms do. They find that, unlike in the U.S. market, creating large, highly diversified group companies in India results in value creation.

Khanna and Palepu argue that diversified group companies could help in filling the void for intermediating institutions in emerging markets in charge of dealing with product, labor, and capital markets. Economies of scale enable large diversified groups to afford the fixed costs needed to provide these types intermediating services. Larger Indian business groups are also able to extract rent in the pre-liberalization highly regulated Indian economy. Small or mid-size group companies, however underperform relative to large group companies. They argue that the underperformance is due to lower levels of management skills, fewer internal processes, or lower levels of political connections possessed by the smaller group companies. Chu (2004) finds similar results for Taiwan. He investigates the effect of group affiliation on profitability and finds that cost and benefits of group affiliation are related to the size of the business groups. He reports that firms affiliated with small and medium- sized groups illustrate lower performance relative to the firms affiliated with largest business groups and non-group firms.

In the M&A context, it is likely that large group-affiliated acquirers would have vast financial resources, and the ability to scare away the competition via positions in unrelated transactions. Thus, acquirers who are large group companies can wield higher levels of bargaining power vis-à-vis the targets than non-group acquirers. It is likely that the higher level of negotiating power of the large group affiliated acquiring firms can lead to greater rent extraction from the targets, i.e., higher abnormal returns to the acquirer and lower abnormal returns to the target. The direct impact of size of the acquirer is likely to be negatively related to acquirer abnormal returns if the gains to acquisitions are relatively fixed. However, the larger group firms may get higher abnormal returns compared to smaller or medium sized group firms. The interaction term between size and group affiliation matters as we will discuss in the next section.

IV. Testable Hypotheses

Finance literature documents zero or negative announcement period abnormal returns to acquirers and positive returns to targets. The combined portfolio return for the acquirer-target pair is generally positive. Andrade, Mitchell, and Stafford (2001) report that in the U.S., acquirers' average three-day abnormal returns are negative when mergers are financed with stock and zero when financed with cash. One reason for the low acquirer return in the U.S. is a highly competitive market for corporate control forcing acquirers' rents to zero.

If competition plays a role in explaining bidders' low announcement period abnormal returns, we expect domestic acquirers to pay a lower premium in developing countries. Thus, one would generally expect an "underdeveloped market" argument that lack of competition in the market for corporate control would lead to the acquirer capturing a greater part of the

potential available synergies. This would also imply that the target's share of the synergies would be lower leading to lower abnormal response for the target. We hypothesize that:

H1: *The announcement period abnormal returns are expected to be higher and generally positive for acquirers and lower for targets, relative to their U.S. counterparts.*

The counter argument to the "underdeveloped market" hypothesis is that in the presence of pent-up merger demands, a sudden lifting of the barriers to mergers would provide strong incentive for acquirers to find targets at short notice and would likely lead to potentially competitive behavior among the acquirers. As a consequence, the observed responses would be similar to the competitive outcome as seen, for example, in the U.S. market. This is the alternative to H1.

The Indian government's liberalization policies have been undergoing fine tuning for some time as the governments from different parties have been elected. With the entry of foreign acquirers and supply of foreign capital, the level of competition in the market for corporate control is expected to have increased in the recent years. Hence the following hypothesis:

H2: *Over time, the difference between abnormal returns of acquirers in India and their U.S. counterparts is expected to have narrowed.*

The role of size of acquirer on abnormal returns is expected to be negative assuming constant synergy; i.e., large firms have lower percent return. However, larger group affiliated firms are likely to achieve greater abnormal returns as we infer from the arguments put forth by Khanna and Palepu (2000). The larger group firms will get higher abnormal returns compared to smaller or medium sized group firms due to potentially higher management skills, more internal process, or more political connections all leading to a better rent extraction from the acquisition. Thus, the size effect arises from two arguments. We can analyze it in the regressions by examining the direct size effect, which is expected to be negative, and the interaction between size and group affiliation, which is expected to be positive. Therefore,

H3: A*cquirers in general are expected to have lower announcement gains in account of size, but large group-affiliated firms are expect to achieve higher abnormal returns.*

V. Data

A. Sample

We used the Securities Data Company (SDC) database to identify all Indian domestic mergers and acquisitions from January 1995 until December 2008, a total of 5,274 observations. We restricted our sample to the acquisitions that resulted in change of control. Some of the transactions obtained from SDC were not acquisitions, but involved asset purchases and were eliminated. Firms in financial sectors are also excluded. We read all stories of transactions from LexisNexis. The news date obtained from LexisNexis announcements is used as the event date in the event of discrepancy with the SDC date.

We used Prowess India and Datastream to extract all time-series and cross-sectional variables. The Prowess dataset is issued by the Center for Monitoring Indian Economy (CMIE).

It is a commercial database that provides price and financial data for most Indian publicly traded companies. We limited our sample to firms whose prices appear in either Prowess or Datastream datasets. The price data available in these databases are not necessarily subjected to the verification commonly employed in the CRSP dataset. Consequently, we filter the price data, and examine each stock's data series to ensure data integrity and identify potential data errors. In many of these cases, the price data needed to be adjusted for stock splits and dividends. We use the BSE100 index data as the index series in India.

B. Data Description

Our final sample consists of 431 domestic acquisitions. We show the time distribution of acquisitions in Table I. We observe an upward trend in acquisitions since 1995, with a jump in 2000 in keeping with further liberalization of takeover laws in India. The highest number of acquisitions occurred in year 2006. The number of transactions reported during 2008 is relatively small since we did not have access to M&As occurred after May 2008 in Prowess.

Table I: Distribution of Indian M&A Sample Over Time

Year	Number of Transactions	Percent of Total
1995	12	2.78
1996	2	0.46
1997	9	2.09
1998	16	3.71
1999	28	6.50
2000	42	9.74
2001	32	7.42
2002	37	8.58
2003	28	6.50
2004	35	8.12
2005	54	12.53
2006	69	16.01
2007	45	10.44
2008	22	5.10
Total	431	100.00

Notes: The time distribution of the sample of merger and acquisition transactions in India from 1995 to 2008 is given below.

We show the industry classification of the sample acquirers in Table II, based on the National Industrial Code of India (NIC). We provide a detailed break-down of the sample into NIC3 industry groupings and also classify whether these industries are from protected or liberalized industries as defined by the government of India. The protected classification has implications for control changing transactions since the foreign ownership for protected industries is limited by law. The protected and liberalized sample consists of 115 and 311 observations respectively. For the protected group, about one quarter of the acquisitions occur in two industries: "textiles" and "petroleum products". For the liberalized group, about one quarter of the acquisitions occurs in "chemical products" and approximately one sixth of the acquisitions occur in "software" industry.

We present the distribution of assets and sales (in crores of rupees, 1 crore = 10^7) for targets and acquirers in Table III, Panel A. The acquirers are larger than the target whether size is measured by assets or by sales. Relative size is computed as the ratio of target to acquirer assets or sales. When size is measured by assets, mean, and median relative size are 107.1 % and 64.7% respectively, and when size is measured by sales, mean and median relative size is 79.7% and 54.6% respectively. When measured by assets, only 70 targets in our sample have assets available, and when measured by sales, only 72 of targets have assets available. This is mainly due to the fact that many targets are private companies or their data is not available in either of the primary databases.

Table II: Industry Classification of the Sample Transactions

NIC3	N	Percent	Industry description
171	14	3.25	Spinning, weaving and finishing of textiles.
232	14	3.25	Manufacture of refined petroleum products
55	9	2.09	Hotels and restaurants
98	8	1.86	Extraterritorial organizations
401	8	1.86	Electricity and gas supply
452	8	1.86	Construction
642	5	1.16	Telecommunications
92	4	0.93	Recreational, cultural and sporting activities
172	4	0.93	Manufacture of textiles
-	41	9.51	Miscellaneous other industries
Protected	115	26.68	
242	75	17.40	Manufacture of other chemical products
722	55	12.76	Software consultancy and supply
241	26	6.03	Manufacture of basic chemicals
269	20	4.64	Manufacture of non-metallic mineral products
154	17	3.94	Manufacture of other food products
271	16	3.71	Manufacture of Basic Iron & Steel
291	12	2.78	Manufacture of general purpose machinery
272	9	2.09	Manufacture of basic precious and non-ferrous metals
343	9	2.09	Manufacture of parts and accessories for motor vehicles
-	72	16.71	Miscellaneous other industries
Liberalized	311	72.16	
NIC3 not available	5	1.16	
All	431	100.0	

Notes: We present a summary of the number of M&A transactions in the sample by industry classification. We employ the National Industry Classification (NIC) code of India as amended in 1998. The 5 digit NIC code for each firm is obtained from Prowess database and consolidated at the 3 digit level. We classify the 3 digit NIC code as "liberalized" and "protected" following the liberalization document of the Industrial Policy Resolution of 1991 (Office of the Economic Advisor, Government of India, 2001). Percent refers to the percent of the total.

Table III: Summary Statistics Regarding Size

Panel A. Assets and Sales

	Assets			Sales		
	Acquirer	Target	Relative Size(%)	Acquirer	Target	Relative Size(%)
Mean	2,795	1,459	107.10	3,307	1,814	79.70
N	419	70	69	419	72	71
Maximum	72,164	13,074	537.00	117,979	33,117	489.90
Q3	1,812	1,345	124.10	1,610	1,383	100.00
Median	587	583	64.70	578	488	54.60
Q1	188	232	19.90	179	215	15.50
Minimum	0	22	1.90	0	10	0.70

Panel B. Group vs. Non-group and Liberalized vs. Protected Classifications

	Acquirers						Targets					
	Assets			Sales			Assets			Sales		
	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median	N
Group companies	2,491	877	269	2,428	823	269	1,352	653	54	1,625	499	56
Non-group companies	3,503	221	143	5,122	208	143	1,820	362	16	2,474	311	16
Difference	-1,013	655***		-2,694**	614***		-468	290		-850	188	
Statistics	(1.20)	(<.01)		(2.11)	(<.01)		(0.73)	(0.28)		(0.69)	(0.29)	
Protected industries	6,266	678	114	8,341	645	114	2,462	852	21	3,820	532	23
Liberalized industries	1,522	584	300	1,449	582	300	1,029	576	49	872	463	49
Difference	4,743***	93		6,891***	62		1,433**	276		2,947***	69	
Statistics	(5.48)	(0.19)		(5.24)	(0.41)		(2.55)	(0.40)		(2.81)	(0.80)	

Notes: Panel A lists acquirer's (target's) total assets and sales. Relative size is equal to the ratio of target total assets (sales) to acquirer total assets (sales). Panel B compares the mean (median) assets (sales) for group versus non-group companies and companies in protected versus liberalized industries. Assets and sales are presented in crores of Rupees (1 crore = 10^7 Rupees). The numbers in parentheses are *t*-statistics for one-sided *t*-test or the *p*-values from Wilcoxon–Mann–Whitney two-sample test for medians. Data is primarily obtained from Prowess and augmented by additional data from DataStream. The significance levels of the difference between the mean (I-test) and median (Wilcoxon–Mann–Whitney test) in panel B are shown by, ***,**, and * denoting statistical significance at the 1%, 5%, and 10% levels.

Nevertheless, using either measure, the relative size is substantially greater than approximately 10% which is the relative size of U.S. targets as reported in Fuller, Netter, and Stegemoller (2002) and in other studies.[1] In Panel B, we present sample data by two classifications: group versus non-group firms, and protected versus liberalized industries. There are 269 group acquirers compared to143 non-group firms, and 114 protected acquirers against compared to 300 from liberalized industries. Group-affiliated acquirers have median assets of 877 and non-group acquirers have median assets of 221 crores of Rupees, a highly significant difference. Similarly, group-affiliated acquirers have median sales of 823 and non-group acquirers have median assets of 208 crores of Rupees, another highly significant difference. Based on the average value of assets or sales, non-group firms are larger, but the difference is not statistically significant.

Overall, these results are consistent with the expectation that group affiliates in India are larger by either assets or size measures than non-group firms especially in the context of M&A transactions. For targets, our sample size consists of 70 firms, 54 group firms versus 16 non-group firms. Based on assets or sales, there is no difference between the two groups. Similar comparison between protected versus liberalized industries shows that acquirers and targets in the protected industries have larger means and medians. For all the cases, the difference between the means (medians) of the two groups is significant (insignificant).

VI. Empirical Results

A. Event Study Results

The announcement period abnormal returns (AAR hereafter) for acquirers are reported in Table IV. We use standard event study methods (see MacKinlay, 1997). The SDC reported announcement date is day zero in event time. For each transaction we compared the SDC announcement date with the corresponding announcement date extracted from LexisNexis news section. We used dates from LexisNexis in a case where the two announcement dates did not mach. The market model is estimated using the BSE 100 index return. Our estimation period is [-250, -31] relative to the announcement date. Abnormal returns and corresponding statistics for the period -15, +15 are reported. Mean AAR is positive and significant for days -1, 0, and 1. Median AAR is also highly significant for day 0 and 1.

We consider 3 day window encompassing -1, +1 as the announcement period, and report the cumulative abnormal returns (CAR) corresponding to various windows in Panel B. Immediately prior to and following the announcement, mean AARs are insignificant. We report CAR3 (2.06%), CAR9 (2.86%), both of which are significant at the 1% level. We present CAR for [-20,-8] window which is negative and insignificant, and [+2, +20] which is -2.23% and significant at the 1% level. A positive price run up for the acquirer suggests the possibility that the market for corporate control is not highly competitive in India. However, the acquirers lose almost all of the gain subsequent to the announcement as evident from CAR during the [+2, +20] period. Indeed the CAR for the 41 day time window is indistinguishable from zero. All the short term response is eventually relinquished in the follow-up period.

[1] We have also used SDC data to calculate the relative size and obtain relative size measures that are much larger than what Fuller et al. (2002) report.

Table IV: Acquirer Abnormal Returns

Panel A: Acquirer abnormal returns

		Mean	Proportion		Binomial		
Day	N	AAR(%)	*z*-statistic	AAR(%)	p-Value	Positive	z statistic
-10	421	-0.07	-0.37	-0.24	0.15	47%	-1.32
-9	418	-0.34	-1.27	-0.42***	0.01	41%***	-3.52
-8	422	-0.16	-0.49	-0.33	0.11	45%*	-1.85
-7	422	0.13*	1.65	-0.11	0.93	48%	-0.88
-6	427	0.22	1.10	-0.04	0.99	48%	-0.63
-5	427	0.10	0.73	-0.18	0.33	43%***	-2.86
-4	424	0.22	1.61	-0.08	1.00	48%	-0.68
-3	423	0.03	0.18	-0.13	0.77	48%	-0.92
-2	421	0.10	0.54	-0.11	0.73	48%	-1.02
-1	421	0.61***	3.15	0.09*	0.06	51%	0.34
0	430	1.18***	7.78	0.63***	0.00	60%***	4.15
1	428	0.28**	2.48	-0.10	0.57	48%	-0.87
2	424	-0.35**	-2.10	-0.46***	0.00	40%***	-3.98
3	425	-0.39**	-2.34	-0.50***	0.00	37%***	-5.19
4	423	-0.17	-0.94	-0.35*	0.08	44%***	-2.58
5	426	-0.33**	-2.35	-0.52***	0.01	43%***	-2.91
6	427	-0.25	-0.49	-0.40***	0.01	44%**	-2.37
7	427	-0.01	0.23	-0.30	0.22	44%**	-2.56
8	426	-0.10	0.10	-0.29	0.11	42%***	-3.39
9	426	-0.06	-0.12	-0.08	0.59	48%	-0.97
10	426	-0.23	-1.07	-0.47***	0.01	42%***	-3.49
11	422	-0.12	-0.30	-0.35**	0.05	42%***	-3.21
12	425	-0.29	-1.51	-0.55***	0.00	40%***	-4.03

Panel B: Acquirer cumulative abnormal returns (CAR)

Range	CAR(%)	z-Statistic
[-1,1]	2.06***	7.73
[-7,+1]	2.86***	6.39
[-20,-8]	-0.25	-0.08
[2,20]	-2.23***	-2.78
[-20, 20]	0.38	1.55

Notes: Sample is for 431 Indian acquirers acquiring from 1995 to 2008. Standard event study methods are used. The market model is estimated using the BSE 100 index over [-250,-31]. Abnormal mean and median returns (AAR) are shown in Panel A which also reports the ratio of events with positive abnormal returns (with the corresponding binomial *z*-Statistic). Panel B presents cumulative abnormal returns (CAR) corresponding to two event windows of interest. *,**, and *** denotes significance at 10%, 5%, and 1% levels, respectively.

We report the event-study for targets in Table V. The event period mean AARs are positive and significant with a CAR3 of 5.36%. Median AAR is also positive for day -1 and 0. In

the post announcement period, the abnormal returns are negative and statistically not significant. The 41 day CAR for targets is 11.28%, with pre-announcement run-up and no post-announcement give-up. Target CAR is insignificant for the [+2, +20] window suggesting that unlike acquirers, targets keep the announcement gain. Campa and Hernando (2004) find CAR9 of 9% over one month, t = [-15, +15], for a European Union sample. Kaplan and Weisbach (1992) find -1.49 % (significant) CAR for acquirers in [-5,+5] window for U.S. acquirers during the 1971-1982 period, and Andrade, Mitchell, Stafford (2001) find 16% CAR in [-1,+1] window for U.S. targets during the1973-1979 period. Our results support the first hypothesis (H1) suggesting that abnormal returns are higher for acquirers, and generally positive, and lower for targets, relative to their U.S. counterparts based on the short term announcement period of three days. Our finding is consistent with Alexandridis, Petmezas, and Travlos (2010) who report that in most takeover markets, acquirers lose less and targets gain less relative to U.S., U.K., and Canadian takeover markets which are highly competitive.

Table V: Target Abnormal Returns

Panel A: Target abnormal returns

		Median		Mean		Proportion	Binomial
Day	N	AAR(%)	z-statistic	AAR(%)	p-Value	positive	z statistic
-10	97	-0.25	-0.45	-0.12	0.21	42%	-1.52
-9	96	0.25	0.17	-0.12	0.59	43%	-1.43
-8	97	0.46	1.61	0.19	0.35	53%	0.51
-7	97	0.95*	1.95	0.30*	0.05	58%	1.52
-6	97	0.09	0.35	-0.20	0.81	44%	-1.12
-5	97	1.05***	3.40	0.07*	0.06	53%	0.51
-4	96	0.82**	2.20	0.20	0.22	52%	0.41
-3	97	0.47	1.45	0.09	0.46	54%	0.71
-2	97	0.58	1.53	0.15	0.24	51%	0.10
-1	96	1.96***	4.85	0.75***	0.00	61%**	2.25
0	97	2.42***	5.37	0.39***	0.00	56%	1.12
1	96	0.98*	1.93	0.00	0.51	48%	-0.41
2	97	-0.14	-1.18	-0.49	0.46	42%	-1.52
3	97	-0.68	-1.64	-0.38**	0.04	38%**	-2.34
4	96	0.10	-0.14	-0.10	0.86	43%	-1.43
5	96	0.16	0.68	0.02	0.86	50%	0.00
6	96	-0.04	-0.19	-0.01	0.89	46%	-0.82
7	97	0.30	0.46	-0.35	0.30	38%**	-2.34
8	96	0.36	1.54	0.00	0.36	49%	-0.20
9	97	-0.34	-0.83	-0.48	0.10	37%**	-2.54
10	97	0.94**	2.28	-0.13	0.61	41%*	-1.73

Panel B: Target cumulative abnormal returns (CAR)

Range	CAR(%)	z-Statistic
[-1,1]	5.36***	7.01
[-7,+1]	9.32***	7.68
[-20,-8]	2.02	1.34
[2,20]	-0.06	0.59
[-20, 20]	11.28***	6.97

Notes: Sample is for 97 Indian target firms acquired from 1995 to 2008. Standard event study methods are used. The market model is estimated using the BSE 100 index over [-250,-31]. Abnormal mean and median returns (AAR) are shown in Panel A which also reports the ratio of events with positive abnormal returns (with the corresponding binomial *z*-Statistic). Panel B shows cumulative abnormal returns (CAR) corresponding to event windows of interest. *,**, and *** denotes significance at 10%, 5%, and 1% levels.

The potential for information leakage prior to the announcement captured in LexisNexis cannot be overstated. We provided extensive discussion in section 2 regarding the multitude of steps that the acquiring firm has to undertake prior to a merger. It may be noted that the announcement date as used in our event study is not necessarily the first information date. Earlier dates are not reported in Indian media, but the news itself is likely to percolate to the market via informal channels and influence market prices. In short, there is a substantial likelihood of leakage which biases abnormal returns downward for both the acquirer and the target. Similar information leakage effect in different context has been reported in other emerging markets (see Bhattacharya et al, 2000).

Acquirer and target abnormal returns can be well associated with macroeconomic conditions around the announcement date. Some acquirer or target abnormal returns can be driven by favorable market conditions. If the stock market is "hot" any M&A news would be desirable resulting in positive abnormal returns. In Table VII we distinguish between hot and cold markets by comparing the annual returns for the BSE100 index based on monthly returns reported by the exchange during the 1995-2008 period.

An annual return in excess of 15% is classified as a "Hot Market". Acquirer and target abnormal returns can be well associated with macroeconomic conditions around the announcement date. Some acquirer or target abnormal returns can be driven by favorable market conditions. If the stock market is "hot" any M&A news would be desirable resulting in positive abnormal returns. In Table VI we distinguish between hot and cold markets by comparing the annual returns for the BSE100 index based on monthly returns reported by the exchange during the 1995-2008 period. An annual return in excess of 15% is classified as a "Hot Market". Years 1999, and 2003 through 2007 are hot market years according to the specification above. The average return for these years is 44.27%. For the remaining years in the sample period (cold years) the average return is -18.80%.

Table VI: BSE100 Annual Returns

Year	Annual Return (%)	Economy
1995	-23.23	
1996	-4.71	
1997	-15.02	
1998	-5.24	
1999*	50.98*	Hot market
2000	-23.69	
2001	-24.60	
2002	2.00	
2003*	79.64*	Hot market
2004*	15.92*	Hot market
2005*	43.35*	Hot market
2006*	38.98*	Hot market
2007*	43.97*	Hot market
2008	-45.34	
	Average Return (%)	
Hot Market	44.27	6 cases
Cold Market	-18.80	8 cases

Notes: We present below the compounded annual returns for the BSE100, based on monthly returns reported by the exchange, for the 1995 to 2008 period. An annual return in excess of 15% is indicated as "Hot Market", otherwise the market is deemed to be a "Cold Market".

We provide a bivariate comparison of market conditions in Table VII. As expected, acquirer CAR3 and CAR9 are significantly higher in hot markets relative to cold markets. We document that group acquirers have lower announcement returns than non-group acquirers, but the difference is not statistically significant as shown in Table VIII. Acquirers from liberalized industries have somewhat lower CAR3 and CAR9 compared to acquirers from protected industries, and the difference is significant. Acquirers whose eventual parent may be a non-Indian firm tend to achieve greater abnormal returns than do Indian parent acquirers, and the difference of the 3-day CARs is significant. Acquirers who offer cash experience a lower CAR3 than non-cash acquirers consistent with the notion that cash payout is real and stock exchange mergers are mere paper transactions. Acquirers who are growth firms tend to have lower CAR3 than non-growth acquirers. Acquirers of government divestments experience higher CAR3 and CAR9 than other acquirers, and the differences are significant.

Table VII: Bivariate Comparisons of Acquirer Abnormal Returns

			Difference
	Group Firms	*Non-Group Firms*	
CAR3	1.35%	3.26%	-1.92%
CAR9	1.62%	5.17%	-3.55%
N	280	151	
	Liberalized Industry	*Protected Industry*	
CAR3	1.89%	1.95%	-0.05%***
CAR9	2.68%	2.83%	-0.15%**
N	311	115	
	Indian Parent	*Non-Indian Parent*	
CAR3	1.81%	2.46%	-0.64%**
CAR9	2.89%	2.61%	0.28%***
N	313	121	
	Cash	*Non-Cash*	
CAR3	1.54%	2.13%	-0.59%***
CAR9	1.16%	3.30%	-2.14%***
N	85	351	
	Growth Firms	*No-growth Firms*	
CAR3	1.54%	2.13%	-0.59%***
CAR9	3.70%	2.68%	1.02%***
	78	353	
	Govt. Divestment	*Non-Divestment*	
CAR3	4.69%	1.91%	2.79%***
CAR9	2.90%	2.86%	0.04%***
N	17	414	
	Hot Stock Market	*Cold Stock Market*	
CAR3	2.36%	1.51%	0.84%**
CAR9	3.47%	1.95%	1.52%**
N	259	172	

Notes: In this table we present bivariate comparisons of acquirer abnormal returns based on; group versus non-group firms, cash versus non-cash transactions, listed versus unlisted acquirers, acquirers in liberalized versus protected industries, growth versus no-growth acquirers, divestment versus non-divestment acquisitions, Indian versus non-Indian parent acquirers, and acquisitions in hot versus cold markets. Difference between CAR3 and CAR9 [-7, +1] is computed for each group and corresponding *z*-statistics are presented. *, **, and *** denotes significance at 10%, 5%, and 1% levels, respectively.

B. Trend in Acquirer and Target Abnormal Returns

Figures I and II provide acquirer and target CAR3 and CAR9 for periods 1995-99, 2000-02, 2003-05, 2006-08. Our second hypothesis (H2) predicts that over time the difference between abnormal returns of acquirers and targets in India and their U.S. counterparts should narrow

down if the market for corporate control in India has become more competitive. We find contrary evidence to H2 in these Figures. We do not observe any clear pattern that acquirer (target) abnormal returns have decreased (increased) over time.

C. Cross-Sectional Analysis: Acquirer Abnormal Returns

Group-affiliated firms in India are larger than non-group firms when measured by sales or assets. We examine whether being affiliated with a group company impacts gains to the acquirers. Out of the total 419 cases, there are 269 group affiliated firms, and 150 are not group affiliated. Among the group affiliated firms there are 100 firms that can be characterized as small using the median size of the sample. The CAR3 and CAR9 are positive in both group and non-group acquirer cases. Khanna and Palepu (2000) also show that there is no significant difference between the two groups in terms of ROA or Tobin's *q*.

We report cross-sectional analysis of acquirer returns in Table VII. We use a weighted least squares approach with the inverse of the event period standard errors as weights to correct for heteroscedasticity. The dependent variables are SAR3 using the 3 day prediction error, and SAR9 using the 9 day prediction error. All dependent variables in the regression are also weighted. Size is the log of assets and a high size dummy is set to 1 when the size is higher than median size and 0 otherwise. Run-up is defined as the sum of log (1+AR) over the estimation period from [-250, -31] relative to the event date, where AR is the stock excess return over index return. High runup dummy is set to 1 when runup is higher than median runup and 0 otherwise. High ROA dummy is set equal to 1 when ROA is higher than median; all-cash dummy is set to 1 when the transaction is paid by cash ROA and 0 otherwise; Group firm dummy is set to 1 if a firm belongs to a group company, else the dummies are set to 0.

With regard to the variables, there are the following expectations; size is expected to be negatively related with abnormal returns, high performing acquirers (High Runup) are likely to experience higher abnormal returns based on momentum, more profitable acquirers (High ROA) are expected to experience lower abnormal returns, cash payment is expected to have negative coefficient, and Group firms' response is likely to be conditioned on their size.

We find evidence that more profitable acquirers with higher ROA obtain lower AR, possibly because the acquisition is more likely to drag their profits down than increase them. Conversely, acquirers with lower profits are likely to experience higher abnormal returns due to potential acquisition of more profitable entities. We find some evidence of past stock run-up suggesting momentum results in higher acquirer returns. Importantly, we find that acquirers who belong to a group face lower announcement returns, significant at 5% for SAR3 and at 1% for SAR9, a result that is consistent with H3. Small or mid-size group companies do not enjoy the same benefits as large group companies. To test the effect of size on acquirer announcement returns we interact the acquirer size dummy with the group affiliation dummy. The interaction term has a positive coefficient and is significant at the 10% level for SAR9. Thus, larger sized group firms obtain higher level of response than do smaller group firms consistent with Khanna and Palepu's (2000) findings.

D. Cross-Sectional Analysis: Target Abnormal Returns

Our sample of targets is substantially smaller than the acquirer sample with 97 firms for abnormal returns and 80 observations for cross-sectional regressions. We report results of weighted least squares regressions with SAR3 or SAR9 of the target as dependent variables in Table IX. We use hot-market-dummy along with target size dummy, target cash transaction dummy, and target group firm as control variables and add to these variables acquire size dummy in conjunction with its interaction with the acquirer group dummy.

We observe a positive coefficient for acquirer size dummy, significant at the 1% level and a negative coefficient for the interaction between acquirer high size and acquirer group status which is significant at the 5% level. The sign of these coefficients are the mirror image of the sign from Table VII describing acquirer returns. The acquirer gains come from target losses. Specifically, these acquirers (high size, group) are better able to extract the gains from the targets. Targets that belong to groups obtain higher returns presumably due to higher quality management and the value of their affiliation. Therefore, the acquirer is willing to pay a higher price for the targets where it can possibly use some benefits of the target's groups. The high size of the target shows weak negative response.

Cash payment dummy has a negative sign for both regressions. This dummy has also a negative coefficient in the acquirer regressions. It is a puzzle why the cash payment variable is negative for targets, especially since it is also negative for the acquirer. Symmetry arguments would suggest that cash payments would be favorably viewed by the target shareholders unless they are paid less in cash transactions.

Table VIII: Cross-Sectional Analysis of Acquirer Abnormal Return

	Dependent Variable	
Variable	SAR3	SAR9
Constant	0.04**	0.07***
	(4.74)	(5.27)
Hot Market	-0.00	-0.01
	(-0.63)	(-0.81)
High ROA	-0.02***	-0.02**
	(-3.00)	(-2.35)
All-Cash Payment	-0.01	-0.03**
	(-1.05)	(-2.33)
High Runup	0.01*	0.01
	(1.94)	(1.00)
Group Firm	-0.02**	-0.05***
	(-2.35)	(-3.81)
Group Firm* High Size	0.00	0.02*
	(0.05)	(1.82)
F-value	7.91	8.32
Adj. R^2	0.10	0.11
N	419	419

Notes: This table presents weighted OLS regression. Dependent variable is 3 or 9-day standard abnormal returns (SAR3 and SAR9). Weight is defined as standard deviation of prediction for 3 day [-1,+1], and 9 day [-7,+1] windows. All the variables used in the regression are divided by the weight to adjust for heteroscedasticity. Size (log of assets); high size dummy, set to 1 when size is greater than median size and 0 otherwise; Runup, defined as the sum of log (AR+1) from [-250, -30], where AR is the stock excess return over index return; High runup dummy, set to 1 when Runup is higher than median Runup and 0 otherwise; high ROA dummy, equal to 1 when ROA is higher than median ROA and 0 otherwise. All-cash dummy is set to 1 when the transaction is paid by cash or 0 otherwise, Group Firm dummy is set to 1 if a firm belongs to a group company and 0 otherwise. Numbers in parenthesis are t-values. *, **, and *** denote significance at 10%, 5%, and 1% levels.

Table IX: Cross-Sectional Analysis of Target Abnormal Return

	Dependent Variable	
Variable	SAR3	SAR9
Constant	-0.01	0.04
	(-0.18)	(0.82)
Hot Market	-0.01	-0.02
	(-0.27)	(-0.51)
High Size	-0.04*	-0.06
	(-1.75)	(-1.60)
All-Cash Payment	-0.05*	-0.09**
	(-1.96)	(-2.26)
Target Group Firm	0.07*	0.07
	(1.76)	(1.15)
Acquirer High Size	0.12***	0.19***
	(2.79)	(2.70)
Acq. Group Firm* Acq. High Size	-0.10**	-0.17**
	(-2.05)	(-2.28)
F-value	3.44***	4.11***
Adj. R^2	0.18	0.21
N	80	80

Notes: This table presents weighted OLS regression. Dependent variable is 3 or 9-day standard abnormal returns (SAR3 and SAR9) for targets. Weight is defined as standard deviation of prediction for 3 day [-1,+1], and 9 day [-7,+1] windows. All the variables used in the regression are divided by the weight to adjust for heteroscedasticity. Size (log of assets); high size dummy, set to 1 when size is greater than median size and 0 otherwise; Runup, defined as the sum of log (AR+1) from [-250, -30], where AR is the stock excess return over index return; High runup dummy, set to 1 when Runup is higher than median Runup and 0 otherwise; high ROA dummy, equal to 1 when ROA is higher than median ROA and 0 otherwise. All-cash dummy is set to 1 when the transaction is paid by cash or 0 otherwise, Group Firm dummy is set to 1 if a firm belongs to a group company and 0 otherwise. Numbers in parenthesis are t-values. *, **, and *** denote significance at 10%, 5%, and 1% levels.

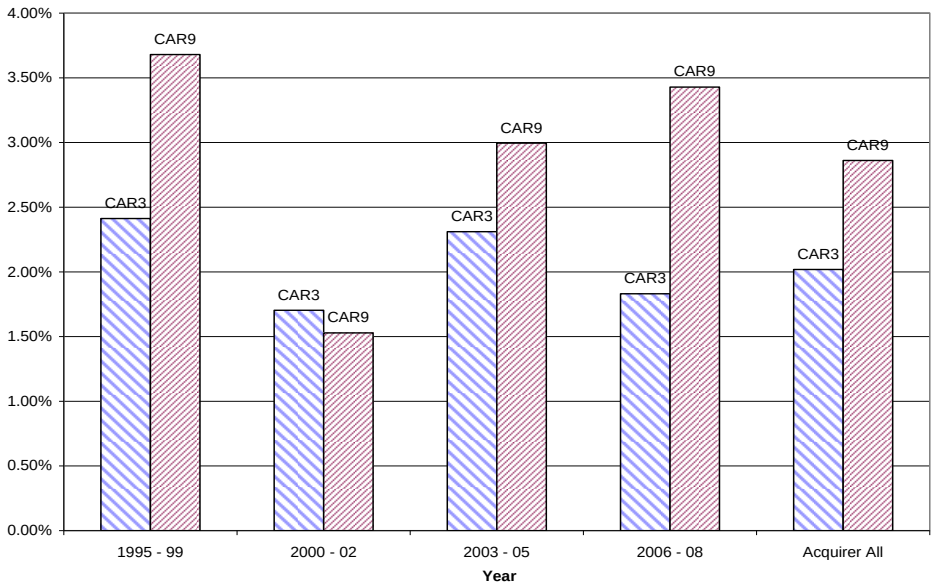
VII. Conclusion

Our study provides the first examination of mergers in the Indian market during the 1995-2008 following the economic liberalizations. We document some aspects of the opening of a vibrant market for control. The price response in this market is different from those reported in developed or other markets. The size of gains to participants around the announcement of takeovers is usually sample-specific. Most domestic and international studies, however, report negative (positive) announcement returns for acquirers (targets). Consistent with Alexandridis, Petmezas, and Travlos (2010), we find that in Indian mergers both parties gains with acquirers (targets) showing higher (lower) abnormal returns relative to acquisitions in the U.S. Contrary to our expectation that the takeover market in India has become more competitive since 1995, we find little evidence that acquirers' abnormal returns have declined or target abnormal returns have increased over time.

Literature regarding conglomerates shows negative correlation between diversification and value creation. Khanna and Palepu (2000) report that contrary to the U.S. experience, creating large, highly diversified group companies in India results in value creation for the whole group. Consistent with their findings, we present evidence that large group affiliated acquirers have higher announcement returns, and this directly translates into lower target returns. Targets belonging to groups can exploit their affiliations, and possibly due to better bargaining power, achieve higher abnormal returns. The nature of industrial consolidations and its impact on abnormal returns as well as potential synergy gains is an area of future study.

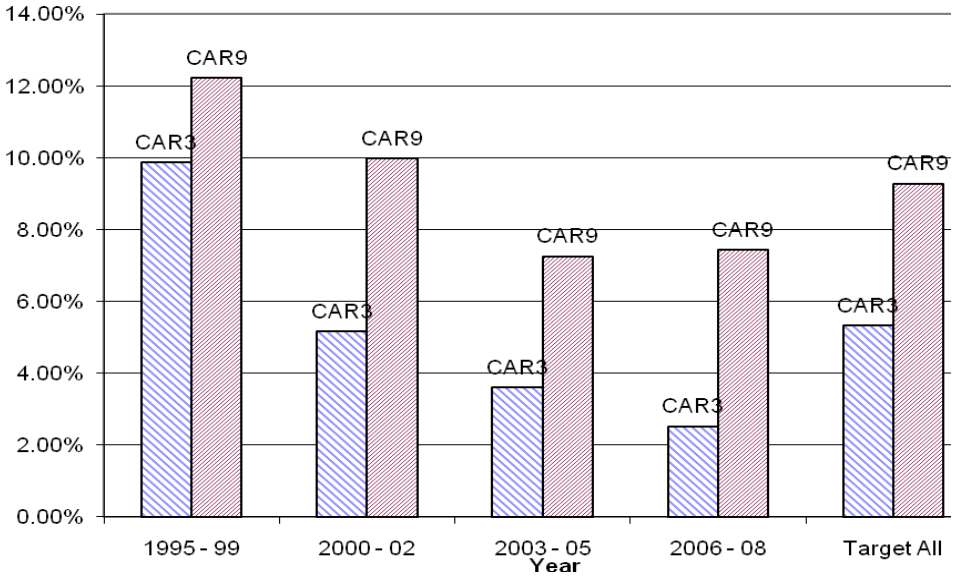
Appendix

Figure I: Acquirer Cumulative Abnormal Returns over Calendar Time



Notes: This figure shows acquirer CAR3 and CAR9 for periods 1995-99 (N=67), 2000-02 (N=111), 2003-05 (N=117), 2006-08 (N=136) and for the whole sample (N=431).

Figure II. Target Cumulative Abnormal Returns over Calendar Time



Notes: This chart depicts target CAR3 and CAR9 for periods 1995-99 (N=23), 2000-02 (N=29), 2003-05 (N=25), 2006-08 (N=20) and for the entire period (N=97)

References

Alexandridis, G.; Petmezas, D., Travlos, N.G. (2010) "Gains from mergers and acquisitions around the world: new evidence", *Financial Management Journal,* Vol. 39 No.4, p. 1671-1695.
Andrade, G.; Mitchell, M.; Stafford, E. (2001) "New evidence and perspectives on mergers", *The Journal of Economic Perspectives,* Vol. 15, p.103-120.
Bhattacharya, U.; Daouk, H.; Jorgenso, B.; Kehr, C. H. (2000) "When an event is not an event: the curious case of an emerging market", *Journal of Financial Economics,* Vol. 55, pp. 69 -101.
Campa, J.M.; Hernando, J. (2004) "Shareholders value creation in European M&As", *European Financial Management,* Vol. 10, p. 47-81.
Chari, A. ; Ouimet, P.P.; Tesar, L.L. (2010) "The value of control in emerging markets", *Review of Financial Studies,* Vol. 23, p. 1741-1770.
Chu, W. (2004) "Are Group-affiliated firms really more profitable than nonaffiliated?", *Small Business Economics,* Vol. 22, p. 391–405.
Fuller, K.; Netter, J.; Stegemoller, M. (2002) "What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions", *Journal of Finance,* Vol. 57 No. 4, p. 1763–1793.
Gopalan, R.; Nanda,V.K.; Seru, A. (2007) "Affiliated firms and financial support: evidence from Indian business groups", *Journal of Financial Economics,* Vol. 86, p. 759-795.
Kakani, R.K.; Saha, B.; Reddy, V.N. (2001) "Determinants of financial performance of Indian corporate sector in the post-liberalization era: an exploratory study", *NSE Research Initiative,* Paper No. 5.
Kaplan, S.N.; Weisbach, M.S. (1992) "The success of acquisitions: evidence from divestitures", *Journal of Finance,* Vol. 47, p. 107-138.
Khanna, T.; Palepu, K. (2000) "Is group affiliation profitable In emerging markets? An analysis of diversified Indian business groups", *Journal of Finance,* Vol. 10, p. 867-891.
Lensink, R.; Molen, R.V.D; Gangopadhyay, S. (2003) "Business groups, financing constraints and investment: the case of India", *Journal of Development Studies,* Vol. 43 No. 2, p. 93-119.
MacKinlay; A. C. (1997) "Event studies in economics and finance", *Journal of Economic Literature,* Vol. 35, p. 13-39.