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Implications for concentration of ownership
and insider entrenchment**

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Impact of M&A on firm performance in India: Implications for concentration of ownership and insider entrenchment*

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Abstract:

The literature is divided in its opinion about the impact of concentration of ownership on firm performance. On the one hand, concentration of ownership that, in turn, concentrates management control in the hands of a strategic investor, eliminates agency problems associated with dispersed ownership. On the other hand, it may lead to entrenchment of upper management which may be inconsistent with the objective of profit (or value) maximisation. This paper examines the impact of M&A on profitability of firms in India, where the corporate landscape is dominated by family-owned and group-affiliated businesses, such that alignment of management and ownership coexists with management entrenchment, and draws conclusions about the impact of concentrated ownership and entrenchment of owner-managers on firm performance. Our results indicate that, during the 1995-2002 period, M&A in India led to deterioration in firm performance. We also find that neither the investors in the equity market nor the debt holders can be relied upon to discipline errant (and entrenched) management. In other words, on balance, negative effects of entrenchment of owner-managers trumps the positive effects of reduction in owner-vs.-manager agency problems. Our findings are consistent with bulk of the existing literature on family-owned and group-affiliated firms in India.

Keywords: mergers and acquisitions, corporate governance, manager entrenchment, firm performance, India

JEL classification: G34

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1. Introduction

The extensive literature on mergers and acquisitions (M&As) has offered a number of plausible explanations for the high visibility of this corporate phenomenon since the 1980s. Jensen (1986, 1988) has argued that M&As are a consequence of a breakdown in the internal governance structures of corporations. Managers in large corporations use free cash flow generated by the more productive and profitable divisions to subsidise less viable divisions, rather than returning the money to the shareholders, and this leads to shareholder action that is manifested by M&A. This view finds support in the research of Kini, Kracaw and Mian (2004) who argue that M&A is a last resort that is observed when internal governance mechanisms of the firms break down and the market is the only source of discipline for the managers. Shleifer and Vishny (1990), on the other hand, view M&A as the mechanism by way of which efficiency-seeking firms spin off unrelated lines of business and acquire businesses that enhance efficiency through vertical or horizontal mergers between firms. The Jensen as well as the Shleifer and Vishny views about M&A find support in the empirical work of Lang and Stulz (1994) and Berger and Ofek (1995) which demonstrate that, in the United States, shares of single-segment firms are traded at a premium over those of multiple-segment firms. Finally, Donaldson (1994) has argued that M&A activity is driven by the concentration of shareholding in the hands of institutional investors who have less attachment to individual firms and which facilitate M&A by making it easier for predator companies to acquire large blocks of shares from a small number of shareholders.

Some studies indicate that M&A events might actually be value- and performance-preserving for the firms (Franks, Harris and Titman, 1991; Healy, Palepu and Ruback, 1992). However, the vision of efficiency augmenting M&As, driven by either shareholder activism or by desire of the management to specialise and focus on core business activities is not in harmony with a considerable proportion of the available empirical evidence on the post-M&A performance of the firms. For example, under the assumption of efficient capital markets that reflect all available information, event studies of M&A announcements indicate that there can be significant loss of wealth of shareholders of predator firms both in the short and in the long

runs (Asquith, 1983; Agarwal, Jaffe and Mandelker, 1992). The central results of these studies find support in the research that compares pre- and post-M&A accounting performance of the firms (Ravenscraft and Scherer, 1989).

Researchers have attempted to explain the inability of M&A, on average, to add value to the acquiring firms in a number of different ways. Roll (1986), for example, argues that the loss of value subsequent to mergers might be a manifestation of hubris on the part of the managers of the acquiring companies, who over-estimate their ability to generate value from the mergers. Haunschild, Davis-Blake and Fichman (1994) have suggested that, for a variety of reasons, managers of acquiring firms may become committed to the acquisition of a target firm, irrespective of the final outcome. Other management scholars have emphasised the impact of organisational differences between the target and acquiring firms in determining the post-M&A performance (Datta, 1991). However, the dominant view among economists is that the loss of value subsequent to M&A is an outcome of the agency conflict between managers and shareholders of the acquiring companies, whereby the managers take decisions that are consistent with their own interests even if they are unlikely to maximise shareholder returns (Shleifer and Vishny, 1988).

Mayer (1997) argues that the principal-agent structure underlying the Shleifer and Vishny (1988) view is not relevant in countries and contexts where companies are largely family owned such that there is less separation between management and ownership, if any. This view finds support from Anderson and Deeb (2003a, 2003b) who conclude that the absence of this form of agency conflict has benefited minority shareholders in family-owned firms in the United States. Firms with insider CEOs perform better, on average, than firms with outsider CEOs, while there is no difference between the debt and risk profiles of the family-owned and outsider-owned companies. Similarly, Thomsen and Pedersen (2000) found, broadly speaking, a positive correlation between ownership concentration and both shareholder value and profitability in the European context. The impact of concentrated ownership on the quality of governance has arguably been positive also in the context of Japan (Berglof and Perotti, 1994).

However, the concentration of ownership in the hands of a few (often related) individuals that mark the corporate landscape in these countries and contexts are not necessarily value-generating for a different type of agency conflict, namely, the (potential) divergence in the interests of the large shareholders who are related to the family, and the other shareholders who are powerless to remove these insiders because they own controlling shares of these companies. There is evidence to suggest that in a number of different contexts managers of family-owned firms, who look after the interests of the controlling family as opposed to those of the minority shareholders, are involved in tunnelling, i.e., the transfer of resources from companies in which the family had relatively smaller equity stakes to (usually group) companies in which it has larger equity stake (Johnson et al., 2000; Classens, Djankov and Land, 2000; Gomez-Mejia, Nunez-Nickel and Guttierrez, 2001). It results in lower dividend payouts to non-family shareholders. If capital markets are efficient, this form of agency conflict should be reflected in lower market valuation of companies in which insiders own a significantly large share of the equity. Indeed, Morck, Shleifer and Vishny (1988) found that, in the United States, a company's performance, as measured by its Tobin's Q, increases with concentration of ownership up to a point, and decreases thereafter. Han and Suk (1998) find a similar quadratic relationship between the concentration of shares in the hands of insider-managers and stock returns.

In the specific context of M&As, Ben-Amar and Andre (2006) find that, in Canada, abnormal returns to the stocks of the acquiring companies were largely positive during the 1998-2002 period, and the (positive) abnormal returns to stocks of family controlled companies were higher than those of other companies. They conclude that this is a manifestation of the faith that investors have on the ability of the Canadian regulators to protect the interests of the minority shareholders. The outcome in other contexts has not been as favourable for firms with concentrated shareholding. For example, Bae, Kang and Kim (2002) find that in South Korea share value of acquiring companies decline subsequent to M&A, resulting in a loss for the minority shareholders. But the insiders who control these

companies gain because of a subsequent increase in the value of the related group companies, presumably on account of tunnelling.

We add to this growing literature by examining the impact of M&A on firm performance in India, where nearly 70 percent of the firms are family-controlled, and where most of the larger family-controlled firms are part of larger business groups (Piramal, 1996).¹ The existing empirical evidence about these firms is mixed. On the one hand, for example, Khanna and Palepu (2000) have argued that stock market and financial performances of Indian firms that belong to business groups initially decline with group diversification but improve once the extent of diversification exceeds a certain threshold. They conclude that in emerging markets like India business groups replicate the functions of institutions that are otherwise missing. This view is supported by research that argues that group affiliation in countries with underdeveloped capital markets and low levels of creditor protection, business group affiliation provides greater access to external funds (Ghatak and Kali, 2001; Lesnik, van der Molen and Gangopadhyay, 2003). On the other hand, Chacar and Vissa (2005) have suggested that Indian firms with group affiliation have greater persistence of poor performance than those that are not part of such organisational structure. They conclude that market based governance structures function better in emerging market conditions than internal or “allocative” governance structures. This, in turn, is consistent with the argument that, in matters of succession, family-owned businesses in India value blood and family ties more than entrepreneurial and managerial skills (Sharma and Rao, 2000), implying that the quality of management and strategic decision-making at these firms may not be of the highest quality. The adverse impact of succession on firm value has been documented elsewhere in the literature (Villalonga and Amit, 2006). Finally, Bertand, Mehta and Mullainathan (2002) have found evidence of tunnelling in Indian business groups.

¹ In addition, India has a well-organised capital market that makes it possible, at least in principle, to hold out a credible threat of market discipline against firms that do not create value through their strategic decisions. For details about the growth of the equity segment of the Indian capital market, see various issues of Economic Survey published by the Government of India (<http://indiabudget.nic.in>).

Our analysis suggests that, on average, M&A in India results in reduction in firm-performance. Our result is robust to choice of measure of performance, and to controls for observed and unobserved characteristics of the acquiring firms. Given that an overwhelming proportion of the firms in our sample are family-owned and/or group affiliated, this result has negative implications for the quality of decision-making and corporate governance structures within these firms. We also find that this *ex post* loss of performance, estimated on the basis of accounting data, is not anticipated by the capital market at the time of the M&A announcement. This, in turn, suggests that emerging capital markets may not be effective at identifying governance and management problems in firms *ex ante*, and hence may not be good at disciplining bad or errant insiders or managers.

The rest of the paper structured as follow: In Section 2, we describe the data, and report initial evidence about the impact of M&A on firm-performance in India. In Section 3, we undertake a more exhaustive empirical analysis, and examine the nature of this impact after controlling for firm- and industry-specific characteristics. Section 4 discusses the reaction of investors to the announcement of the M&A events. Finally, Section 5 concludes.

2. Data

2.1 Choice of sample

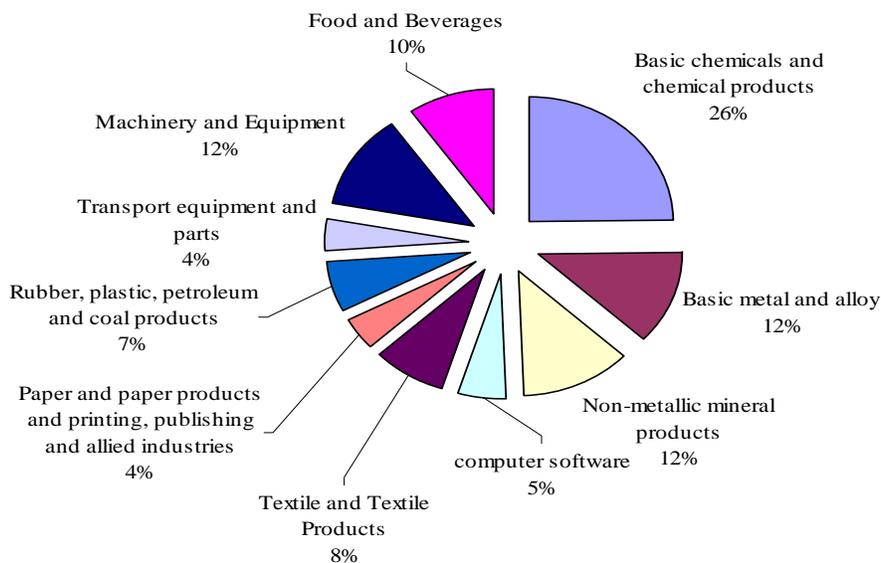
The data on M&A events were obtained from three different sources, namely, the M&A database of the Centre for Monitoring the Indian Economy (CMIE), the Securities and Exchange Board of India (SEBI) and the Bombay Stock Exchange (BSE). Only M&As during the 1995-2002 period were taken into consideration, on account of three reasons. First, pre-1995 M&A events involving unrelated private sector companies are few in number and information on them are not readily available. Second, as we shall see later in this paper, we use event study analysis, and the Indian capital market did not have the required depth and institutional characteristics for meaningful event study analysis until the reforms that gave statutory status to SEBI in 1992, and, more importantly, led to the initiation of equity trading at the National Stock Exchange (NSE) in November 1994.² Third, in order to undertake a

² Just for the sake of illustration, the average daily value of trades at the NSE increased by over 3000 percent between January 1995 and January 1996.

meaningful accounting data based analysis of the M&A events, we require a minimum of a three year period beyond the year of the events.

A cursory examination of the available data suggests that the 1997-2002 period was marked by hundreds of M&A events in India. However, a closer look at these events indicates that almost all these events involve merger of group firms, and or purchase of equity by promoters from the open market to increase their equity stake in the companies that they already control, often as a defensive strategy to pre-empt takeover bids from rival companies. However, while these M&A events do involve strategic decision making, they do not necessarily involve change in management and control over the firms' resources. Hence, we limit our analysis to acquiring companies that have acquired unrelated target companies, i.e., to cases where the acquiring company did not have any control over the management of the target company prior to the M&A event. Further, since it is typically difficult to compare performance of manufacturing and service sector firms, and given that family-ownership and group affiliation was more likely in old-economy firms that were largely in the manufacturing sector, we limit our sample to M&A events (among unrelated companies) in the manufacturing sector.

Figure 1
Distribution of M&A events across industries



Our final sample includes 86 events of M&A involving 73 acquiring companies, i.e., some of the acquiring companies were involved in multiple acquisitions. By the standards of the literature, our sample of 73 firms is of a reasonable size; Clark and Ofek (1994), for example, use a sample of 38 takeovers. As highlighted in Figure 1, these M&A events are distributed across a number of different 3-digit industries, indicating that our results are unlikely to be driven by industry-specific factors. Further, as indicated in Table 1, 47 of these 73 acquiring companies have group affiliations. We shall discuss the ownership concentration of these firms in some detail later in this section.

Table 1
Characteristics of acquiring firms

Year	Group Companies	Standalone Companies	Foreign companies	Total
1996	0	1	0	<i>1</i>
1997	3	0	0	<i>3</i>
1998	4	0	1	<i>5</i>
1999	10	0	0	<i>10</i>
2000	8	5	4	<i>17</i>
2001	13	4	5	<i>22</i>
2002	9	5	1	<i>15</i>
<i>Total</i>	<i>47</i>	<i>15</i>	<i>11</i>	<i>73</i>

2.1 Descriptive statistics

Table 2 reports the pre-acquisition characteristics of the 73 acquiring firms. The following are easily seen from the data:³

- Firms with group affiliation are much larger than their standalone counterparts. Measured in terms of both sales and assets, the former have more than three times the size of the latter. The foreign firms are larger than both types of domestic firms.

³ The reported characteristics are significantly different across the three types of firms. This was ascertained using the non-parametric Kruskal-Wallis test which is a commonly used non-parametric analog of the one-way ANOVA for three or more groups.

- Group affiliated firms are significantly older, on average, than their standalone counterparts. It is interesting to note, however, that foreign firms participating in the domestic M&A market are older than their domestic counterparts, possibly highlighting the importance of learning for multinational firms behaving strategically in an emerging market environment.
- The overall level of leverage, measured as debt-to-equity ratio, is low for all firms, highlighting that borrowing for acquisition is feasible for both the domestic and foreign firms in the sample, without a significant impact on their credit worthiness. Leverage is lower for foreign firms than for domestic firms. Given the importance of leverage in the context disciplining of errant managers (or insiders), we discuss this in greater detail later in this paper.
- Only about half the firms in the sample report R&D expenditure, and figures not reported in Table 2 indicates that this expenditure accounts for less than 2 percent of sales revenue for all firms, domestic and foreign. Advertisement expenditures are much more significant, and is much higher for group-affiliated firms than for their non-group affiliated counterparts. But the advertisement expenditures of the foreign firms in our sample are largest by far. This suggests that most of the foreign firms active in the domestic M&A market in India are involved in production and sale of consumer products (e.g., Unilever).

Table 2
Pre-acquisition characteristics of acquiring firms across different ownership groups

	Group Affiliated	Standalone	Foreign	All
Sales	405.89	134.66	673.72	390.52
Assets	588.54	148.89	927.59	549.29
Age (years)	31.74	21.13	37.18	30.38
Debt	195.36	60.72	398.24	198.26
Leverage	1.14	0.97	0.68	1.04
R&D (% of firms)	53.19	26.67	72.72	50.68
Advertising/Sales (%)	2.70	1.81	2.01	2.41
<i>Number of firms</i>	<i>47</i>	<i>15</i>	<i>11</i>	<i>73</i>

Notes: 1. Sales, Total Assets and Debt are expressed in rupees *crore*, when 1 crore equals 10 million.
2. The rupee values are expressed in real terms, the deflator being the wholesale price index that has 1993-94 as the base year.

Table 3
Pre- and post- merger characteristics of acquiring firms

Firm Characteristics	Mean	Standard Deviation	Industry Mean	Mean	Standard Deviation	Industry Mean
	Pre-merger (t-1)			Post-merger (t+3)		
Total Assets	549.29	937.67	24.30	701.33	1240.78	24.83
Net Fixed Assets	260.85	566.91	9.77	320.51	685.25	8.92
Sales	390.51	622.87	23.42	524.67	861.45	24.81
Market Power	18.43	23.90	1.0	22.35	31.05	1.00
Age (Years)	30.38	19.13	17.92	34.5	19.24	21.19
Total Debt	198.26	417.94	8.43	235.16	558.03	7.74
Leverage	1.04	0.75	0.89	1.44	2.99	0.82

Notes: 1. Sales, Total Assets and Debt are expressed in rupees *crore*, when 1 crore equals 10 millions.
2. The rupee values are expressed in real terms, the deflator being the wholesale price index that has 1993-94 as the base year.
3. M&A took place in year *t*.

Table 3 reports comparative descriptive statistics for the acquiring companies before and after the M&A events. In order to facilitate comparison across the years, the rupee figures are reported in real terms, the deflator being the wholesale price index with 1993-94 as the base year. The descriptive statistics indicate that the average acquiring firm is large relative to its industry peers. However, there is considerable heterogeneity in this respect. The maximum and minimum values for assets and sales of the acquiring firms, not reported in the table, indicate that the smallest firm has less than half the assets and sales of the industry average, while the largest has more than 20 times as much. Not surprisingly, the event of acquisition led to an increase in both the assets and sales of the acquiring firms. More importantly, it significantly increased the market power of the average firm, defined as the ratio of sales of the acquiring firm to the sales of the median firm in the 3-digit industry.

As we have already seen, the average acquiring firm is not heavily indebted, even though it is more leveraged than the median firm in its 3-digit industry. Although leverage increases noticeably after the M&A event, an average firm's debt-to-equity ratios is significantly less than 2 both during the year prior to the M&A events ($t-1$) as well as during the third year after these events ($t+3$). *A priori*, therefore, there is no reason to believe that these firms would be subjected to serious scrutiny by the debt holders. Further, to the extent that low debt servicing burdens indicate existence of free cash flows, the M&A events in our sample may have been driven by the existence of such cash flows. Both these possibilities have obvious implications for corporate governance of the acquiring firms in our sample.

Table 4
Pre- and post-merger ownership structure of acquiring firms

	Mean	Standard Deviation	Mean	Standard Deviation	t-statistic (equality of means)
	Pre-merger (t-1)		Post-merger (t+1)		
Insiders (Promoters + Directors) (%)	40.05	20.48	49.02	18.72	2.35 ***

Indian Institutional Investors (%)	16.26	13.48	12.24	10.36	-1.72 **
Foreign (Collaborators + NRI +FII) (%)	16.99	20.40	13.84	22.58	0.75
Public (%)	21.66	13.47	23.55	15.05	-0.68

Notes: 1. NRI and FII stand for non-resident Indians and foreign institutional investors, respectively.
2. The omitted categories (i.e., not reported in the table) are private corporate bodies, government, trusts and any other.
3. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.
4. M&A took place in year t .

In Table 4, we report the average ownership structure of the acquiring companies prior to acquisition, and that of the merged entity immediately after the M&A.⁴ The ownership data indicates that ownership of both the Indian firms in our sample is quite concentrated. In an acquiring company, company insiders, i.e., promoters and directors, account for, over 40 percent of the shares prior to acquisition. Once the acquisition is complete, the insiders own an even higher percentage (49 percent) of the merged entity. The actual ownership of equity by the insiders was possibly much higher, by way of indirect ownership of equity through group companies. Sarkar and Kali (2007), for example, have demonstrated that the promoters of Indian companies typically control much more than their own shares in the companies, through “persons acting in concert.”⁵ In the case of a specific (and well known) company, for example, the promoters themselves owned only 7 percent of the shares, while persons acting in concert accounted for 48 percent of the company’s equity. In keeping with this view, in nearly 60 percent of the companies in the sample, at least one promoter acted as the CEO or the Managing Director of the company prior to the M&A.

⁴ Detailed ownership data are available for 53 of the 73 acquiring companies. Hence, comments are based on data for these 53 companies. However, that accounts for nearly three-fourths of our sample. Hence, it is fairly safe to generalise the ownership patterns observed among these 53 companies.

⁵ Persons acting in concert are relatives or corporations controlled by promoters and are a distinguishing feature of Indian companies. Controlling shareholders separate their cash flow rights from control by way of persons acting in concert. By definition persons acting in concert have a common objective as that of promoters and directly or indirectly co-operate with promoters (vide Substantial Acquisition and Takeover Act of 1997).

Importantly, neither of the other two groups of (potentially) strategic shareholders, namely, Indian institutional investors and foreign investors, individually own more than 26 percent of the companies' shares that are required to put up resistance against strategic decisions at the Board level. Indeed, on average, the collective ownership of shares of both these types of investors declined from 33 percent prior to M&A to just over 26 percent after the event. In other words, on average, insiders in Indian firms had (near) absolute control of the acquiring companies, thereby insulating them somewhat from disciplining by other shareholders.⁶ Moreover, the average equity ownership by financial institutions in the acquiring firms does not exceed 20 percent, well below the 26 percent threshold required to block resolutions at the board level. This observation is consistent with the argument by Sarkar and Sarkar (2000) that there is no evidence to suggest that institutional shareholders have any impact on the quality of governance at an Indian company.

The descriptive statistics indicate that most of the firms in our sample, which were involved in merger with or acquisition of unrelated companies during the 1995-2002 period, were possibly not subjected to monitoring and or effective disciplining by either non-insider shareholders or debt holders. At the same time, our ownership data suggests that insiders were well entrenched and did not face credible threats of removal. These combinations of factors suggest that, in our context, the benefits associated with the elimination of the manager-owner agency conflict on account of ownership concentration might be out-weighed by the entrenchment of company insiders.

⁶ Ownership entrenchment is not a characteristic of Indian firms alone. The average ownership of equity of the foreign firms by the foreign owners was also high at about 50 percent, and it rose noticeably after the M&A event, to over 56 percent of the merged entity. On the face of it, this suggests that the foreign owners too were as entrenched in these companies as their Indian counterparts in the domestic companies. However, in our data, foreign ownership includes both strategic ownership of shares for control, as well as ownership of shares by foreign institutional investors. Hence, it is difficult to make a strong statement about the extent of entrenchment of the insiders in foreign firms. It is important to note, however, that foreign investors in India do not have a positive impact on firm performance unless they own adequate equity stake to give them outright control of the firms (Chhibber and Majumdar, 1999).

2.3 Univariate analysis of firm performance

In this section, we use an univariate method, namely, the Wilcoxon ranked-sign test,⁷ to test the hypothesis that firm performance is unaffected by M&A, against the alternative hypothesis that M&A improves performance. Specifically, in keeping with the literature on analysis of M&A successes using accounting data, we compare profitability in period $t-1$, i.e., the year prior to the M&A event, with profitability in year $t+3$, i.e., profitability three years after the event.

Our measures of profitability are profit before interest, depreciation and taxes (PBIDT), and profit before interest and taxes (PBIT), both normalised by firm size, the proxy for which is total assets. The oft-used measures of performance, namely, return on assets (ROA) and return on equity (ROE), are rarely used in the context of M&A, if at all. It is argued that since profit after tax (PAT), which is the basis for the computation of ROA and ROE is a distorted measure of performance because PAT is affected by factors like depreciation that are influenced by accounting rules that govern the estimation of depreciation, interest payments which depend on (variable) interest rates that are exogenously determined, and on measurement of intangible factors like goodwill (see, e.g., Meeks, 1977). Hence, it is customary to use PBIDT and PBIT as performance measures of companies involved in M&A.

We also take into account the possibility that a firm's performance may be affected by industry level factors like a slowdown in demand or a reduction in profit margins on account of greater competition. It is, therefore, stylised to compare the difference between a firm's performance and the performance of the median firm in the same industry in period $t-1$ with the corresponding difference in period $t+3$. For example, suppose that the ratio of PBIDT to assets of an acquiring firm is 2.5 percent in year $t-1$ and the corresponding figure for the median firm in the industry is 2.3 percent. The ratios in year $t+3$ are 2.4 and 2.1,

⁷ In small samples, it is statistically incorrect to compare the usual z- and t-statistics for comparison of means, because the underlying distributional assumptions are not met. In such situations, it is stylised to use the Wilcoxon ranked-sign (non-parametric) test that does not make such assumptions. See Megginson, Nash and van Randenborgh (1994) and D'Souza and Megginson (1999) for similar use of the Wilcoxon test.

respectively. In other words, while there was a drop in the performance of the acquiring firm between years $t-1$ and $t+3$, the drop in the performance of the median firm of the industry was even greater. Hence, adjusted for unobserved industry-level factors, there was an *improvement* in the performance of the acquiring firm between the two years. We adjust for such industry effects by deducting the profitability of the median firm in the respective 3-digit industry from the profitability of each acquiring firm.

Table 5
Univariate test of impact of M&A on performance

	PBDIT on Assets	PBIT on Assets	PBDIT on Sales	PBIT on Sales
<i>Unadjusted with industry median</i>				
Pre-merger (t – 1)	16.02	12.68	17.65	13.52
Post-merger (t + 3)	13.56	9.01	14.19	10.18
Wilcoxon’s z-statistic	- 3.075 ***	- 3.603 ***	- 3.760 ***	- 4.012 ***
<i>Adjusted with industry median</i>				
Pre-merger (t – 1)	6.25	5.70	8.25	7.44
Post-merger (t + 3)	4.18	4.01	5.97	5.39
Wilcoxon’s z-statistic	- 2.262 ***	- 2.604 ***	- 2.548 ***	- 2.632 ***

Notes: 1. The adjusted values are unadjusted values less the industry median.
 2. The null hypothesis for the Wilcoxon test is that the medians are equal for $t-1$ and $t+3$.
 3. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.
 4. M&A took place in year t .

The adjusted and unadjusted profitability measures, and the standardised z-statistics of the Wilcoxon tests are reported in Table 5. The profitability measures indicate that, on average, the acquiring firms were more profitable than the median firms of the corresponding industries. They also indicate that the profitability of the acquiring firms declined after the

M&A event. Indeed, the Wilcoxon test statistics, almost all of which are significant at the 1 percent levels, indicate unambiguously that, on average, the profitability of the merged entity is lower than the profitability of the acquiring firm prior to the M&A. While, as mentioned above, our Wilcoxon tests control for industry-level effects, in part, they do not involve controlling for observed and unobserved firm characteristics that might affect profitability. Hence, we cannot firmly conclude that the M&A event *per se* is responsible for the reduction in profitability of the average acquiring company. We, therefore, explore this in greater detail in the next section.

3. Impact of M&A on performance: Regression analysis

As indicated in the previous section, the literature that examines the impact of M&A on performance using accounting data typically compares performance of the acquiring company in year $t-1$, i.e., the year prior to the M&A event, with performance of the merged entity in year $t+3$, i.e., three years after the event (see Rhoades, 1994). However, as we noted earlier in the paper, our sample is somewhat small, though not inconsistent with sample sizes used elsewhere in the literature. Hence, a simple cross-section analysis might result in a low power for the tests associated with significance of the regression coefficients. Further, some (albeit a few) of the firms were involved in multiple acquisitions over a 3-5 year period, thereby making it difficult to construct a suitably small time window for each M&A event involving these firms, in which their performance could not have been affected by other factors. Finally, while the literature, which has developed largely around developed country experiences, makes the assumption that it takes three years to make a M&A work, it is not obvious as to what time frame would be suitable in an emerging market context. We, therefore, substitute the stylised logit analysis with the variation of a methodology proposed by Dickerson, Gibson and Tsakalotos (1997).

We construct a panel data set for the 1992-2005 period for the 73 firms in our sample.⁸ We then create a dummy variable (D_i) that takes the value unity for firm i for the year t , i.e., the year of the M&A event, through 2005. For example, if a firm was involved in M&A in 2002, D for this firm takes the value zero for the 1992-2001 period and unity thereafter. Our regression model then is given by

$$Performance_{it} = \Phi X_{it} + \beta D_{it} + u_i + e_{it} \quad [1]$$

when X is a vector of firm characteristics, u is the firm-specific fixed effect, and e is the *iid* error term. In keeping with the literature, the measure of a firm's performance for each year is relative to that of the median firm in the industry during the same year. This implicitly takes into account the year-specific factors that may have affected the firms' performance, and hence eliminates the need for the use of year-specific fixed effects. It is easily seen that D_{it} is our variable of interest. If M&A enhance profitability of firms in India, reflecting the advantages associated with reduction in agency conflicts in firms where there is little or no separation between owners and managers, β should be positive. If, however, entrenchment of insiders has a significantly negative impact on the quality of strategic decision making of the firms, β can be negative.

Table 6
Impact of M&A on firm performance: Panel data analysis

<i>Performance measure:</i>	PBDIT				PBIT			
<i>Model:</i>	1	2	3	4	5	6	7	8
<i>Variables of interest:</i>								
M&A dummy	- 0.007* (0.004)	- 0.008* (0.004)	- 0.017*** (0.007)	- 0.017*** (0.007)	- 0.009*** (0.004)	- 0.010*** (0.004)	- 0.017*** (0.007)	- 0.017*** (0.007)
Leverage		- 0.002*** (0.001)	- 0.003*** (0.001)	- 0.003*** (0.001)		- 0.002*** (0.001)	- 0.003*** (0.001)	- 0.003*** (0.001)

⁸ The panel is unbalanced because some of the firms were not in operation or not listed for some of the years in our sample period.

<i>Control variables:</i>								
Size			- 0.033*** (0.005)	- 0.038*** (0.006)			- 0.030*** (0.005)	- 0.034*** (0.005)
Firm age			0.004*** (0.001)	0.003*** (0.001)			0.003*** (0.001)	0.003*** (0.001)
Market power				0.001*** (0.000)				0.001*** (0.000)
Constant	0.055*** (0.003)	0.059*** (0.003)	0.115*** (0.038)	0.145 (0.039)	0.051*** (0.002)	0.055*** (0.003)	0.112*** (0.036)	0.136*** (0.036)
F-statistics	7.84	7.28	8.01	8.24	7.41	6.87	7.62	7.79
Adj. R-square	0.37	0.41	0.44	0.45	0.36	0.40	0.43	0.44
No. of obs.	838	762	762	762	838	762	762	762
No. of groups	73	73	73	73	73	73	73	73

- Notes: 1. The values within parentheses are robust standard errors.
2. The proxy for size is assets.
3. Leverage is measured by debt-to-equity ratio.
4. The M&A dummy has a value 1 for all years following the year of the merger/acquisition
5. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

As mentioned earlier, we are also interested in formally examining the impact of the leverage of the firm on its performance. Leverage takes into cognizance both greater monitoring of highly indebted by debt holders and lower post-interest payment free cash flow that might result in sub-optimal managerial decisions (Diamond, 1984; Jensen, 1986). Given that we are ultimately interested in the quality of corporate governance in a context where ownership concentration reduces or eliminates agency problems between managers and owners, but also results in manager entrenchment, it would be interesting to see whether a firm's performance is positively correlated with its leverage. Since leverage can clearly be endogenous with respect to firm size and performance, we lag leverage by one period to render it exogenous within the current specification.

In keeping with the Dickerson, Gibson and Tsakalotos (1997) analysis, we control for the size and the age of the firm. In addition, since a firm's performance might also be affected by its market power, i.e., its bargaining power vis-à-vis owners of factors of production,

retailers, distributors etc, we control for it. To recapitulate, our proxy for market power is the ratio of the sales of the firms in our sample to the sales of the median firms in the corresponding 3-digit industry. As with leverage, since market power in any given time period might be endogenous with respect to performance and other contemporaneous firm characteristics, in the specification, we lag the market power variable by period.

The regression results are reported in Table 6. We report the coefficient estimates of eight models, overall, four each with PBIDT and PBIT (normalised by assets) as the dependent variable.⁹ Overall, our specification fits the data fairly well, with average adjusted R-square value between 0.35 and 0.45. The regression estimates indicate that, after we control for observed and unobserved characteristics of the firms, on average, an event of M&A had a negative impact on the profitability (or performance) of the average firm. The coefficient β is negative and significant in all the models specifications. This result is robust across both the measures of performance (i.e., PBIDT and PBIT) and the specification. In other words, there is now further evidence to suggest that M&A involving unrelated firms in India, during the 1995-2002 period, adversely affected firm performance. Given that our sample is overwhelmingly dominated by mergers involving domestic firms, almost all of whom have high ownership concentration (and are family-owned), this result indicates that the benefits of reduction in manager-vs.-owner agency problems are not enough to outweigh the problems associated with manager entrenchment. It is also consistent with the section of the literature that argues that family or concentrated ownership of firms may be detrimental to their performance.

Our results also indicate that leverage is negatively associated with performance. This brings into question the ability of debt holders to discipline entrenched firm management in India, and is consistent with the findings in the literature and the impact of debt on firm

⁹ We also experimented with two other models, one each for each measure of performance, in which we used two other explanatory variables, namely, a dummy variable that takes the value 1 if a firm reports R&D expenditure, and advertisement expenditure as a percentage of sales. The coefficient of the R&D dummy variable was insignificant, while advertisement had a positive relationship with performance. But the signs and significance of the other explanatory variables were unchanged. Hence, we do not report those models in Table 6.

performance and the (in)ability of debt holders to discipline firm-management (Opler and Titman, 1994; Burkart, Gromb and Panunzi, 1997).

4. Market perceptions

It is evident from the above analysis that, to the extent that creation of value is closely linked to enhancement in profitability, M&A of unrelated firms in India failed to add to profitability of the acquiring firms and thereby failed to generate value for the shareholders of the acquiring firms. As mentioned above, this is perfectly consistent with a large section of the literature. However, the inability of M&A to add to shareholder value is an *ex post* revelation, based on analysis of accounting data. It is important to examine, therefore, how the investors had viewed the M&A events when they were announced. If the market reaction to the M&A announcements were negative, it would be possible to conclude that investors had foreseen the eventual failure of these events to create value, such that if the insiders were not so entrenched, they would have been subjected to market discipline. Positive reaction or lack of reaction to the M&A announcements, however, would bring into question the ability of investors to recognise the quality of strategic decisions in firms, and hence in their “in principle” ability to discipline firms with inferior management or governance quality.

As explained in Rhoades (1994), following Fama et al. (1969), the reaction of investors to M&A announcements is examined using the so-called market model. The market model posits that returns to the equity of a company is a function of some market index, i.e.,

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_i \quad [2]$$

where R_{it} is the return to the equity of the i^{th} company on day t , calculated as the difference in the logarithm of the stock price on days t and $t-1$, R_{mt} is the return to the market index, calculated in a similar fashion, and ε is the *iid* error term. The model specified in equation [2] is estimated over a window prior to the event date, a M&A announcement being an example of an event. There is no universally accepted window size in the literature, and it may include

anything between 30 trading days and 240 trading days prior to the event. Typically, the window size is chosen to maximise the goodness of fit of the market model.

Once the market model has been estimated for a particular event, out-of-sample projections are made for returns to the company's equity for few days around the event, using the estimated market model coefficients. For a day t in the event window, abnormal return is estimated as

$$AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}) \quad [3]$$

where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated model coefficients for firm i , i.e., the abnormal return is the difference between the actual and predicted post-event return. The size of event window is selected such that $t = -20 \dots 30$ where $t = 0$ indicates the event day. For each day in the event window, an average abnormal return is computed over the cross section of firms:

$$AR_t = \frac{1}{n_t} \sum_{i=1}^{n_t} AR_{it} \quad [4]$$

where n_t is the number of sample firms at each time t in the event window

It is stylised to draw conclusions about the perceptions of the investors about the event based on the sign of the cumulative abnormal return (CAR) that is given by

$$CAR = \sum_{t=T_1}^{T_2} AR_t \quad [5]$$

for an appropriate window of time around or after the event date. Ideally, if the event date can be perfectly identified, it would be reasonable to look at the CAR for the $[0, T]$ period, i.e., the CAR for $T+1$ days starting from the day of the event. However, as argued by Fama et al. (1969), it is often not possible to be certain about the date of an event like the announcement of a M&A, and for that reason it might be prudent to experiment with $[-T_1, T_2]$ windows when T_1 is greater than or equal to zero. If the CAR is positive, we conclude that the investors felt that the event generated shareholder value for the company, and vice versa.

The basic market model might require modifications, depending on the nature of the data. To begin with, stocks in emerging market like India are infrequently traded, and this can

add to underestimation of the systematic risk associated with the infrequently traded stocks (Scholes and Williams, 1977; Dimson, 1979). Following Schwert (1977) and Marsh (1979), therefore, it has become customary to use trade-to-trade returns on stocks and the corresponding returns to market index. This, however, requires a correction for heteroskedasticity, such that the revised market model is given by

$$\frac{R_s}{\sqrt{t_s - t_{s-1}}} = \frac{\alpha}{\sqrt{t_s - t_{s-1}}} + \frac{\beta R_{ms}}{\sqrt{t_s - t_{s-1}}} + \varepsilon_s \quad [6]$$

when t_s refers to the s^{th} trading day for the stock. Further, the returns data sometimes exhibit serial correlation (Fama, 1965; Fisher, 1967), and hence it is necessary to test for the presence of serial correlation in the data, and correct for it, if appropriate. Finally, it has become stylised to test for possible ARCH effects in the data using the appropriate Lagrange multiplier test.

For our purposes, we experiment with a variety of market indices, and a number of event windows. Augmented Dickey-Fuller test statistics, not reported in this paper, suggest that the results to both the stocks of the individual companies involved in M&A as well as the returns to the market indices were stationary, thereby facilitating the use of ordinary least squares (OLS) for the initial estimations. We choose a market index and an event window that maximises the goodness of fit of the market model.¹⁰ We also correct for serial correlation and ARCH effects, as appropriate. Thereafter, using the estimates of the market model, we calculate the CAR for the following windows around the event date: [-5, 5], [-1, 1], [0, 1] and [0, 5]. We then test the joint statistical significance of the CARs using the generalised rank sign test (Cowan, 1992; Cowan and Sargeant, 1996).

¹⁰ In most cases, the best-fit market index was the Dollex (100-stock) index of the Bombay Stock Exchange. In some case, the (30-stock) Sensex of the same exchange was the best-fit market index.

Table 7
Market reaction to M&A announcements

<i>Acquiring Firms</i>	<i>N</i>	<i>CAR[-5,+5]</i>	<i>CAR[-1,+1]</i>	<i>CAR[0,+1]</i>	<i>CAR[0,+5]</i>
All Firms	55	- 0.64%	0.82%	1.08% **	- 0.08%
Indian Firms	42	- 2.50%	- 0.09%	0.68%	- 0.89%
Foreign Firms	13	5.38%	3.76% ***	2.46% **	2.55%
Merger	22	2.09%	0.80%	0.69%	0.92%
Tender Offer	33	- 2.45%	0.84%	1.33% *	- 0.74%

Note: 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.
2. The M&A announcement date is 0.

The average CARs for the entire sample and various sub-samples, along with their significance levels, are reported in Table 7.¹¹ As evident, we were able to undertake event study analysis for 55 M&A events. The announcement days of the other M&A events could not be identified. The results indicate that while CARs were positive for foreign firms for all these windows, and CAR[-1, 1] and CAR[0, 1] were significant at the 1 percent and 5 percent levels, respectively. For Indian firms, however, all but CAR[0, 1] were negative, but none were statistically significant. In other words, while the investors certainly did not feel, on average, that the M&A events involving the domestic (largely family-owned and group-affiliated) acquiring firms were value enhancing, they did not strongly feel that they were value reducing either. As mentioned above, this brings into question the ability of Indian (more generally, emerging market) capital market(s) in drawing accurate inference about the quality of corporate governance of listed companies, and/or quality of strategic decisions taken by the management of these companies who are often entrenched insiders by way of ownership of controlling shares in these companies.

Interestingly, CAR[0, 1] estimates indicate that the market participants were also of the view that M&A events that involved active bidding for the shares of the target company

¹¹ The CARs for the individual events are available from the authors upon request.

were more likely to create value than events where the management of the acquiring and target companies reached a decision to merge amicably. This is consistent with the argument that hostile takeovers are likely to be targeted at companies where incorrect decisions of the incumbent management have resulted in underperformance that can be reversed by the new set of managers, thereby creating value for the shareholders (Shleifer and Vishny, 1988). It is, however, inconsistent with the view that there is no significant difference in the economic outcome of friendly and hostile takeovers (Schwert, 2000).

5. Conclusion

There is a significant debate in the literature about the pros and cons of concentration of ownership in companies. On the one hand, it can eliminate the conflict of interest between managers and owners that can lead to sub-optimal firm performance. On the other hand, it can lead to entrenchment of insiders who can then escape disciplining by the capital market as well as by debt holders, enabling them to take inappropriate decisions that might be detrimental to the value of the firm, and thereby adversely affect minority shareholders. There is empirical evidence in the literature to suggest that both are possible. However, there are few studies in the context of emerging markets, and in this paper we address this lacuna by examining the impact of M&A on firm performance in the context of India where family ownership and group affiliation is rampant among domestic firms. Our analysis suggests that, on average, M&As involving unrelated firms in India during the 1995-2002 period did not add to profitability, nor created value for shareholders of domestic firms. This indicates that, on balance, ownership concentration in Indian firms that results in insider entrenchment runs counter to the objective of value maximisation of firms. Our results are in agreement with the limited literature on the nature of governance in family-owned and group-affiliated firms in India.

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