Determinants Influencing Acquisition of Target Firms and Their Post-Acquisition Performance in Post-Global Crisis India

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Abstract

The study investigated the factors forming selection criteria of target firms for mergers & acquisitions deals carried out in the post- 2008 global financial crisis (2009-2015) and the target firms' post-acquisition performance through these factors. The application of Wilcoxon Signed Rank Test, Multinomial Logistic Regression and the Change Model involving the difference in difference (DID) estimators found a significant difference in selection determinants of target firms between domestic and foreign acquirers. Concerning post-acquisition performance, domestic target firms outperform inbound firms. The global crisis showed no influence on the selection of firms or their post-acquisition performance. Acquirer firms, irrespective of origin, can reflect on the smaller firm size, low liquid cash, and high asset utilisation parameters of potential target firms to increase positive development potential in their post-acquisition performance.

Keywords: Domestic Acquisition, Global Crisis, Inbound Acquisition, Target Firms, Post-Acquisition Performance

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1. Introduction

Market-driven mergers & acquisitions (M&A) have gained pace and have become a significant trend in India's business process restructuring since its economic liberalisation in 1991. Since 1996[1], M&A deals rose from 115 (valuing US$ 1.6 billion) to 1257 in 2015 (valuing US$ 51.3 billion), and in 2018 it reached its peak to 1870 (valuing US$ 119.76 billion). These M&A deals involve both cross-border and domestic, wherein the top 10 deals comprised primarily of the latter (4), followed by inbound (4) and outbound (2) transactions across industries. However, domestic and inbound transactions primarily dominate the M&A activities in India (Grant Thornton 2014; Business Standard 2015; PwC 2019), which has inspired this researcher to investigate the determinants that affect their acquisition and post-acquisition performances.

Investigating the determinants affecting the acquisition of Indian target firms and their post-acquisition performance is important to evaluate the contribution of the M&A activities. Otherwise, the incorrect determination of target firms and incompetency in creating value by the acquirer firms often lead to post-merger failure (Chaudhary 2013). Nonetheless, investigative endeavour on the prediction of target acquisition in India carried out until now, although sparse compared to studies conducted in the industrialised nations, has started since 2004 and have majorly focused on the effect of tangible determinants. For instance, research by Sood and Kaur (2004), Basu, Ghosh-Dastidar and Chawla (2008), Barai and Mohanty (2012), Jucunda (2013) and Leepsa and Mishra (2017) have observed the vitality of specific financial ratios as determinants for screening target companies for successful takeovers. The effectiveness of tangible determinants in predicting takeover success by evaluating the target firms' financial condition and pre-acquisition performance is evident through these studies. Simultaneously, many studies have brought forth firms' post-acquisition performance, albeit with mixed results. Primarily existing empirical evidence shows that long-term post-acquisition performance is significantly positive (Leepsa & Misra 2012; Ramakrishnan 2008, 2010). On the other hand, short-term performance (lesser than/equal to 3 years) is significantly negative (Kumar 2009; R & Prasad 2012; Saboo & Gopi 2009; Sarkar 2017).

There are particular gaps in the current M&A literature on transaction success and target firms' post-acquisition performance, which this study addressed. First, the dataset analysed by existing empirical investigations does not particularly represent deals carried out in pre-and the post-global crisis of 2008. Second, the studies have differentiated between target and acquirer firms in bringing out their performances but have not differentiated domestic and inbound target firms' post-acquisition performance. Third, the studies have seldom separated the domestic and inbound acquirers' determinants of acquisition in predicting firm takeover. Fourth, studies, over the years, have put forward interesting cultural, perceived, psychological and organisational differences between domestic and cross-border acquisitions (e.g., Krug & Hegarty, (1998), Anand et al., (2005), Stahl & Voigt, (2008), Weber & Drori, (2008) and Olivier Bertrand & Betschinger, (2012). Such studies inspired the researcher to investigate differences in organisational and operational determinants between domestic and foreign acquirers in acquiring firms of emerging nations like India. Last, none of the studies has shown the post-acquisition performance of the target firms from the perspective of M&A determinants (predicting takeovers) against the backdrop of the global financial crisis of 2008.

[1] Prior to 1996, M&A deals in India were very minimal, with minimal value to be included in any analysis.

Considering the gaps mentioned above, the study's rationale lay in providing insights to the potential acquirer firms and M & M&A advisors on the importance of prior business evaluation of target firms involving financial parameters to ensure their successful transactions. The study focussed on involving substantial additional data of target firms over non-targets (control firms) so that the characteristics of the former primarily dominate the findings, and the study can establish practical insights. The study also provided insights on the possible economic growth of the target firms post-acquisition, which will benefit their shareholders and those of the acquirer firms, making their business restructuring a success. Last, the study established if the financial recession impacts the firms' acquisition success and post-acquisition growth. Based on the findings, companies can take adequate measures to tackle dynamic challenges posed in similar situations in the future, like the contemporary COVID-19 financial environment. Overall, the study presented a holistic perspective of India's target companies' entire acquisition process. Initiating (objective one) the investigation with the prediction of takeovers by selecting target companies based on their evaluated financial ratios, the second stage (objective two) of the analysis then proceeds with unearthing the concerned firms' post-acquisition performance on the change in these ratios.

2. Method

2.1 Data

The raw sample comprised of 527 completed acquisitions, extracted from Bloomberg, Capital I.Q. & Capital-line database. The researchers segregated the acquisition sample into inbound acquisitions and domestic takeovers based on the acquirer's country of origin and the target firm. The segregation resulted in 370 local takeovers and 157 inbound acquisitions of publicly listed Indian target companies involved in M&A deals carried out after 2008— between 2009 and 2015. The raw data, to serve the purpose of the study, was further cleaned using the following inclusion and exclusion criteria:

a. For the sake of the analysis, the study considered only those transactions in which the acquirer's initial stake has been less than 15% (according to the SEBI takeover code trigger point). The threshold of 15% was as per the provisions of the Old Takeover Regulations of SEBI.[2] As the sample comprises deals from 2009, the old limit of 15% was maintained.

b. The study considered the acquisition wherein the acquiring firm acquires more than 15% share. Although Bartley & Boardman (1990) have considered those firms as targets, investors have gained 5%. Nevertheless, due to the difference in shareholding patterns between the Indian and other developed economies, this research considered only those acquisitions in which the acquirer's share has been more than 15%.

c. The study decided the initial acquisition date for cases with a partial acquisition of a target firm by the same firm or different firms at different time points.

[2] According to the new Takeover code in SAST (Substantial Acquisition of Shares and Takeovers) regulations 2011 that defines the term ‘takeover’, the initial threshold limit provided for Open Offer obligations has been increased from 15% to 25% of the voting rights of the target company.

d. The study excluded the acquisition samples that lack the data necessary to calculate their performance measures, industry median benchmarks, or matched control firms based on industry, size, and pre-acquisition performance.

e. The study factored out acquisitions that involve financial firms as they vary from the service and manufacturing sectors.

f. From the data sample, the study precluded friendly acquisitions and any other acquisitions whose objective was restructuring, following a similar study (Powell, 1997). The study has segregated hostile and friendly takeovers and has found that characteristics of hostile and friendly targets differ significantly and that these differences also vary depending on the period under investigation.

g. Last, the study excluded shell companies that characterised nil or limited assets as these acquisitions' motive is primarily to reap the benefit of being listed (Gurav, 2012).

After incorporating all the afore-stated conditions to the raw sample, the study derived a reduced sample comprising 288 acquisitions for analysis. In the reduced data, 186 acquisitions are domestic deals, while 102 are inbound takeovers.

2.2 Control Firms/ Benchmark Construction

Control firms formed negative sample data for analysis. The study selected the counterparts (the companies that have not become targets) of domestic and inbound target companies belonging to the same industrial classification as control firms. These control firms belonged to the latest fiscal year before the acquisition. The study adopted a NIC 2008 industry classification at four-digit to identify the same industrial grouping firms. The research collected the required samples from Capitalline & Capital I.Q. database to construct industry median benchmarks. The control firm samples were selected based on their total assets or sales, following companies' selection by Chen & Su (1997) based on similar parameters. If the sales or assets are less than 300 crores, then the control firms are selected within a deviation range of 500%, else the deviation is set within a range of 300%. This process yielded 593 control samples, out of which 336 form control samples for domestic acquisitions and 257 form non-target samples for inbound purchases.

2.3 Sample Description

The data sample consisted of 881 completed acquisitions (522 domestic and 359 inbounds) of publicly listed Indian target companies from 2009 to 2015. In addition, the study collected the preliminary data, revealing the number of deals, from Bloomberg & CMIE Prowess's online version from 2009 to 2015.

2.4 The Period of Analysis

To achieve both the objectives, the analysis involved one-year pre- and a maximum of five years of post-acquisition operating performance (-1 to +5) of target firms participating in M&A deals carried out in 2009 2015. Consistent with other previous studies of Healy et al. (1992) and Kumar &

Rajib (2007), this study excluded year 0, the acquisition year, from the analysis. Through such exclusion, the researchers attempted to avoid any deviation due to accounting differences and one-time merger costs incurred during that year, making it difficult to compare with other years' results.

2.5 Variables Analysed

The analysis included two dependent variables: the predicted selection of the target firms and their post-acquisition financial performance based on the study purpose. In addition, the researchers selected the independent variables following empirical studies, which established each of the former's correlation with takeover probability and post-acquisition performance (Table 1).

Table 1: List of independent variables the study selected following empirical evidence established over the years

Independent Variables	Method used	Empirical Evidence
Size of the Firm	Sales	Calof, (1993), Calof, (1994), Wagner, (1995), Mak & Kusandi, (2005), Lee, (2009).
Firm value	Book Value of Assets	Palepu, (1986;) Panigrahi, (2004); Kumar and Rajib, (2007); Barai and Mohanty, (2012)
Financial Leverage	Debt Equity Ratio	Stulz, (1988), Jandik & Makhija, (2008)
Shareholders' return	Return on Equity	Pasiouras et al., (2011)
Liquid Cash	Total Cash Investment/Total Assets	Jensen, (1986); Powell, (1997); Barai and Mohanty, (2012)
Firm Valuation	Tobin Q	Palepu, (1986), Ambrose & Megginson, (1992), Chen & Su, (1997a), Powell, (1997a), Powell, (2004)
Management characteristics	Promoter shareholding	McConnell & Servaes, (1990), Saunders et al., (2003), Bushee et al., (2009), Mizuno & Tabner, (2009), Elyasiani & Jia, (2010)
Profit Margin	Net profit margin	Melicher & Rush, (1974), Bacon et al., (1994), Barnes, (2000), Sorensen, (2000), Barnes, (2000), Georgopoulos et al., (2006).
Cash Flow	Operating Cash Flow	Powell, (1997a), Manson et al., (2000), Powell, (2004)
Assets utilisations	Assets Turnover Ratio	(Stevens, 1973), (Dietrich, 1984), (Sorensen, 2000), (Georgopoulos et al., 2006), (Barai & Mohanty, 2012a)
Expansion	CapEx	Trahan and Shawky, (1992); Trahan, (1993); Kumar and Rajib, (2007)

Source: Compiled by the researchers.

2.6 Methodology Applied

The methods applied involved three stages— first, analysis of the pre-acquisition performance of the target firms based on the different financial variables chosen in the study; second, the prediction of the suitability of the target firms for M&A success; and third, measurement of the improved or deteriorated post-acquisition performance of the target firms. Following empirical research of Powell (2004), Fukao et al. (2006) and Zhu, Jog & Otchere (2010), the researchers decided to apply the following tools in each of these stages to generate the desired outcome.

Stage 1 involves the Wilcoxon Signed Rank Test to find the variation in pre-acquisition performances of inbound, domestic and control groups of target firms. This study adopted the concerned technique because most of the distributions have been symmetric, characterising high kurtosis. For a better mathematical analysis of Indian target firms that serve as a suitable candidates for inbound takeovers, stage 2 applied Multinomial Logistic Regression Analysis. The study used this method to compare Indian target firms' pre-acquisition performance in domestic deals and inbound acquisitions and non-acquired control firms. The multinomial regression analysis examined all three samples simultaneously by controlling the effects of firm characteristics such as assets, shareholding pattern, debt-to-equity ratio, assets turnover, cash ratio, and book-to-market ratio. In this work, inbound acquisition target firms acted as the benchmark sample. Regarding coding of the firms, (i) domestic target firms were assigned the value of 1; (ii) inbound target firms were assigned 2 and (iii) control firms as 3.

As part of stage 3, the study applied the change model, which involved employing the difference in difference (DID) estimators in evaluating the pre-and post-acquisition performance of target firms and matching firms for the same period. Estimating the target firms involved the data on financial particulars of 1 year before the acquisition and five years post-acquisition. For instance, the analysis compared the relative change in ROE to that of the control firms constructed by one to one matching using the non-target firms with the closest total assets value in the same industry.

Additionally, the Wilcoxon sign rank test was applied again to determine the DID estimates' statistical significance. Subsequently, the analysis used the Maan-Whitney test on independent samples to compare the difference between DID measures concerning domestic and inbound acquisitions.

3. Results

3.1 Prediction of The Selection of Target Firms and Global Financial Crisis

3.1.1 Wilcoxon Signed-rank Test

The Wilcoxon signed-rank test revealed the target firms' pre-acquisition characteristics and performance in the selected period of 2009 to 2015. The results (Table 2) reflected the global crisis's negative and insignificant influence on their pre-acquisition performance. The comparative findings between domestic and control samples revealed the variables: sales, cash flow, expansion, ROE, profit margin, shareholding and asset utilisation to be statistically significant to domestic acquisitions. The analysis inferred that local acquirers select firms with a lower return on equity, low promoter shareholding, low-profit margin, negative operational cash flow and lesser Capex (expansion plan) but higher assets turnover ratio than their peers in the market.

Additionally, the study observed that domestic acquirers target smaller size firms in terms of sales. The domestic acquirers were interested in weak operating firms running in liquidity crises with low promoter shareholding but a high asset utilisation ratio compared to other operating firms in the same industry. In contrast to existing literature, the findings did not significantly leverage and valuation concerning domestic takeovers targets.

The comparative analysis between the inbound and control sample, on the other hand, revealed liquid cash, cash flow, ROE, profit margin, and shareholding as statically significant. However, the firm's size, asset utilisation and expansion lost their significance in the view of inbound acquisitions. For foreign acquirer firms, safety had been the primary concern, and therefore, they preferred larger firms and did not concentrate on the assets. Consequently, the outcome of the Wilcoxon sign rank test did not show the significance of assets. The foreign acquirers also emphasised the firms' liquid cash and preferred those firms with low liquid cash. The majority of existing M&A literature on the determination of targets highlighted firms' inferior liquidity favourable for takeovers, which is also revealed. However, the analysis presented did not associate significance to valuation and leverage concerning inbound acquisitions targets.

Table 2: Pre-acquisition characteristics and performance of the target firms—both sample and control groups, revealed by the Wilcoxon Signed Rank Test. The values that show statistical significance appear in boldface

A. Domestic partial acquisitions								
	Target firm sample				**Control sample**			**Target vs. control**
	N	**Mean**	**Max.**	**Std. Dev**	**Mean**	**Max.**	**Std. Dev**	**Wilcoxon Z**
Sales	70	845.4	37119	4451.	4992	290754	34716	**-2.99***
Asset	70	7739.1	466837	55749	6294	397062	47392	-0.30
Liquid cash	67	1,08	66.57	7.95	.1478	0.61	.1975	0.93
Cash flow	66	18.83	968.0	126.0	623.6	36918	4413	**-3.05***
Expansion	66	-63.6	.00	371.2	-535.6	0.0	3675	**-3.36***
Leverage	70	1.31	6.67	1.52	1.94	19.52	3.35	-0.49
Return	69	5.45	33.53	12.20	13.14	67.90	11.62	**-3.77***
Profit Margin	69	-22.7	49.12	131.2	4.76	23.76	7.34	**-2.97***
Valuation	70	1.45	9.37	2.25	1.39	15.43	2.30	-0.26
Shareholding	66	42.59	93.01	19.84	53.77	87.48	12.30	**-3.93***
Asset Utilization	70	3.78	114.54	14.99	2.69	132.34	2.70	**1.44****

B. Inbound partial acquisitions								
	Target firm sample				Control sample			Target vs. control
	N	Mean	Max.	Std. Dev	Mean	Max.	Std. Dev	Wilcoxon Z
Sales	46	1718.1	24627.3	4257.2	1821.8	19106.0	3598.0	-0.53
Asset	44	1734.7	16703.2	3262.2	1398.2	11382.9	2302.3	0.57
Liquid cash	46	.2239	5.19	.7645	.1626	0.82	0.1625	**-1.82*** **
Cash flow	46	271.9	4592.3	915.7	114.15	.838	211.6	1.42
Expansion	46	-224.9	-.48	876.2	-250.1	0.00	615.7	-0.38
Leverage	46	1.126	5.56	1.312	2.05	20.09	4.164	-.087
Return	46	9.49	82.15	18.18	14.29	96.57	15.87	**-1.64*** **
Profit Margin	46	-5.16	19.55	37.45	5.11	-35.17	10.50	**-2.34** **
Valuation	46	1.22	10.16	1.90	1.34	10.75	2.36	0.65
Shareholding	42	48.32	80	18.21	54.27	80.0	13.33	**-1.45*** **
Asset Utilization	46	1.74	28.46	4.12	1.34	4.68	0.893	0.82

Source: Compiled by the researchers.

3.1.2 Multinomial logistic regression (MLR)

In the concerned analysis, the inbound acquisition samples acted as the benchmark and therefore, the study presented findings as inbound versus domestic acquisitions and inbound versus control samples (Table 3). The MLR report presents two different scenarios for the two groups of analysis.

Reasonably, as is observed from the inbound versus domestic acquisition deals, the foreign acquirer companies performed due diligence of various indicators. They preferred large asset sized Indian firms featuring low cash flow but characterising high sales, asset, expansion plan and asset utilisation compared to domestic acquirers. Thus, it is evident that the weak performing firms with the potential to perform better with a change in strategy become easy takeover targets to the inbound acquirers. The results match the outcomes revealed by the Wilcoxon sign rank test concerning cash flow and asset utilisation, although the latter showed a negative expansion value. In the inbound versus control firms, foreign acquirers are considered a higher asset and lower cash flow and return on investment when in target firms than control or non-target firms. As the findings revealed, the global crisis had no influence to play in deciding the target firm selection, and the lessened deals during this period were majorly due to the constraints faced by the acquirer companies in terms of liquidity crunch and similar issues.

Table 3: Values of Pre-acquisition characteristics and performance of target firms as revealed by Multinomial Logistics Regression.Values that are statistically significant appear in boldface

	A. Inbound vs Domestic			B. Inbound vs. Control Sample		
	B	**SE.**	**Wald**	**B**	**SE.**	**Wald**
Sales	.000	.000	**5.50**	.000	.000	1.19
Asset	.001	.000	**8.17**	.000	.000	**3.77**
Liquid cash	.360	.918	.154	-.041	.650	.004
Cash flow	-.004	.001	**8.03**	-.002	.001	**4.85**
Expansion	.003	.002	**3.09**	001	001	1.94
Leverage	.031	.136	.052	.081	.117	.478
Return	.001	.018	.004	-023	.015	**2.31**
Profit Margin	.001	.007	.038	.011	.009	1.62
Valuation	-.002	.072	.001	.029	0.68	.189
Shareholding	-.017	.012	2.06	.008	.010	.594
Asset Utilisation	0.37	.015	**5.91**	.006	.015	.175
Sample Size:	**Domestic: 70** **Inbound: 46** **Control: 297** **Total: 413**					

Source: Compiled by the researchers.

3.2 Post-acquisition Performance and Global Financial Crisis

3.2.1 Change Model (DID Measure)

The change model was implemented and realised through the Difference-in-Difference (DID) measures. For individual measures, the study tabulated the Difference-in-Difference (DID) values for the year preceding the acquisition and each of the five years after the acquisitions. The DID measure is the industry-adjusted measure calculated as the difference between the post-acquisition value and the one year preceding the acquisition. The change model's outcome revealed that domestic target firms' operating performance had improved significantly (Table 4). In addition, target firms taken over through domestic acquisitions exhibited a significant increase in return on equity, profit margin and promoter shareholding during subsequent years after the acquisition. Simultaneously, these domestic target firms showed a significant decrease in debt-equity ratio and indulged in selling assets post-acquisition. Thus, the results indicated that the domestic acquirer post-acquisition's primary focus has been to decrease the debt by selling the non-performing assets and increasing the return on equity by increasing the asset turnover.

The analysis observed a significant decrease in operating cash flow and profit margin for inbound target firms when assessed through the change model. The findings suggested the promoter shareholding increase in each post-acquisition year, while other variables did not show any significant change. Overall, the change model revealed significant differences between the impact of domestic acquisitions and inbound acquisition on target firms' operating performance—variables like return on equity and profit margin exhibit high significance concerning the former over the latter. Therefore, the results suggested that domestic target firms outperformed inbound target firms in operating performance measures, namely operating cash flow, return, and valuation. These performances of the target firms were independent of the presence of economic challenges like the global recession. Overall, the performance improvement in domestic targets was relatively greater than inbound target firms.

Post-acquisition debt repayment was higher for domestic targets than inbound targets; however, inbound targets outperformed domestic targets concerning asset utilisation.

Table 4: Findings of the Change Model of the Post-Acquisition Performance of the Domestic, Inbound and Combined Target Firms, based on DID measures

	Domestic Acquisition		**Inbound Acquisition**		**D-A**
	N	**Wilcoxon Z**	**N**	**Wilcoxon Z**	**Wilcoxon Z**
Sales					
DID: Y+1 vs. Y−1	68	**-1.60****	47	-0.51	-0.51
DID: Y+2 vs. Y−1	65	-0.66	45	0.84	-1.09
DID: Y+3 vs. Y−1	64	-1.05	38	1.03	**-1.49****
DID: Y+4 vs. Y−1	54	-0.40	39	0.47	-0.56
DID: Y+5 vs. Y−1	39	-0.23	31	0.27	-0.27
Assets					
DID: Y+1 vs. Y−1	68	**-2.53****	48	-0.37	-1.22
DID: Y+2 vs. Y−1	67	**-2.79***	45	-0.79	-0.84
DID: Y+3 vs. Y−1	67	**-2.08****	39	0.09	-1.12
DID: Y+4 vs. Y−1	57	-0.87	39	-0.64	0.48
DID: Y+5 vs. Y−1	41	-0.27	31	-0.90	-0.44
Cash					
DID: Y+1 vs. Y−1	64	0.46	49	0.17	0.12
DID: Y+2 vs. Y−1	63	0.51	46	0.96	0.41
DID: Y+3 vs. Y−1	64	0.82	39	0.40	0.27
DID: Y+4 vs. Y−1	54	**1.47****	39	0.25	0.60
DID: Y+5 vs. Y−1	38	**1.70****	31	0.74	0.41
Op. Cash Flow					
DID: Y+1 vs. Y−1	64	-0.07	48	**-2.97***	**2.66***
DID: Y+2 vs. Y−1	63	0.39	46	-0.35	0.28
DID: Y+3 vs. Y−1	63	-1.05	39	**-2.24****	**1.61*****
DID: Y+4 vs. Y−1	53	0.17	39	**-1.89*****	**1.88*****
DID: Y+5 vs. Y−1	37	1.15	31	0.23	0.72
Capex					
DID: Y+1 vs. Y−1	64	-0.40	48	0.79	1.03
DID: Y+2 vs. Y−1	63	-0.80	46	-0.37	0.80
DID: Y+3 vs. Y−1	63	-1.26	39	-1.38	-0.57
DID: Y+4 vs. Y−1	53	-0.10	39	0.44	-0.40
DID: Y+5 vs. Y−1	37	-0.88	31	**2.16****	**2.86***

	Domestic Acquisition		Inbound Acquisition		D-A
	N	Wilcoxon Z	N	Wilcoxon Z	Wilcoxon Z
Debt Equity					
DID: Y+1 vs. Y−1	68	-0.92	49	0.348	-0.99
DID: Y+2 vs. Y−1	67	-0.54	46	0.945	-1.11
DID: Y+3 vs. Y−1	67	**-1.73******	40	0.497	**-1.79******
DID: Y+4 vs. Y−1	57	-1.14	40	0.632	**-1.44******
DID: Y+5 vs. Y−1	41	-0.39	31	1.97	**-1.74******
Return					
DID: Y+1 vs. Y−1	67	**2.08****	47	-0.34	**1.86*****
DID: Y+2 vs. Y−1	67	**3.03***	44	-1.02	**2.89***
DID: Y+3 vs. Y−1	67	**2.37****	39	-0.37	**1.78*****
DID: Y+4 vs. Y−1	57	**2.60***	39	-0.74	**2.32****
DID: Y+5 vs. Y−1	41	1.05	31	0.21	0.64
Margin					
DID: Y+1 vs. Y−1	67	-0.41	49	0.03	-0.29
DID: Y+2 vs. Y−1	67	**1.46******	47	**-1.97****	**2.29****
DID: Y+3 vs. Y−1	67	**2.34***	39	**-1.74******	**2.73***
DID: Y+4 vs. Y−1	57	-0.09	40	**-2.18****	1.31
DID: Y+5 vs. Y−1	41	0.12	32	**-1.49******	1.17
Valuation					
DID: Y+1 vs. Y−1	68	1.02	48	1.37	0.57
DID: Y+2 vs. Y−1	67	0.63	46	-0.38	-0.30
DID: Y+3 vs. Y−1	67	1.16	39	-0.61	1.10
DID: Y+4 vs. Y−1	57	-0.25	38	0.34	-0.57
DID: Y+5 vs. Y−1	41	-1.06	30	-0.60	-1.29
SHP					
DID: Y+1 vs. Y−1	60	**2.25****	40	**2.04****	-0.18
DID: Y+2 vs. Y−1	60	**2.78***	40	**1.96****	-0.27
DID: Y+3 vs. Y−1	60	**3.50***	37	**2.21****	-0.38
DID: Y+4 vs. Y−1	54	**3.29***	36	**1.81*****	-0.59
DID: Y+5 vs. Y−1	40	**2.64***	32	**1.83*****	-0.48

	Domestic Acquisition		Inbound Acquisition		D-A
	N	Wilcoxon Z	N	Wilcoxon Z	Wilcoxon Z
AU					
DID: Y+1 vs. Y−1	67	**-1.64*** **	48	0.27	**-1.51**** **
DID: Y+2 vs. Y−1	66	**-1.96** **	45	0.60	**-1.80*** **
DID: Y+3 vs. Y−1	66	**-3.00***	39	-0.57	**-1.98** **
DID: Y+4 vs. Y−1	55	**-2.70***	39	0.68	**-2.19** **
DID: Y+5 vs. Y−1	40	**-2.17** **	31	**1.64*** **	**-2.57***

Notes: The symbols ****, ***, ** and * represent significance at 15%, 10%, 5% & 1% respectively.
Source: Compiled by the researchers.

4. Discussion

Results suggested that both domestic and foreign acquirers prefer firms with low ROE and profit margins. However, there were significant differences between them concerning their selection criteria. While the domestic acquirers preferred firms with lower sales (firm size), operating cash flow, expansion plan, and higher asset utilisation ratio, their foreign counterparts preferred firms with low operating liquid cash and promoter shareholding. However, the multinomial model showed the foreign acquirers preferring large asset-sized Indian firms featuring low promoter holding and cash but characterising a high asset turnover ratio to make the M&A transaction a success. The literature on the prediction of takeovers of Indian firms presented a mixed observation, especially concerning the firm size, liquidity and cash flow. For instance, Sood & Kaur (2004) observed the current ratio and cash flow to sales ratio having a moderating power of discriminating between target and non-target companies and asset turnover ratio having a lower power. On the other hand, Kumar & Rajib (2007), although supported this study's findings that the smaller size of targets, lower liquidity and lower profit margin are preferred for acquisitions yet, they further revealed high leverage to be significant in the selection preference, which was absent in the results this study obtained.

The findings did not highlight any significance of leverage in influencing target firm acquisition. However, foreign acquirers did show the propensity to merge with firms with a lower profit margin. However, the observation of Basu, Ghosh-Dastidar, & Chawla (2008) and Barai & Mohanty (2012) contradicted this study's findings of low cash flow being significant for domestic and foreign acquirers. Majorly Indian research had rendered both these determinants insignificant to acquirers when deciding on potential target firms, unlike the findings of this study, where inbound target firms compared to control firms were more massive in size and had low cash flow and return.

Chidambaran, Krishnakumar and Sethi (2017) showed the selection criteria dependent on the domestic acquirer's perceived risk factor associated with the target firms and post-acquisition performance. On the other hand, the findings observed that the core point behind opting for target firms with low liquid cash, profit margin and promoter shareholding is the ability of acquirers to control the former. Additionally, acquirer firms with larger cash in hand than their targets possessed the resources to involve in a perceived risky deal because, in merger activity, cash reserves provide legiti-

macy to emerging markets (Huyghebaert and Luypaert 2010). Thus, the current findings have contributed effectively in bridging the gap and establishing the significant role of both the variables in predicting takeovers conducted between 2009 and 2015, albeit majorly in inbound takeovers, using the multinomial logit models.

Moreover, the analysis suggested a significant difference in determinants influencing M&A transactions between developed and emerging economies, except the firm's size and profit margin. The developed economies focus more on stock market performance, growth-resource, P/E Ratio, market-to-book ratio and sales growth (Adelaja et al., 1999; Froese, 2013). Furthermore, on selection criteria of foreign acquirers, the findings of multinomial regression supported literature that the emerging market firms had operational inefficiencies, low liquidity, and low cash flow, which led to their decision to restructure their businesses through acquisition (Palepu 1986; Chidambaran, Krishnakumar and Sethi 2017).

Regarding the second purpose, findings from the DID measures using the Change model revealed a significant change in domestic target firms' post-acquisition performance over their inbound counterparts. Domestic target firms have a significantly improved return on equity, profit margin and promoter shareholding in the five post-acquisition years. On the other hand, inbound target firms showed no significant change except increasing promoter shareholding and decreasing operating cash flow and profit margin. Overall, the findings imply that target firms of smaller size and profit margin in pre-acquisition years perform well post-merger, irrespective of the type of deals. The observations this study made contradicted (Kumar 2009), noting no change in the acquiring firm's post-acquisition performance. In addition, an increase in promoter shareholding in post-acquisition performance depicts wealth gain among target firms' shareholders, thereby contradicting existing observations (Cosh & Guest 2001; Gregory 1997; Sudarsanam & Mahate 2006; and Tuch & O'Sullivan 2007). These studies establish the increase in the wealth of shareholders of the acquirer firms over target firms.

As understood from the first analysis stage, domestic acquirers prefer smaller target firms with higher cash flow than their foreign counterparts; they are likely to benefit from their acquired partners' positive post-acquisition performance. Nonetheless, empirical evidence is required to establish the benefit incurred by Indian domestic acquirers from their targets' post-acquisition performance. Interestingly, an economic crisis such as the global recession of 2008 did not influence the selection preference of both the acquirers and the post-acquisition performance of the target firms, based on their financial indicators. However, few studies have established the impact of the recession in the declining M&A transactions (Grave, Vardiabasis, & Yavas, 2012; Rao & Reddy, 2015; Reddy, 2015) and their post-acquisition performance (Nicholson & Salaber, 2014). About the differences between the targets and not-acquired firms, the study noticed that the target firms exhibit low promoter shareholding, less return and margin with higher asset utilisation when compared to that of the peer not-acquired firms.

5. Conclusion

The inferences drawn from the study have a significant contribution in filling the gaps in academic research on pre-acquisition determinants of domestic and inbound deals separately. Therefore, it would enable researchers to understand the difference in perspectives of domestic and foreign acquirers. The study further enables academicians and practitioners to gain empirical evidence on differentiated domestic and inbound target firms' performance and post-acquisition performance from

the perspective of M&A determinants (predicting takeovers) against the backdrop of the global financial crisis of 2008. Given the current global financial slump post-COVID-19 pandemic, such insights might assist potential acquirer firms and M&A advisors on the importance of prior business evaluation of target firms involving financial parameters to ensure their successful transactions. In emerging economies like India, there has seldom been any research on evaluating the determinants of potential targets before acquisition which contribute to post-acquisition success or failure of the concerned firms. Studies have mostly reflected on the performance indicators of acquirers. Therefore, the insights this study presented on the possible economic growth of the target firms post-acquisition might prove beneficial to their shareholders and those of the acquirer firms, making their business restructuring a success.

Furthermore, the prediction accuracy of the target firms and their post-acquisition performance concerning financial indicators established business evaluation's imperativeness before M&A transactions, especially by foreign acquirers. They also need to reflect on the smaller firm size, low liquid cash, and high asset utilisation parameters of potential target firms to increase positive development potential in their post-acquisition performance through their target partners. Therefore, this research opens up possibilities to explore the Indian market still further, both through the evidence presented and its limitations. For instance, the period of analysis in this study -1 to +5 years of acquisition, which further studies may extend to -5 and +5 to present any yearly change in the pre-acquisition performance affecting the target's acquisition or their post-acquisition performance. Such period of study may further enable researchers to present a comparative understanding of the impact of the pre- and post-global financial crisis on acquisition determinants and the target's post-acquisition performance. Besides, the study's sample size is limited to 370 local takeovers and 157 inbound acquisitions, which, in further studies, can be expanded to involve an extensive population of takeovers occurring in the concerned period of 2009-15. As inbound and domestic target preferences vary, analysis of other dimensions such as post-acquisition wealth creation and the impact of bid-specific characteristics, to name a few, can be investigated separately for domestic and inbound deals. Investigation on the predicting factors influencing M&A deals, industry-wise, and eventual influence on the target firms' post-acquisition performance is also recommended.

References

Adelaja, A., R. Nagya-Jr, and Z. Farooq, (1999), "Predicting mergers and acquisitions in the food industry," *Agribusiness: An International Journal*, 15(1), 1-23.

Ambrose, B. W., and W. L. Megginson, (1992), "The role of asset structure, ownership structure, and takeover defenses in determining acquisition likelihood," *Journal of Financial and Quantitative Analysis*, 27(4), 575-589.

Anand, J., L. Capron, and W. Mitchell, (2005), "Using acquisitions to access multinational diversity: thinking beyond the domestic versus cross-border M&A comparison," *Industrial and Corporate Change*, 14(2), 191-224.

Bacon, G., S. Beckman, D. Mowery, and E. Wilson, (1994), "Managing Product Definition in High-Technology Industries: A Pilot Study," *California Management Review*, 36(3), 32-56.

Barai, P., and P. Mohanty, (2012a), "Predicting Acquisitions in India," *Vikalpa: The Journal for Decision Makers*, 37(2), 29-50.

Barai, P., and P. Mohanty, (2012b), "Predicting Acquisitions in India," *Vikalpa*, 37(3), 29-50.

Barnes, P., (2000), "The identification of U.K," takeover targets using published historical cost accounting data Some empirical evidence comparing logit with linear discriminant analysis and raw financial ratios with industry-relative ratios," *International Review of Financial Analysis*, 9(2), 147-162.

Bartley, J. W., and, C. M. Boardman (1990), "The relevance of inflation adjusted accounting data to the prediction of corporate takeovers," *Journal of Business Finance and Accounting*, 17(1), 53-72.

Basu, D., S. Ghosh-Dastidar, and D. Chawla, (2008), "Corporate Mergers and Acquisitions in India: Discriminating between Bidders and Targets," *Global Bus Rev*, 9(2), 207-218.

Bertrand, O., and M. A. Betschinger, (2012), "Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers," *Journal of Comparative Economics*, 40(3), 413-437.

Bushee, B. J., M. E. Carter, and J. Gerakos, (2009), "*Institutional investor preferences for corporate governance mechanisms*."

Business Standard., (2015), "Inbound, domestic deals dominate Mergers and Acquisitions; less funds going abroad than inflows in M&As: ASSOCHAM-E&Y study," *Business Standard*.

Calof, J. L., (1993), "The impact of size on internationalisation," *Journal of Small Business Management*, 31(4), 60.

Calof, J. L., (1994), "The relationship between firm size and export behavior revisited," *Journal of International Business Studies*, 25, 367-387.

Chaudhary, D., (2013), "75% M&A deals fail to create value: study," *Live Mint*.

Chen, C., and R. Su, (1997a), "Do cross-border acquisitions of U.S. targets differ from U.S. domestic takeover targets?" *Global Finance Journal*, 8(1), 71-82.

Chen, C., and R. Su, (1997b), "Do cross-border acquisitions of US targets differ from US domestic takeover targets?" *Global Finance Journal*, 8(1), 71-82.

Chidambaran, N. K., D. Krishnakumar, and M. Sethi, (2017), "Cross-border vs. domestic acquisitions: Evidence from India," *Journal of Economics and Business*, 95(C), 3-25.

Cosh, A., and P. Guest, (2001), "*The long-run performance of hostile takeovers: UK evidence*."

Dietrich, J., (1984), "An application of logit analysis to prediction of merger targets," *E. Sorensen*, 12(3), 393-402.

Elyasiani, E., and J. Jia, (2010), "Distribution of institutional ownership and corporate firm performance," *Journal of Banking & Finance*, 34(3), 606-620.

Froese, H., (2013), "*Predicting Takeover Targets- An Empirical Analysis of the European Market*," University of St. Gallen.

Fukao, K., K. Ito, H. U. Kwon, and M. Takizawa, (2006), "*Cross-border acquisitions and target firms' performance: Evidence from Japanese firm-level data*."

Georgopoulos, A., C. Siriopoulos, and A. Tsagkanos, (2006), "Does the 'Market for Corporate Control' hypothesis explain takeover targets?" *Applied Economics Letters*, 13(9), 577-561.

Grant Thornton., (2014), "*Dealtracker: Dealtracker Providing M&A and Private Equity Deal Insights*."

Grave, K., D. Vardiabasis, and B. Yavas, (2012), "The Global Financial Crisis and M&A," *Intl J Bus Mgmt*, 7(11), 56-66.

Gregory, A., (1997), "An examination of the long-run performance of UK acquiring firms," *Journal of Business Finance and Accounting*, 24, 971-1007.

Gurav, V., (2012), "Wealthy investors buy shell companies to gain from their listed status," *Economic Times*.

Healy, P. M., K. G. Palepu, and R. S. Ruback, (1992), "Does corporate performance improve after mergers?" *Journal of Financial Economics*, 31(2), 135-175.

Huyghebaert, N., and M. Luypaert, (2010), "Antecedents of growth through mergers and acquisitions: Empirical results from Belgium," *Journal of Business Research*, 63(4), 392-403.

Jandik, T., and A. Makhija, (2008), "Can Diversification Create Value? Evidence from the Electric Utility Industry," *Financial Management*, 34(1), 61-93.

Jensen, M., (1986), "Agency cost of free cash flows, corporate finance and takeovers," *American Economic Review*, 76, 323-329.

Jucunda, M., (2013), "*A Review on Prediction of Mergers and Acquisitions in the West: Statistical Considerations and Emerging Issues for Research in India*."

Kennedy, V. A., and R. J. Limmack, (1996), "Takeover activity, CEO turnover and the market for corporate control," *Journal of Business Finance and Accounting*, 23, 267-285.

Krug, J. A., and W. H. Hegarty, (1998), "Postacquisition turnover among U.S. top management teams: an analysis of the effects of foreign vs. domestic acquisitions of U.S. targets," *Strategic Management Journal*, *18*(8), 667-675.

Kumar, B., and P. Rajib, (2007), "Characteristics of merging firms in India: An empirical examination," *Vikalpa*, 32(1), 27-44.

Kumar, R., (2009), "Post-merger corporate performance: an Indian perspective," *Management*

Research News, 32(2), 145-157.

Kumar, R., and P. Rajib, (2007), "Characteristics of Merging Firms in India: An Empirical Examination," *Vikalpa: The Journal for Decision Makers*, 32(1), 27-44.

Lee, J., (2009), "Dies size matter in firm performance? Evidence from US public firms," *International Journal of the Economics of Business*, 16(2), 189-203.

Leepsa, N., and C. Mishra, (2017), "Predicting the success of mergers and acquisitions in manufacturing sector in India: A logistic analysis," *Singapore Mgmt J*, 6(2), 43-72.

Leepsa, N., and D. C. S. Misra, (2012), "Post Acquisition Performance of Indian Manufacturing Companies: An Empirical Analysis," *Asia-Pacific Finance and Accounting Review*, 1(1), 17-33.

Mak, Y. T., and Y. Kusandi, (2005), "Size really matters: Further evidence on the negative relationship between board size and firm value," *Pacific-Basin Finance Journal*, 13(3), 301-318.

Manson, S., R. Powell, A. W. Stark, and H. M. Thomas, (2000), "Identifying the sources of gains from takeovers," *Accounting Forum*, 24(4), 319-343.

McConnell, J. J., and H. Servaes, (1990), "Additional evidence on equity ownership and corporate value," *Journal of Financial Economics*, 27(2), 595-612.

Melicher, R. W., and D. F. Rush, (1974), "Systematic Risk, Financial Data, and Bond Rating Relationships in a Regulated Industry Environment," *The Journal of Finance*, 29(2), 537-544.

Mizuno, M., and I. T. Tabner, (2009), "Corporate governance in Japan and the UK: Codes, Theory and Practice," *Pacific Economic Review*, 14(5), 622-638.

Nicholson, R., and J. Salaber, (2014), "The Impact of the Financial Crisis on the Performance of European Acquisitions. In Y. Temouri & C. Jones (Eds.) ,"*International Business and Institutions after the Financial Crisis," The Academy of International Business Series*, Palgrave Macmillan, 73-92.

Palepu, K., (1986), "Predicting takeover targets: a methodological and empirical analysis," *Journal of Accounting and Economics*, 8, 3-35.

Palepu, K. G., (1986), "Predicting takeover targets: A methodological and empirical analysis," *Journal of Accounting and Economics*, 8(1), 3-35.

Panigrahi, P., (2004), "An alternative predicting model for corporate mergers and acquisitions," *Vilakshan- XIMB Journal of Management*, 1(1), 16-25.

Pasiouras, F., Tanna, S., and Gaganis, C., (2011), "What Drives Acquisitions in the EU Banking Industry? The Role of Bank Regulation and Supervision Framework, Bank Specific and Market Specific Factors," *Financial Markets Institutions & Instruments*, 20(2), 29-77.

Powell, R., (2004), "Takeover Prediction Models and Portfolio Strategies: A Multinomial Approach," *Multinational Finance Journal*, 8(1-2), 35-72.

Powell, R. G., (1997a), "Modeling Takeover Likelihood," *Journal of Business, Finance and Accounting*, 24(7-8), 1009-1030.

Powell, R. G., (1997b), "Modelling takeover likelihood," *Journal of Business Finance & Accounting*, 24(7-8), 1009-1030.

PwC., (2019), "*Deals in India: Annual review and outlook for 2019*."

R, M., and D. Prasad, (2012), "Post-merger and acquisition financial performance analysis: A case study of select Indian airline companies," *Intl J Eng Mgmt Sc*, 3(3), 362-369.

Ramakrishnan, K., (2008), "Long-term post-merger performance of firms in India," *Vikalpa*, 33(2), 47-63.

Ramakrishnan, K., (2010), "Mergers in Indian industry: performance and impacting factors," *Business Strategy Series*, 11(4), 261-268.

Rao, N., and K. Reddy, (2015), "The impact of the global financial crisis on cross-border mergers and acquisitions: a continental and industry analysis," *Eurasian Bus Rev*, 5, 309-341.

Rau, R., and T. Vermaelen, (1998), "Glamour, value and the post-acquisition performance of acquiring firms," *Journal of Financial Economics*, 49(2), 223-253.

Ravichandran, D. K., (2009), "*Effect of Financial Crisis over Mergers and Acquisitions in GCC Countries*."

Reddy, K., (2015), "*The impact of the global financial crisis on border-crossing mergers and acquisitions: A continental/industry analysis*."

Saboo, S., and S. Gopi, (2009), "*Comparison of Post-Merger performance of Acquiring Firms (India) involved in Domestic and Cross-border acquisitions* (No. 19274)."

Sarkar, P., (2017), "Post-acquisition performance of acquiring firms in India- A review of literature," *Intl J Eng Sc Res Tech*, 6(7), 468-474.

Saunders, A., M. M. Cornett, A. J. Marcus, and H. Tehranian, (2003), "*The impact of institutional ownership on corporate operatig performance*," NYU Stern Finance Working Paper No. 03-033).

Sood, G., and S. Kaur, (2004), "Predicting Corporate Takeovers in India: An Empirical Analysis," *Vision: The J of Bus Pers*, 8(2), 57-67.

Sorensen, D. E., (2000), "Characteristics of merging firms," *Journal of Economics and Business*, 52(5), 423-433.

Stahl, G. K., and A. Voigt, (2008), "Do Cultural Differences Matter in Mergers and Acquisitions? A Tentative Model and Examination," *Organisation Science*, 19(1), 160-176.

Stevens, D., (1973), "Financial Characteristics of Merged Firms: A Multivariate Analysis," *Journal of Financial and Quantitative Analysis*, 8(2), 149-158.

Stulz, R., (1988), "Managerial control of voting rights: Financing policies and the market for corporate control," *Journal of Financial Economics*, 20, 25-54.

Sudarsanam, S., and A. A. Mahate, (2006), "Are friendly acquisitions too bad for shareholders and managers? Long-term value creation and top management turnover in hostile and friendly acquirers," *British Journal of Management*, 17, S7-S29.

Trahan, E. A., (1993), "Financial characteristics of acquiring firms and their relation to the wealth effects of acquisition announcements," *Journal of Economics and Finance*, 17(21),

Trahan, E. A., and H. A. Shawky, (1992), "Financial Characteristics of Acquiring Firms: An Industry Specific Approach," *Review of Financial Economics*, 1(2), 81-94.

Tuch, C., and N. O'Sullivan, (2007), "The impact of acquisitions on firm performance: A review of

the evidence," *International Journal of Management Review*, 9(2), 141-170.

Wagner, J., (1995), "Exports, firm size, and firm dynamics," *Small Business Economics*, 7, 29-39.

Weber, Y., and I. Drori, (2008), "The linkages between cultural differences, psychological states, and performance in international mergers and acquisitions. In C. L. Cooper & S.Finkelstein (Eds.)," *Advances in Mergers and Acquisitions*, 7, Emerald Group Publishing Limited.

Zhu, P. C., V. Jog, and I. Otchere, (2011), "Partial acquisitions in emerging markets: A test of the strategic market entry and corporate control hypotheses," *Journal of Corporate Finance*, 17(2), 288-305.