Return from Indian Acquisitions: Does Deal Size Matter?[i]

Dr. N.M.Leepsa[1], Dr. C.S. Mishra[2]

Assistant Professor, School of Management, NIT Rourkela, Odisha, India; Assistant Professor, Vinod Gupta School of Management, IIT Kharagpur, West Bengal, India

Email:leepsan@nitrkl.ac.in ; csmishra@vgsom.iitkgp.ernet.in

Abstract- Mergers and acquisitions are the corporate growth strategy that has grown in recent years. The performance of companies in post acquisition period is influenced by various factors; one of the factors which remain explored is deal value. This paper attempts to investigate the post acquisition performance of manufacturing companies in India based on their deal size-small and large deal size. Performance is evaluated on profitability parameters (return on capital employed, return on net worth, return on assets) of the company in pre and post acquisition three years using paired t test and Wilkoxson signed rank test. It is found that for the variable ROA_{post12} and $ROA_{post123}$, the post acquisition performance is positive for large deals while negative for small deals. There is no difference in ROApost1 performance in pre and post acquisition performance in case of small deals while negative performance in ROA_{pre1} in the post acquisition first year. For the rest variables, ROCE and RONW, the large and small deals perform in a similar manner, but the results of large deals are more significant than small deals.

***Index terms*-Merger, Acquisition, Deal Value, Size**

I. Introduction

Mergers and acquisitions are widely used by companies as a corporate strategy and extensively researched by academicians and researchers. The most important issue that has been discussed and debated is the post M&A performance of companies. Research studies have focused on the short and long run economic and financial performance of companies in pre and post merger and acquisition period. Various issues considered in M&A performance in relation to the factors that affect M&A performance like M&A performance in relation to the size of the acquirer, type of industry, method of payment, relative size of the target with the acquirer. Even though most results are controversial or have not got any conclusive evidence, it has shed light on how these factors can improve or deteriorate the performance of companies in the post M&A period. However, one aspect has not been much talked about in literature is the deal value/deal size and how it can influence the M&A performance. Deal size matters when it comes to mergers and acquisitions. Acquisitions in general fail to create value to the shareholders, which might be due to many factors, such as small or large size [1]. Therefore, this paper attempts to investigate the post acquisition[1] performance of manufacturing companies in India based on their deal size-small and large deal size.

II. Literature Review

Review of literature from Indian and international papers on mergers and acquisitions with respect to deal size are made under the following sections:

A. *M&A Definitions and Concept*

The expression mergers and acquisitions is a part of corporate strategy, corporate finance and management, that deals with the buying, selling and combining of two or more companies that might help to finance a company or help a growing company in a specified industry to grow quickly without creating a new company[2]. Mergers & Acquisitions are the financial transactions that intends to make a company with the assets value increasing the total value of assets of two companies involved in the deal[3].

A merger occurs when two or more entities combine together to become one through a purchase acquisition or a pooling of interests. A merger differs from a consolidation in the sence that no new entity is created from a merger[4] .A merger happens when there is purchase of company of an more or less comparable size and the two companies mutually agree to become one[5] .

A merger occurs in two ways: (a) absorption: A merger take places when the two or more firms combine by aborbing the assets and liabilities of the target (or selling) firm in the assets and liabilities of the acquiring (or buying) firm. The idendity of the acquiring firm remains after merger. (b) consolidation: A merger through consoilidation occurs when two or more companies join together by exchanging stocks or shares by replacing their old companies into a single new company. Prorated shares in the new company are

[1] Acquisitions (or takeovers) are those deals where majority or substantial amounts of shares of target companies are taken by the acquirer company.

[2] Wikipedia, 2013. *Mergers and acquisitions.* [Online] Available at: http://en.wikipedia.org/wiki/Merger [Accessed 14 January 2013].

[3] Encyclopedia of Management, Mergers and acquisitions. [Online] Available at: http://mfiles.pl/en/index.php/Mergers_&_Acquisitions [Accessed 14 January 2013].

[4] Merger. Available at: http://www.investorwords.com/3045/merger.html

[5] TeenAnalyst.com., Merger Definition. [Online] Available at: http://www.teenanalyst.com/glossary/m/merger.html [Accessed 14 January 2013].

allowed to the shareholders of the old companies. A merger is usually a tax-free transaction since shareholders are not oblighed to any capital gains or lost taxes on the shares/stock that is being exchanged.[6]

Mergers are classified into four broad categories: (a) horizontal merger: Here the acquirer and target firm are from from the same industry and are competitors (b) vertical merger: Here acquirer and target firm are connected from the same supply chain or supplier or customer of one another. (c) circular merger: Here acquirer and target firm have different products but similar distribution channels. (d) conglomerate merger: A merger occurs by the union of firms with few or no similarities in production or marketing but that come together to create a larger economic base and greater profit potential.[7]

An acquisition occurs when one company acquires another company to become the new owner theough purchase of target company shares. In the process, there is no existence of the target firm from a legal point of view and the acquirer takekesover the business and acquirer stock is traded in the stock exchange[8].

When the combination of two companies to form a single entirty is a mutual agreement between two companies, it is merger as its friendly in nature as it balance the strength and willingness of two enities. But when the combinitaion is hostile in nature, its called takeover[9]. In case of a merger, the shareholders of both the company may possibly become shareholders of the combined firm. In case, they don't, then its a takeover when the shareholders of one company were being offered only cash for their shares[10]. A merger is a combination of two companies to form a new company, while an acquisition is the purchase of one company by another with no new company being formed.[11]. Even if there is differences in the two concepts, mergers and acquisitions, both are interlinked, often simply used as M&As[12].

B. Deal Size: Definitions

The deal size is used in various studies for relative size (deal size divided by acquirer size) calculation [2] . The author defined deal size as the value of the transaction. [3] have also used deal size for defining the control variable 'relative deal size' where deal value is used to describe deal size. The author cited Moeller et al. (2004, 2005) to suggest that large deals do not perform well and thereafter have used the log of the deal value not absolute deal value. [4]

C. Role of Deal Size and M&A Performance:

Size does matter in M&A success. It is a general notion that big return comes from big deals. But the author suggests smaller deals share larger returns. There are various reasons attached to it. The authors view that smaller deals take small risks and minimise the risks like building executive and board alignment , keeping business secrets from potential suitors, conducting effective due diligence, mobilising resources for effective merger integration. Opposite to it, larger deals takes larger risks as they focus on new business than the core business and strategy which may take away large resources and distract bigger and capable acquirers. [5]. Large Size M&A deals destroy value for acquirers which is the outcome of some managerial motives or over confidence of managers of the acquiring firm.

D. Relationship between Deal Size, Size of the Acquirer and M&A Performance:

The deal size is attached to the size of the acquirer. Large acquirers do large deals. These large acquirers do not create value because of executive incentives attached to growth that includes growth through acquisitions. Small acquirers fail because they lack focus and the ability to choose a proper target and lack the ability to integrate properly [5]. Size of acquirer is the pre deal characteristics of acquirer that affects the post acquisition performance [1].

Size matters when it comes to performance, and that the two are inversely related. Size does matter in mergers and acquisitions. Here size refers to firm size or the size of the acquirer. The author suggests that small acquirer are more successful than the large acquirer as they have less agency cost and if their calculations regarding evaluation of target went wrong or if there is any mis-estimation or mistakes, the firm can withdraw from deals compared to large firms. The author studied the Carline et al. (2002) which has related deal value or deal size by size of the acquirer and M&A performance and suggest that larger deal values gives

---

[6] The free dictionary, n.d. Merger. [Online] Available at: http://financial-dictionary.thefreedictionary.com/Merger [Accessed 14 January 2013].

[7]. *Merger.* [Online] Available at: http://www.businessdictionary.com/definition/merger.html [Accessed 14 January 2013].

[8] Encyclopedia of Management, Mergers and acquisitions. [Online] Available at: http://mfiles.pl/en/index.php/Mergers_&_Acquisitions [Accessed 14 January 2013].

[9] *Merger.* [Online] Available at: http://www.anz.com/edna/dictionary.asp?action=content&content=merger_and_acquisition [Accessed 10 December 2009].

[10] *Merger.* [Online] Available at: http://www.sticky-marketing.net/glossary/merger.html [Accessed 10 December 2009].

[11] Answers Corporation, 2012. *Mergers and acquisitions.* [Online] Available at: http://www.answers.com/topic/mergers-and-acquisitions [Accessed 14 January 2013].

[12] TheFreeDictionary, n.d. *Merger.* [Online] Available at: http://financial-dictionary.thefreedictionary.com/Merger [Accessed 14 january 2013].

poorer performance, and this has lead to the suggestion that smaller firms, making smaller deals, may make better acquirers [4].

The size has been defined in terms of either total assets or market capitalisation. In some cases book value of assets closest to sample firms' asset size in the year prior to takeover is defined as size (Bild, et al., 2002). The firm with the median EBIT/ Total assets ratio at the end of the year prior to the acquisition is also termed as size (Selcuk & Yilmaz, 2011). The size of the bidding firm as well as the relative size of the target firm in relation to acquirer firm is important predictors of announcement returns for bidding, target and combined firm. The size of the acquirer is negatively associated with announcement returns for the acquirer and combined firms giving lower returns (Moeller et al., 2004). Smaller acquirers may realise higher returns than larger acquirers. The merger of relatively larger target firms showed improved profitability, though statistically insignificant, in post-merger period while the mergers of relatively smaller target firms did not. Relatively small deals may generate higher returns than larger ones. Acquirer returns may be higher when the size of the acquisition is large relative to buyer and small relative to seller (Asquith et al., 1983); (Frick & Torres, 2002); (Moeller, et al., 2004); (Hackbarth & Morellec, 2008); (Gell, et al., 2008); (Kumar, 2009); (Gorton, et al., 2009); (Depamphilis, 2010). The relative size is one of the factors that influence the acquirer's operating performance in the post-merger period (Mantravadi & Reddy, 2007).

Small deal value needs small amount of funds to finance the M&A deal which would lead to less pressure on acquirer and better post M&A performance [6]. Post acquisition performance is influenced by the size of the premium paid for the acquisition. There is an inverse relationship between the size of the premium and post acquisition performance [7]. Large acquirers pay higher premiums for acquisitions than small acquirers as managers of large firms are more likely to be influenced by hubris as suggested by Moeller et al. (2004) cited from [8]. Thus, there is negative relationship between the deal value and acquisition performance.

E. Financial Measures and Post M&A Performance

Numerous numbers of studies has been made using various accounting measures for the performance evaluation for companies involved in M&A activities. Adjei & Ubabuko (2011) have used return on equity and return on capital employed as a measure of profitability and found that there is increase in both the ratios at a steady rate after M&A for nonlisted companies. For the listed companies that the return on equity and the Return on capital employed showed a positive change in the performance after M&A from 2005-2008 but declined in 2009.

There is decline in the actual post merger profitability variables such as return on assets and return on equity during the post-merger three years period while the projected return on assets and return on equity show increase in values in the post M&A period over the pre merger period [9].

Table I Profitability Variables Adopted From Various Studies

Profitability Variables	Evidence
Return on Equity(ROE); Return on Capital Employed (ROCE); Return on Assets (ROA)	Adjei & Ubabuko (2011) Kemal (2011); Huiginga, et al., (2001); Peristiani (1997) Meeks (1977) cited from Bruner (2004); (Dickerson et al., 1997); (Healy, et al., 1992); (Mueller, 1980 cited from Bruner 2004; Singh, 1975 cited from Daga, 2007

III. Research Gaps

Here are the fundamental questions that link between deal value and acquisition performance.

(a) Why deal size affects M&A performance?
(b) What deal size would be better for acquirers-small or large?
(c) How small/large deals provide a better / worst return after acquisitions?
(d) Does deal value/size depend on size of acquirer and thus the returns from M&A

These questions still remain unexplored in existing literature specifically in Indian M&A cases of companies manufacturing sector.

IV. Research Objectives

Based on the research gaps, the following research objectives are framed:

- To examine and compare the post acquisition performance of companies gone for small deal and large deal.

V. Data, Methodology and Sample Statistics

This section gives insight into various methods adopted to carry out the study. It gives the basic concept of each statistical tool used in the study and their application in the past studies on M&A. It also enlightens on how each statistical tool has been used in the current research work for each objective. This section also discusses proper justification of using the specific tool or technique in conducting the research.

The sample description is done below:

A. Sample Design

The selection criteria for the sample were:

- Companies belong to the manufacturing sector.
- Since the basic objective of study is to compare performance of small and large size deals, acquisition deals are taken into account, not merger deals since acquisition deals are generally paid through cash, which would make sample selection easier as deal value are easily available for such deals.

- Companies belong to those where acquisitions are done from 1st January 2000 to 31st December 2008 so that performance can be evaluated from 1997 to 2011.
- Continuous year financial data are to be available to the companies for making the analysis of acquisition performance. There would be no data gaps.
- Only cash deals[13] are taken into consideration for the study.
- Up to three year pre and post completion data are available, so, performance is evaluated for
    - Average three years before and after acquisition
    - Average two years before and after acquisition
    - One year before and after acquisition

Finally taking all these criteria, the final sample comprises of 64 acquisition deals completed in India during 2000-2008. Acquisition deals are identified from the CMIE prowess database which is the main source of data for the study. Companies involved in the acquisition deals in financial and banking sector are excluded from the sample because data for such companies are not available and because of different regulatory issues attached to this sector that may not help in knowing the real impact of acquisitions on companies. The deal value of all the sample deals came around Rs. 3292 crore (large deal-Rs. 3141 crore, Small deal-Rs 151 crore). 19 listed companies 13 unlisted companies have gone for smaller deals while 23 listed and nine unlisted companies have gone for large deals which shows listed companies go for bigger size deals. Large deals with large acquirer are 24 and small acquirer is eight while small deals with large acquirer are eight and the small size acquirer is 24.

Table II Acquisition Sample by Acquisition Year

Year	Small Deal	Large Deal
2000	3 (9 %)	3 (9%)
2001	4 (13 %)	1 (3%)
2002	3 (3%)	3 (9%)
2003	3 (4%)	4 (13 %)
2004	2 (4%)	4 (13%)
2005	3 (2%)	2 (6 %)
2006	4 (4%)	4 (13 %)
2007	6 (7%)	7 (22%)
2008	4 (4 %)	4 (13 %)
Source: Author's Calculation from CMIE Prowess Database		

Table II shows the sample of acquisition deals done in manufacturing sector in India classified as per the year of deals. Both large and small deals are done mostly during the year 2007. Around 22 per cent of the sample firms have gone for large acquisitions and 19 percent of the sample firms have gone for small acquisitions. In year 2004, only six percent firms have gone for smaller deals while 13 per cent of sample companies have gone for large deals.

In the sample, large deals are basically done by chemical industry acquirer companies. There is 41 per cent as acquirer and 34 per cent as target companies have gone for large deals compared to 28 per cent acquirer and 25 per cent target companies have gone for small deals. Companies in the textile industry have not gone for any large deal while 16 per cent acquirer companies from textile have gone for small deals. There are no small deals in Non-Metallic and Mineral Products industry, but nine per cent of acquirer in this industry has gone for large deals. Only three percent of sample firms from machinery industry have gone for large deals while 13 per cent of companies from machinery industry have gone for small deals.

B. Data Source

Data are collected from the Centre from Monitoring Indian Economy (CMIE) prowess database.

C. Tools and Techniques

The Wilcoxon signed-rank test is used for analysis. This statistical tool is used to see the difference in the return values of various variables like return on capital, return on net worth, and return on assets for sample of companies before and after acquisition. The test is used to find the difference in pre and post acquisition performance using the paired observations (pre-post), then ranked them in absolute value and signed ranks and sum of positive values (W+) and sum of negative values (W-). Here the test assumes that the null hypothesis: the median difference is zero.

The deal size is defined here from the deal value. Any deal above the median deal value is considered as large deal, while any deal below median is considered as small deal.

Large or small acquirer is defined taking into consideration the median value of total assets in the pre acquisition one year (T-1). Any acquirer below the median is small acquirer and any acquirer above the median is large acquirer.

For the purpose of evaluating performance of company in post acquisition period, the profitability parameters are used-return on net worth (RONW)[14],

[13] Cash deals are those where acquisition deals consideration are paid through cash, not stock.

[14] Return on net worth (RONW) is defined as Profit after tax (PAT) divided by Net worth.

Return on Capital Employed (ROCE)[15] and Return on Assets (ROA)[16].

D. Descriptive Statistics of Variables

The descriptive statistics of the three profitability parameters are described below in table 4 for their mean and standard deviation values:

Table III Descriptive Statistics of Variables

Variables	Small Deal (Mean)	Large Deal (Mean)
$ROCE_{pre123}$	0.01 (0.29)	0.05 (0.35)
$ROCE_{post123}$	-0.03 (0.31)	- 0.11 (0.31)
$RONW_{pre123}$	0.03 (0.25)	-0.02 (0.29)
$RONW_{post123}$	0.15 (0.48)	0.07 (0.45)
ROA_{pre123}	0.04 (0.23)	0.02 (0.27)
$ROA_{post123}$	-0.01 (0.37)	0.04 (0.35)
$ROCE_{pre12}$	0.00 (0.27)	-0.07 (0.24)
$ROCE_{post12}$	-0.01 (0.30)	-0.08 (0.19)
$RONW_{pre12}$	0.05 (0.25)	0.06 (0.30)
$RONW_{post12}$	0.00 (0.26)	-0.09 (0.31)
ROA_{pre12}	0.03 (0.25)	-0.02 (0.21)
ROA_{post12}	-0.01 (0.33)	0.06 (0.25)
$ROCE_{pre1}$	0.00 (0.26)	-0.10 (0.30)
$ROCE_{post1}$	0.01 (0.30)	-0.07 (0.27)
$RONW_{pre1}$	0.07 (0.25)	-0.03 (0.21)
$RONW_{post1}$	0.04 (0.24)	-0.08 (0.29)
ROA_{pre1}	0.02 (0.28)	-0.01 (0.25)
ROA_{post1}	0.02 (0.28)	-0.03 (0.27)

Source: Author's Calculation

Figures in () refers to Standard Deviation

The mean of $ROCE_{pre123}$ is better than $ROCE_{post123}$ for both large and small deals. In a similar manner, the mean value is higher for $RONW_{post123}$ than $RONW_{pre123}$ for both large and small deals. While $ROA_{post123}$ is positive for large deals while negative for small deals compared to ROA_{pre123}.

VI. Results and Discussion

The Paired Samples Test and Wilcoxon Signed-Rank Test results showing the acquisition performance are discussed below:

Table III Paired Samples Test Results

Paired Samples Difference	Small Deal Mean	Large Deal Mean
$ROCE_{pre123}$ - $ROCE_{post123}$	0.05 (0.87)	0.15* (2.25)
$RONW_{pre123}$ - $RONW_{post123}$	-0.12 (-1.48)	-0.09 (-1.14)
ROA_{pre123} - $ROA_{post123}$	0.04	-0.02
	(0.69)	(-0.39)
$ROCE_{pre12}$ - $ROCE_{post12}$	0.01 (0.21)	0.01 (0.20)
$RONW_{pre12}$ - $RONW_{post12}$	0.06 (1.05)	0.15* (2.70)
ROA_{pre12} - ROA_{post12}	0.04 (0.72)	-0.08 (-1.84)
$ROCE_{pre1}$ - $ROCE_{post1}$	-0.01 (-0.10)	-0.03 (-0.89)
$RONW_{pre1}$ - $RONW_{post1}$	0.03 (0.62)	0.05 (1.88)
ROA_{pre1}- ROA_{post1}	0.00 (0.00)	0.02 (0.58)

Source: Author's Calculation

*Note: df means 'degree of freedom'; while Sig. means 'Significance level'; Here Df=31; * represent statistical significance at the 5 % levels; Figures in "()" represents the values of t statistics*

The table III shows the paired t test results for small and large deals. The results are discussed below:

- For both small and large deals, there is a positive performance in RONW in third years and the ROCE post acquisition first year even though not statistically significant.
- For both small and large deals, there is negative performance ROCE in the second and third year in post acquisition period. Again, there is poor performance for ROA and RONW in the first year for both small and large deals. The results are significant for $RONW_{post1}$, $RONW_{post12}$ and $ROCE_{post123}$ in case of large deals while insignificant for small deals.
- For the variable ROA_{post12} and $ROA_{post123}$, the post-acquisition performance is positive for large deals while negative for small deals.
- There is no difference in ROA performance in pre and post acquisition performance in case of small deals while negative performance in ROA in the post acquisition first year.
- The small acquirers that have gone for large deals are:
  - 2001-ACC Ltd with Everest Industries Ltd.
  - 2006-Cadila Healthcare Ltd with Zydus Wellness Ltd.
  - 2003-United Breweries Ltd with Associated Breweries & Distilleries Ltd.
  - 2002-Electrosteel Castings Ltd with Lanco Industries Ltd.
  - 2007-Arch Pharmalabs Ltd with Arch Finechemicals Ltd.
  - 2006-Arch Pharmalabs Ltd with Arch Life Sciences Ltd.
  - 2005-Nirma Ltd with Saurashtra Chemicals Ltd.
  - 2000-Bharat Petroleum Corporation Ltd with Numaligarh Refinery Ltd.

[15] Return on Capital Employed (ROCE) is defined as Earning before interest and tax divided by Capital Employed

[16] Return on Assets (ROA) is defined as Profit after tax (PAT) divided by sales.

- When the average performance of small acquirer that have gone for large deals are taken in pre and post acquisition period, it is found that
  - $ROCE_{pre123}$ (0.17) is better than $ROCE_{post123}$(-0.01)
  - $ROCE_{pre12}$ (0.13) is better than $ROCE_{post12}$ (-0.01)
  - $ROCE_{pre1}$(0.11) is better than $ROCE_{post1}$ (0.03)
  - $RONW_{pre123}$(0.15) increase in $RONW_{post123}$ (0.32) by 111 per cent
  - $RONW_{pre12}$(0.17) decrease in $RONW_{post12}$ (0.06) by 106 per cent
  - $RONW_{pre1}$(0.18) decrease in $RONW_{post1}$ (0.09) by 51 per cent
  - ROA_{pre123} (0.06) is positive while $ROA_{post123}$ (-0.02) is negative (decrease by 132 per cent)
  - ROA_{pre12} (0.04) is positive while ROA_{post12} (-0.03) is negative
  - ROA_{pre1}(0.01) increase in ROA_{post1}(0.02) by 186 per cent
- The large acquirers that have gone for small deals are:
  - 2000-Alkyl Amines Chemicals Ltd with Diamines & Chemicals Ltd.
  - 2004-Hindusthan Udyog Ltd with W P I L Ltd.
  - 2002-West Coast Paper Mills Ltd with Speciality Coatings & Laminations Ltd.
  - 2001-Smartchem Technologies Ltd with Noble Explochem Ltd.
  - 2008-Steel Authority of India Ltd with Steel Complex Ltd.
  - 2001-Kirloskar Brothers Ltd with Kirloskar Pneumatic Co. Ltd.
  - 2007-Arch Pharmalabs Ltd with Avon Organics Ltd.
  - 2005-Excel Crop Care Ltd with Aimco Pesticides Ltd.
- When the average performance of large acquirer gone for small deals are taken in pre and post acquisition period, it is found that
  - $ROCE_{pre123}$ (0.08) is better than $ROCE_{post123}$(-0.02)
  - $ROCE_{pre12}$(0.11) is better than $ROCE_{post12}$ (0.02)
  - $ROCE_{pre1}$(0.06) is better than $ROCE_{post1}$ (-0.01)
  - $RONW_{pre123}$(0.10) increase in $RONW_{post123}$ (0.12) by 20 per cent
  - $RONW_{pre12}$(0.17) decrease in $RONW_{post12}$(-0.01) by 106 per cent
  - $RONW_{pre1}$(0.13) decrease in $RONW_{post1}$ (0.08) by 41 per cent
  - ROA_{pre123} (0.03) is positive while $ROA_{post123}$ (-0.02) is negative
  - ROA_{pre12} (0.07) is positive while ROA_{post12} (-0.04) is negative
  - ROA_{pre1}(0.07) is positive while ROA_{post1}(-0.06) is negative

Table IV Wilcoxon Signed-Rank Test Results

Z Statistics	Small Deals	Large Deals
$ROCE_{post123}$ - $ROCE_{pre123}$	-0.56	-2.25**
$RONW_{post123}$ - $RONW_{pre123}$	-1.34	-1.19
$ROA_{post123}$ - ROA_{pre123}	-0.52	-1.77***
$ROCE_{post12}$ - $ROCE_{pre12}$	-0.16	-2.70*
$RONW_{post12}$ - $RONW_{pre12}$	-1.04	-3.07*
ROA_{post12} - ROA_{pre12}	-0.72	-1.99**
$ROCE_{post1}$ - $ROCE_{pre1}$	-0.23	-1.91***
$RONW_{post1}$ - $RONW_{pre1}$	-1.18	-1.12
ROA_{post1} - ROA_{pre1}	-0.05	-0.65

Source: Author's Calculation

Note: z statistics with * represents with Asymptotic Significance (2-tailed)

The table IV shows the Wilcoxon Signed-Rank Test results for the large size and small size deals. There are no significant results for the small deals. In case of large deals, the post M&A ROCE in average of three years shows that there is decline in $ROCE_{post123}$, $ROCE_{post12}$. There is decline in ROA_{post12} after the M&A period.

VII. Conclusion

Large acquirers take large deals, but when it comes to creating value from acquisition deals, it's challenging. It is found that for the variable ROA_{post12} and $ROA_{post123}$, the post-acquisition performance is positive for large deals while negative for small deals. There is no difference in ROA_{post1} performance in pre and post-acquisition performance in case of small deals while negative performance in ROA_{pre1} in the post-acquisition first year. For the rest variables, ROCE and RONW, the large and small deals perform in a similar manner, but the results of large deals are more significant than small deals. From the empirical study, the paper concludes that companies making large deals have detoriating profitability in the post M&A period compared to the pre M&A period. The possible explanations could be hubris hypothesis or over confidence of managers and managerial incentives. Managers go for large deals without looking into the appropriate synergy out of the deal. Thus, the larger the deal they make, the larger the loss they face. There could be another reason for this failure to deliver expected synergy. When the companies paid too much on deal consideration, they may have faced liquidity constraints for their working capital requirements in post M&A period affecting the performance. However, companies making small deals show no significant changes in performance in terms of profitability in post M&A period. Sometimes, investors and other stakeholders assume that M&A deals with large deal value are more risky projects compared to small deal value transactions. It indicates size in terms of deal value does matter in M&A deals.

VIII. Limitations and Scope of Future Study

As shown earlier, deal size is taken from deal value. This deal value is taken in absolute values. It has not been normalised on acquirer total assets or sales to make it comparable. Hence, future studies can look into this matter. The study has looked into companies only in the manufacturing sector, limiting to few samples. The sample size might be increased taking into account more number of years.

REFERENCES

[1] M. Petkova and T. Q. Do, "Do Acquirers Fail to Deliver Value to their Shareholders? Evidence from the Telecommunication Industry in Europe," January 2012. [Online]. Available: http://pure.au.dk/portal-asb-student/files/41989687/Master_Thesis_2012.pdf.

[2] P. M. Guest, *The Impact of Mergers and Acquisitions on Executive Pay in the United kingdom,* CBR Research Programme on Enterprise and Innovation, University of Cambridge, 2007.

[3] A. Mkrtchyan, "The Effect of Director Expertise on Acquisition Performance," 9 September 2012. [Online]. Available: http://www.personal.psu.edu/axm496/AnyaMkrtchyanJobMarketPaper.pdf.

[4] U. Weitzel and K. J. McCarthy, "Firm Size: Theory and Evidence on Mergers and Acquisitions by Small and Medium Enterprises," August 2009. [Online]. Available: http://igitur-archive.library.uu.nl/CTK/2009-1123-200157/09-21pdf.pdf.

[5] T. J. Herd and R. McManus, "Outlook: The Online Journal of High Performance Business," March 2012. [Online]. Available: http://www.accenture.com/us-en/outlook/Pages/outlook-journal-2012-mergers-acquisitions-create-value.aspx. [Accessed 9 November 2012].

[6] "Acquisition Process Factors and Post-Acquisition Performance," [Online]. Available: http://www.afaanz.org/openconf/2012/modules/request.php?module=oc_program&action=view.php&id=190.

[7] P. Rao and T. Vermaelen, "Glamour, Value and Post Acquistion Performance of Acquiring Firms," *Journal of Financial Economics,* vol. 49, no. 2, pp. 223-253, 1998.

[8] G. Alexandridis, K. Fuller, L. Terhaar and N. Travlos, "Target Size, Acquisition Premiums and Shareholder Gains," September 2010. [Online]. Available: http://www.southwesternfinance.org/conf-2011/swfa2011_submission_22.pdf.

[9] A. Usman, M. K. Khan, A. Wajid and M. I. Malik, "Investigating the Operating Performance of Merged Companies in Textile Sector of Pakistan," *Asian Journal of Business and Management Sciences,* vol. 1, no. 10, pp. 11-16, 2012.

[10] G. Alexandrids, K. P. Fuller, L. Terhaar and N. G. Travlos, "Deal Size, Acquisition Premia and Shareholder Gains," 2012. [Online]. Available: https://secure.northernfinance.org/2011/Submissions/modules/request.php?module=oc_program&action=view.php&id=22. [Accessed 10 November 2012].

[11] Thomas.J.Herd and R. McManus, "Outlook: The online Journal of high performance business," March 2012. [Online]. Available: http://www.accenture.com/us-en/outlook/Pages/outlook-journal-2012-mergers-acquisitions-create-value.aspx. [Accessed 9 November 2012].

[12] E. K. Adjei and K. Ubabuko, "The Consequences of Post-Merger & Acquisition Performance in Listed and Non-Listed Companies in Sweden: A Case Study for AstraZeneca AB, Cybercom Group AB, Grant Thornton Sweden AB and PayEx," 2011. [Online]. Available: http://hgo.diva-portal.org/smash/record.jsf?pid=diva2:441358.

[13] "Merger Definition," [Online]. Available: http://www.teenanalyst.com/glossary/m/merger.html. [Accessed 14 January 2013].

[14] The free dictionary, "Merger," [Online]. Available: http://financial-dictionary.thefreedictionary.com/Merger. [Accessed 14 January 2013].

Acknowledgement: The research paper is based on the data used in my Phd work in VGSOM IIT Kharagpur.