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ANALYSIS OF SYNERGIES IN INDIAN CORPORATE M&A DEALS: A LOGIT REGRESSION APPROACH

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ABSTRACT

A firm's financial attributes play an essential part in the merger decision. The present paper attempts to improve the existing literature on assessing M&A activity in Indian corporate. The primary objective is to analyse 1) When synergies are gained, payment is made in cash, 2) When synergies are gained, M&A activity takes place in the related industries. The paper has analysed 20 major M&A deals which took place between 2010 and 2015 for the Indian Corporates. The data includes three year pre-merger , year of merger and three year post merger i.e. a total of seven year data for each deal has been used in the study effectively from 2007 to 2018. Random Effect Logit Regression has been applied to estimate the relationship. The major results derived from the analysis suggest that EBITDA has statistically significant relation with payment dummy as well as Industry relatedness. Statistically significant results have also been observed for Free Cash flow. Asset Turnover has also shown to have a significant relationship with relatedness of industry in our model. The results supports both the hypothesis of the study i.e. "*When synergies are gained, cash mode of payment is preferred.*" and "*When synergies are gained, mergers & acquisition in related industry sector are preferred*".

Contribution/Originality: This study is one of the very few studies which have investigated how the mode of payment in Merger and Acquisition(M&A) strategy is impacted by the synergies gained in the major M&A deals for Indian Corporates over the period from 2010 to 2015.

1. INTRODUCTION

The most common means of corporate restructuring in the present era is merger & acquisitions (M&As). M&As have played a significant role in the external growth of the world's leading corporations. The idea of merger, which started in 1890 in the United States, has now become very common in today 's globally competitive global business environment. When two or more companies combine into one entity, mergers are said to occur (Bose, 2014). Acquisition is characterised as an act of directly acquiring right to possession or management of a company by another company with little or no combination of business or organisation.

The opening of economy post the 1990s have surged an era of M&A deals in India , though they were not uncommon before, but with a lower frequency (Bhoi, 2000). The government's liberal economic policy after the 1990s allowed enterprises to undergo technological growth, diversification and upgradation. A number of businesses have found it necessary to combine with comparable business units and subsidiaries in order to achieve cost savings and improved productivity. As shown in Figure 1, the quantum of deals in India has seen a steady rise

since 2013, with a reciprocal increase in the total quantity of deals undertaken. In 2015, businesses reported more than 1200 transactions for a total sum exceeding USD 51 billion. The volume of transactions have shown to have a growth of 63 percent compared to 2014 (The Institute for Mergers Acquisitions and Alliances (IMAA), 2019).

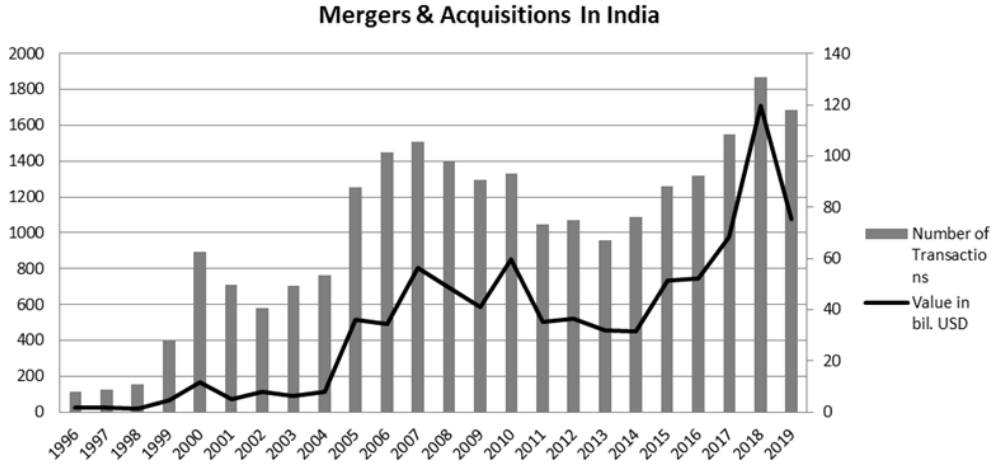

Figure-1. Trends in Indian Mergers & Acquisitions.
Source: Institute for Mergers, Acquisitions and Alliances (IMAA).

In the literature on finance and strategy, the impact of mergers and acquisitions (M&A) on shareholder capital has been well studied. Although many scholars agree that the stakeholders of the target companies have usually benefited substantially from a merger (Betton, Eckbo, & Thorburn, 2008; Jensen & Ruback, 1983) there seems to be no agreement on the benefits derived from such deals by the shareholders of the acquiring firms. Although most accept that the acquiring firms' shareholders did not lose out in the deals (Bruner, 2002; Haleblian, Devers, McNamara, Carpenter, & Davison, 2009) a few disagree. A significant loss of profit to the shareholders of the acquiring companies was reported by Mantecon (2009).

Two key methods, share price analysis and accounting measure analysis, have been adopted by analytical work on the topic in Indian M&As to explore the issues related to the viability of mergers. In the time following the announcement of merger transactions, study focused on share price valuation uses event studies to analyse the unusual returns to shareholders. Such studies have highlighted positive abnormal returns for the acquirer (Duppati & Rao, 2015; Rani & Asija, 2017). These studies were not, however, capable of investigating the long-term economic gains of mergers. Accounting studies have explored the assessed financial performance to analyse post-merger efficiency of corporates. While some studies have shown greater efficiency for the acquirer in the post-merger era, (Patel, 2014; Rani, Yadav, & Jain, 2015; Sinha, Kaushik, & Chaudhary, 2010) some have highlighted significant decline in the post-merger profitability position of the acquirer companies from the pre-merger profitability position (Saini & Singla, 2015).

The present study explores the performance of the acquirer and whether synergies are achieved in the post-merger period, when the mode of payment for the transaction is cash. Similar gains are analysed for horizontal mergers as well. The study analyses 20 major deals which took place between 2010 and 2015 for the Indian Corporates. The data includes three year pre-merger , year of merger and three year post-merger i.e. a total of seven year data for each deal has been used in the study effectively from 2007 to 2018. Random Effect Logit Regression has been applied to estimate the relationship. The paper is organised into six sections, which are as follows. Literature review of the different methodologies used in the existing studies and their findings have been discussed in Section 2. Section 3 gives the objective and hypothesis of the present study. Section 4comprises the research design, variables, source of data, and research methodology. Section 5 pertains to the results based on the econometric analysis. The paper ends by presenting conclusion in Section 6.

2. LITERATURE REVIEW

It is possible to identify several M&A impact studies according to whether they follow an approach to industrial or financial organisations. After the M&A agreement is reached, one way to assess success is to track the share prices. Empirical studies of this kind suggest that the stockholder of a target company gain and that the stockholder of the bidding company typically lose (Julian R Franks & Harris, 1989). Methodology of event study has been used extensively in the existing literature and have concluded either significantly negative abnormal returns or negligible abnormal returns have been concluded in the short term (Asquith, Robert, & David, 1987; Kaplan & Weisbach, 1992; Mulherin & Boone, 2000; Smith & Kim, 1994). Whereas the result in the long run suggests negative abnormal returns (Andrade, Mitchell, & Stafford, 2001; Limmack, 1991; Mitchell & Stafford, 2000; Rau & Vermaelen, 1998).

Another group of studies explores the effect of M&As before and after M&As on different profitability indicators. This type of study of industrial organisations usually takes into account longer period of time horizons than research of stock prices. After acquisition, most businesses do not display a major increase in long-term profitability (Scherer, 1988). Hughes (1991) integrates knowledge from a number of statistical research studies in terms of accounting profitability to demonstrate that vertical mergers perform better than horizontal mergers. Many factors have been attributed to weak corporate performance in the post-merger period: the desire of the manager for role and power , low efficiency, low quality, decreased engagement, and associated ancillary costs and unexplored potential (Buono, 2002). Kruse, Park, Park, and Suzuki (2002) examined the long-term operating performance of Japanese companies using a sample of 56 mergers of manufacturing companies between 1969 and 1997. The study showed improvements in operational efficiency, and also that pre- and post-merger results is highly correlated. Marina, Sjoerd, and Luc (2007) studied the long-term viability of takeovers in Europe and found that the profitability of the combined company declined substantially after the acquisition.

Synergies are of two types – revenue generating and cost reduction with former being more difficult to achieve. *Financial synergies* involve combining both target and acquirer companies' balance sheets to achieve improved financial parameters (Godbole, 2013). *Operating synergies* are the ones that are generated due to improved operating efficiencies of merged entities. Different studies have used different parameters to proxy for the synergies. Some of the major variables used are cash flows (Ghosh, 2001; Ramaswamy & Waegelein, 2003) Return on Asset (Ghosh, 2001; Meeks, 1977; Patel, 2014) "earnings before interest, taxes, depreciation and amortization" (EBITDA) (Christian & Jones, 2004; Perianu & Copăceanu, 2019) Interest coverage ratio (Mahesh & Prasad, 2012); Working capital (Kumar & Bansal, 2008).

Existing literature in financial synergies studying existence and extent of financial synergies have suggested deterioration in post M&A profitability measure in terms of EPS (Hogarty, 1970) Return on capital equity (Franks, Harris, & Mayer, 1988) ROE (Yeh & Hoshino, 2002) liquidity, profitability and solvency ratios (Pazarskis, Vogiatzogloy, Christodoulou, & Drogalas, 2006). The findings show that the result of acquisition on firm's profitability is detrimental (Dickerson, Gibson, & Tsakalotos, 1997). However, an analysis of the financial efficiency of selected Indian financial institutions showed that long-term value was created and financial performance improved for the acquired firm post-acquisition; but not on all parameters (Sinha et al., 2010).

Some research has concluded that conglomerate M&As achieve more favourable outcomes than horizontal and vertical M&As (Mueller, 1980). Several studies have examined whether related mergers with scale economies performed better than unrelated conglomerate mergers.. In terms of return to shareholders, the proof is not definitive (Sudarsanam, Holl, & Salami, 1996). Horizontal acquisitions is believed to provide substantial synergy opportunities, because of the similar institutional climate of the acquirer and the target (Barai & Mohanty, 2014). At the same time, vertical acquisitions are hypothesised to offer lesser potential for synergy (Chatterjee, 1986). The mode of payment is also one of the determinants of the synergies gained in the post-acquisition. Empirical evidence has consistently shown that, at the time of the first proclamation of the offer, the target and the

acquirer's share prices reacts more favourably to a cash proposition than to a stock purchase (Bouwman, Fuller, & Nain, 2009; Peterson & Peterson, 1991).

3. OBJECTIVE AND HYPOTHESIS

This paper aims to assess if synergies are gained in the post-merger period for the acquirer. The study examines 20 major deals which took place between 2010 and 2015 for the Indian Corporates. Certain parameters have been selected to effectively represent the synergies gained. The mergers have been selected from a broad period to ensure representation from different business cycles.

The study's main objective is to analyse:

1) When synergies are gained, payment is made in cash.

2) When synergies are gained, M&A activity takes place in the related industries.

3.1. Hypotheses for the Logit Analysis

The study employs Random Effect Logit model to examine the determinants of mergers and acquisitions for the Indian Corporates. The method of payment in form of cash has shown to have significant and positive changes in operational and financial parameters of firm undergoing merger, as reported by studies in other countries such as Linn and Switzer (2001); Ghosh (2001); Megginson, Morgan, and Nail (2004). Therefore, for mergers in India we hypothesize:

H1: When synergies are gained, cash mode of payment is preferred.

The acquirer's relatedness with the target in the merger often offers greater value creation prospects. Many studies report higher acquisition synergies for horizontal mergers than vertical ones (Akbulut & Matsusaka, 2010; Bae, Kang, & Kim, 2000; Barai & Mohanty, 2014). Therefore the second hypothesis for the study is:

H2: When synergies are gained, mergers & acquisition in related industry sector are preferred.

4. THE DATA AND METHODOLOGY

Data and methodology employed in the study has been addressed in the present section.

4.1. Data Description

The study uses unbalanced panel data of the 20 Mergers& Acquisitions which took place in India from 2010 to 2015. Data of seven years (3 years post-Merger, year of Merger, 3 years pre-Merger) has been taken for each deal. We have excluded non-listed acquirer firms in our analysis. Likewise, financial and banking companies have also been excluded because they have distinct accounting, operational, and risk-based features. The highest representation for acquirer is in the industrial sector with six deals. Consumer, cyclical sector has been most represented for target. The Table 1 presents the deals that have been considered in the analysis.

Accounting and financial data has been collected from Bloomberg Terminal. Based on the literature, firm specific data (used as independent variables in the study) on Free Cash Flow, EBITDA, Return on Asset, Asset Turnover, Interest Coverage Ratio and Working Capital were used as an estimation of the synergies acquired by the acquiring company during the post-merger period. The data has been compiled for 7 years of data (3 years post-Merger, year of Merger, 3 years pre-Merger). Dependent Variables for the logit analysis i.e. Mode of Payment and Relatedness of Industry have been compiled from Bloomberg as well. Table 2 defines the variables that the study uses.

Table-1. Deals considered in the analysis.

Completion Date	Target Name	Acquirer Name	Target Industry Sector	Acquirer Industry Sector
12-01-2011	Fame India Ltd	Reliance MediaWorks Ltd	Consumer, Cyclical	Consumer, Cyclical
28-01-2011	Mounteverest Trading & Investment Ltd	Monnet Ispat & Energy Ltd		Basic Materials
27-04-2010	Welspun Enterprises Ltd	Welspun Corp Ltd	Industrial	Industrial
31-03-2010	Piramal Enterprises Ltd	Cipla Ltd/India	Consumer, Non-cyclical	Consumer, Non-cyclical
03-08-2011	Television Eighteen India Ltd	Network18 Media & Investments Ltd	Communications	Communications
26-05-2011	Pioneer Distilleries Ltd	United Spirits Ltd	Consumer, Non-cyclical	Consumer, Non-cyclical
28-12-2010	Bell Ceramics Ltd	Orient Bell Ltd	Industrial	Industrial
02-11-2010	STI India Ltd	Bombay Rayon Fashions Ltd	Consumer, Cyclical	Consumer, Cyclical
14-07-2011	SRL Ltd	Fortis Healthcare Ltd	Consumer, Non-cyclical	Consumer, Non-cyclical
02-06-2011	Jyothy Consumer Products Ltd	Jyothy Labs Ltd	Consumer, Non-cyclical	Consumer, Non-cyclical
12-10-2012	IVRCL Assets & Holdings Ltd	IVRCL Ltd		Industrial
01-10-2013	Sterlite Industries India Ltd	Vedanta Ltd	Basic Materials	Basic Materials
01-10-2013	Fame India Ltd	Inox Leisure Ltd	Consumer, Cyclical	Consumer, Cyclical
04-04-2014	Cinemax India Ltd	PVR Ltd	Consumer, Cyclical	Consumer, Cyclical
25-03-2015	Mahindra Composites Ltd	Mahindra CIE Automotive Ltd	Consumer, Cyclical	Industrial
30-09-2013	JMT Auto Ltd	Amtek Auto Ltd	Consumer, Cyclical	Consumer, Cyclical
02-09-2015	Ranbaxy Laboratories Ltd	Sun Pharmaceutical Industries Ltd	Consumer, Non-cyclical	Consumer, Non-cyclical
24-07-2014	Cimmco Ltd	Titagarh Wagons Ltd	Diversified	Industrial
08-12-2015	Astec Lifesciences Ltd	Godrej Industries Ltd	Basic Materials	Basic Materials
28-12-2015	Medicamen Biotech Ltd	Shivalik Rasayan Ltd	Consumer, Non-cyclical	Basic Materials

Source: Bloomberg terminal.

Table-2. Definition of the variables.

S. No.	Variable	Symbol	Definition of the variable
1	Mode of Payment dummy	Payment Cash	Value 1 if method of payment in is cash and 0 otherwise.
2	Relatedness of industry dummy	Industry Relatedness	Value 1 if the acquisition is horizontal and 0 otherwise.
3	Free Cash Flow	Free Cash Flow	(Operating cash flow - capital expenditures)
4	Earnings before interest, taxes, depreciation, and amortization	EBITDA	(Net income + interest + taxes+ depreciation +amortization)
5	Return on Asset	ROA	Net income/average assets.
6	Asset turnover	Asset Turnover	Amount of sales or revenues generated per dollar of assets.
7	Interest Coverage Ratio	Interest Coverage Ratio	Ratio is used to assess how quickly an organization can pay interest on its outstanding debt.
8	Working Capital	WORKING_CAPITAL	Studies the efficiency of the organization and its short-term financial health.

Source: Bloomberg terminal 4.2. Methodology.

The present study uses Random Effect Logit regression for empirical analysis instead of conventional multivariable regression analysis because of the binary nature of our dependent variable In the construction of predictive M&A models, previous studies have used different analytical techniques. Examples comprise differential means analysis, discriminant analysis and techniques of logit or probit regression. In this study, because of its compatibility with the real merger and acquisition decision-making framework, the logit regression approach is used. Modelling with a binary choice dependent variable is the optimal case. Based on the non-normality of the standard error, the ordinary least squares regression approach is impractical for binary choice models. Methodologies of limited dependent variable estimation are more suitable. Consequently, in this research, the logit modelling technique is used. We have employed random effect logit regression technique in the present paper. The unnoticed variables are presumed in a random effects model to be uncorrelated or statistically independent of all the variables observed. Standard errors may be very high with fixed effects, random effect lets you estimate effects for time invariant variables. An RE model may still be desirable (Allison, 2009).

Healy (2006) states that logistic regression presents the conditional probability of the occurrence of an event given the regressor values. It also helps you determine the relationships and strengths between variables (Park & Hastie, 2008). Its underpinning concept is based upon probabilities and log curve nature. The presumptions of this methodology are linear logit transformations, dichotomous nature of dependent variable and outliers being not included in the resulting logarithm curve. Thus, the assumptions of normality such as observations and disturbance terms are normally distributed, homogeneity of variance and all normality tests are null and Ordinary Least Square (OLS) assumptions break down due to the dichotomous quality of dependent variables. Most researchers in the analytical field favour logistic regression because of its robust practical character, logical postulates and the potential to generate a predictive depiction of real - world problems (Healy, 2006).

A logit model is established on cumulative logistic probability distribution function (Gujarati & Sangeetha, 2007). It is generally specified as:

$P_i=F(L_i) =F(\alpha + \beta X_i) = 1 / 1+ e^{-Li}$

Where $L_i= \alpha + \beta X_i$

P_i= ith firm probability.

e= natural logarithm base.

β = vector of independent variables.

α = constant.

L_i= logarithm of odds For the first hypothesis in this study, the dummy variable Payment_Cash is the dependent variable, which takes a value 1 if payment of the Merger deal is made in cash and 0 in case the mode of payment is stock. To test our second hypothesis, we take Industry_Reatedness dummy of the firms undertaking merger as our dependent variable. It takes a value 1 if the both acquirer and target belongs to similar sectors of the economy i.e. horizontal merger and 0 otherwise. In Random Effect Logit Regression Analysis, Payment_Cash is regressed against firm attributes Free Cash Flow, EBITDA, and ROA. The Industry_relatedness is regressed against Free Cash Flow, Asset Turnover, Interest Coverage Ratio, EBITDA and Working Capital. The models developed in the paper are listed in the Table 3.

Table-3. Models employed in the study.

Objective	Dependent variable (Binary Variable)	Equation for each model
When payment is made in cash, more synergies are generated.	Payment_Cash	$Payment\_Cash_{it} = \alpha + \beta_1 X_{1it-1} + \beta_2 X_{2it-1} + \beta_3 X_{3it-1} + \varepsilon_{it}$
When mergers & acquisition take place in related industry sector, more synergies are generated.	Industry_relatedness	$Industry\_relatedness_{it}= \alpha + \beta_1 X_{1it-1} + \beta_2 X_{2it-1} + \beta_3 X_{3it-1} + \beta_4 X_{4it-1} + \beta_5 X_{5it-1} + \varepsilon_{it}$

Where X are independent variables. For the present study, we equate the combined entity's post-acquisition performance with that of target and acquirer (A+T) firms. For an appropriate comparison, we divide each variable by total assets[1] of the considered firms, and thus eliminating the size effect (Healy, Palepu, & Ruback, 1992).

5. EMPIRICAL ANALYSIS AND RESULTS

The present study makes use of Random Effect Logit Regression technique to elucidate the factors that influence Indian corporate mergers and acquisitions. Descriptive analysis of the data is presented in the first subsection, which includes summary statistics and matrix of correlation. The second subsection deals with the Logit model results.

5.1. Descriptive Data Analysis

Table 4 provides the summary stats of the non-dummy variables of the sample of study. The statistics of tables are self-explanatory. The firms across the sectors have a good asset turnover .The standard deviation of EBITDA is fairly large. It implies that sample includes firms having large as well as small earnings. However, mean stats of the Free Cash Flow and return on Asset are not remarkable. Around 50 percent of the Mergers took place in cash transaction and & 70 percent of total acquisitions have taken place in the same industry sector.

Table-4. Summary Statistics.

Variable	Observations	Mean	Std. Dev.	Min	Max
Working_Capital	129	0.0276515	0.2191445	-1.304546	0.5213529
Free Cash Flow	129	-0.0527838	0.0940987	-0.3920556	0.1127274
ROA	116	-0.1818379	8.56499	-52.5119	31.8454
EBITDA	134	17075.69	44829.03	-3727.54	308285.3
Asset Turnover	122	0.6269033	0.2909147	0.1611	1.4905
Interest Coverage Ratio	135	8.966366	32.21297	-5.1648	303.008
Payment_Cash	Cash Payment = 50 % (10 deals with mode of payment as cash)				
Industry_Relatedness	Related industry = 70% (14 deals with mergers taking place in the same economic sector)				

Table 5 exhibits the matrix of correlation among the variables. The paper has applied Pearson's Correlation Matrix to check this, as it measures the strength and direction of association that exists between two variables. There is weak correlation between majority of variables. There is positive and statistically significant correlation suggested between Return on Asset with Free Cash Flow. The same can be observed for EBITDA and of Interest Coverage Ratio.

Table-5. Pearson's correlation matrix.

Variables	Working _Capital	Free Cash Flow	ROA	EBITDA	Asset Turnover	Interest Coverage Ratio
Working_Capital	1					
FreeCashFlow	0.3033*	1				
ROA	0.3444*	0.5816*	1			
EBITDA	0.2976*	0.2085*	0.1831	1		
AssetTurnover	0.1773	0.1966	0.1691	-0.1822*	1	
Interest Coverage Ratio	0.2375*	0.2843*	0.2000*	0.2456*	0.0937	1

[1] Sum of short and long-term assets. (Source : Bloomberg terminal)

5.2. Results of Logit Regression and Interpretation

Table 6 illustrates the findings of Random effect Logit model for 20 deals of Mergers & Acquisitions taken place in Indian corporates from 2010 to 2015. The variables EBITDA, Free Cash flow , Return on Asset, Interest Coverage Ratio, Working Capital and Asset turnover has been used as an estimate for synergies gained in the merger based on the literature review. As can be observed from Table 5, EBITDA has positive and statistically significant relation with payment dummy, indicating that if payment for deal is made in cash then more synergy is generated in the form of EBITDA. Similar positive and statistically significant results have also been observed for Free Cash flow in our model. Thus, results of the empirical analysis of the study support the hypothesis 1 which states *"When synergies are gained, cash mode of payment is preferred."*. However, Return on asset has a positive but statistically non-significant relation with mode of payment. Prob> chi2 - is the probability of obtaining this chi-square statistic if independent variables, taken together has no effect on the dependent variable (UCLA, 2009). This p-value is compared to a critical value i.e. at 10 percent, 5 percent and 1 percent to determine statistical significance of the overall model. In this case, the model is statistically significant at <1% level, because the p-value is 0.000.

Table-6. Results of random effect logit estimation for mode of payment as cash as dependent variable.

Variables	Coefficient Estimates	p-stats	Significance Level
FreeCashFlow	165.3846	0 (43.06749)	**
EBITDA	0.0013377	0 (0.000128)	**
Return on Asset	0.41166	0.636 (0.869928)	
	No. of Observations	99	
	Wald chi2 (3)	184.25	
	Log Likelihood	-12.353264	
	Prob> chi2	0.0000	***

Note: This table reports the coefficient estimates and p-statistics from random effect logit model. Payment Cash is the dependent variable, which represents the value "1" if payment of the Merger deal is made in cash and "0" in case the mode of payment is stock. *Robust standard errors in parentheses.*
***p<0.01, **p<0.05, * p<0.1.

Results of Logit model for industry relatedness of acquirer and target are compiled in Table 7. The variables EBITDA, Free Cash flow and Return on Asset has been used as an estimate for synergies gained in the merger based on the literature review. As can be observed from Table 7, both EBITDA and Free Cash Flow has positive and statistically significant relation with Industry relatedness dummy, indicating that if both target and acquirer in the deal pertains to the same industry, then more synergies are generated in terms of Free Cash Flow and EBITDA. Similar statistically significant results have also been observed for Asset Turnover in our model. Thus, results of the empirical analysis support the hypothesis 2 of the study which states *"When synergies are gained, mergers & acquisition in related industry sector are preferred."*. However, Working Capital and Interest Coverage Ratio have a negative non-significant relationship with relatedness of the industry. Prob> chi2 indicates that the model is statistically significant at <10% level.

Table-7. Results of Random Effect Logit estimation for Relatedness of Industry as dependent Variable.

Variables	Coefficient Estimates	p-stats	Significance Level
FreeCashFlow	0.1422559	0.01 (14.73193)	**
AssetTurnover	8.519504	0.062(4.570382)	*
InterestCoverageRatio	-0.024882	0.86(0.1415828)	
WORKING_CAPITAL	-5.389629	0.466(7.391375)	
EBITDA	0.0003716	0.014(0.0001508)	**
	No. of Observations	119	
	Wald chi2(5)	9.82	
	Log Likelihood	-11.602591	
	Prob> chi2	0.0806	*

Note: This table reports the coefficient estimates and p-statistics from random effect logit model. Industry_Reatedness dummy of the firms undertaking merger as our dependent variable. It represents a value "1" if the both acquirer and target belongs to similar sectors of the economy i.e. horizontal merger and "0" otherwise. *Robust standard errors in parentheses.*
***p<0.01, **p<0.05, * p<0.1.

The results of hypothesis testing have been summarized in Table 8.

Table-8. Results of hypothesis testing.

Research Hypothesis	Expected Sign	Test Result
H_1: When synergies are gained, cash mode of payment is preferred.	+	Supported
H_2: When synergies are gained, mergers & acquisition in related industry sector are preferred.	+	Supported

6. CONCLUSION

A firm's financial attributes play an essential part in the decision-making process of a merger. The present paper attempts to improve the existing literature on assessing M&A activity in Indian corporates. The primary objective of this research paper is to analyse if the synergies realized are more when mode of payment in the deal is Cash. Secondly we also aim to analyse the synergies realized when both target and acquirer in the deal belong to related industry i.e. if the merger is horizontal or vertical. We have analysed a panel of 20 major Indian M&A deals from 2010 to 2015 ,each having 3 years of data pre and post-merger (seven years of data in totality including year of merger). The study employs Random Effect logit regression analysis.

The major results derived from the analysis suggest that EBITDA has statistically significant relation with payment dummy as well as Industry relatedness, indicating that if payment for deal is made in cash and the merger is horizontal, then more synergies are generated. These findings are in tandem with earlier studies for instance (Andrade et al., 2001; Bernile & Lyandres, 2019). Similarly, statistically significant results have also been observed for Free Cash flow in our models. This is in line with Jensen's theory of free cash flow (Jensen, 1986). Asset Turnover has also shown to have a significant relationship with relatedness of industry in our model. However, Return on asset has a positive but statistically non-significant relation with mode of payment. Similarly, the relationship of Working Capital and Interest Coverage Ratio with relatedness of the industry is positive but statistically non-significant.

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