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An empirical analysis of the stock price behaviour on merger and acquisition with special reference to merger involving Kotak Mahindra Bank with ING Vysya Bank

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Abstract
Indian banking sector plays vital role in economic development of the nation. It has tremendous growth in recent years. Public sector banks occupies predominant role in the Industry so Private sector banks in order to withstand in the competitive market adopt various strategies, one such strategy is merger and acquisition. The term Merger and Acquisition means consolidation of two companies or more than that. Kotak Mahindra Bank has announced its merger with ING Vysya Bank. The study attempted to analyse stock price behaviour of the concern with special occasion of event merger and acquisition and the study found that merger doesn't show any benefit over a short period of time as there exist uniformity in abnormal return in the pre and post merger period. Tools used for the study are Event study methodology, Market model, t-test and Mean.

Keywords: Merger and acquisition, stock price, announcement date, abnormal return

1. Introduction
Indian banking sector plays vital role in economic development of the nation. It has tremendous growth in recent years. After introduction of Liberalization policy 1991 has paved way for many private banks to enter into a banking sector. Private Banks adopt various strategies in order to withstand in the market. Merger and acquisition is one of the important strategy adopted by the Kotak Mahindra Bank in order to expand its customer base and strong geographical coverage. The term Merger and Acquisition means consolidation of two companies or more than that. Kotak Mahindra Bank has announced its merger with ING Vysya Bank and becomes fourth largest bank in the private sector. The purpose of the study is to analyze stock price before and after merger and acquisition announcement.

2. Statement of problem
In recent scenario, banking industry has undergoes various changes. Every happening or event that takes place in industry has an immediate impact on company's stock. Merger and acquisition is one such event which is mainly done for expanding customer base, gaining market share, attaining cost efficiency and to cover strong geographical coverage. The paper will examine the following question:
Is there is any difference in abnormal return on company's share during pre and post merger announcement date?

3. Objective of the Study
- To analyze stock price behaviour of bank on its pre-merger
- To analyze stock price behaviour of bank on it's post-merger.

4. Scope of the Study
The study is within the scope of the common term merger and acquisition with its impact of stock price of Kotak Mahindra Bank with the takeover of ING Vysya.

5. Hypothesis
Null Hypothesis
There is no difference between abnormal returns pre and post press announcement date of merger.
Alternate Hypothesis
There is significant difference between abnormal returns pre and post press announcement date of merger.

6. Review of Literature
Neetu Mehndiratta & Shuchi Gupta (2010): conducted study on "Impact of Dividend Announcement on Stock Prices" the objective of this study was to examine the stock market reaction to dividend information. For the purpose of study sample of 15 companies are selected on random basis. The study found that investors do not gain significant value in the period preceding as well as on the dividend announcement day, yet they can gain value in the post announcement period. Tools used are event study methodology and market model.

Mahima Rai & Sharma M.C (2014): conducted study on" An Empirical Analysis of the Stock Price Behaviour on Merger & Acquisition Announcement (with Specific Reference to Mergers Involving ICICI Bank) " the objective of this study was to analyze stock price behaviour of ICICI bank – pre and post announcement date of its mergers and acquisition. The study concludes that mergers do not show any benefit over a short period of time. The positive result of the merger takes some time to show.

7. Methodology
This study is mainly based on the secondary data. The required data was collected from the website of bank involved in merger, website of NSE and various articles and reviews relating to the topic available on the internet. In the course of analysis of this study, various techniques such as Event study methodology, Market model, t –test, and mean have been used.

7.1 Event study methodology: It is widely used to measure the impact of a particular event on value of the firm such as earnings announcement, stock splits, dividend announcement and Merger and Acquisition announcement. In this study, event study analysis was adopted for analyzing the stock price performance. For the purpose of this study, the period of 120 days are taken i.e. 60 days pre & post press announcement date of merger and the first date of announcement of merger was taken as the event date (day zero). Trading days prior to the merger announcement were numbered as -1,-2 and so on. The event days after merger were numbered as +1, +2 and so on. The maximum time window involved in this study was -60 days to +60 days. Other short windows of -30 to +30 and -5 to +5 days were also applied.
Returns of the stock were calculated by formula:

Eq. (1)

$$\textbf{stock return} = \frac{\textbf{Today's price} - \textbf{Yesterday's price}}{\textbf{Yesterday's price}} * \textbf{100}$$

7.2 Market model: The expected rate of return on stock was found out using market model. The parameters under the market model were estimated by regressing daily stock return of the bank under study on the NSE market index over the estimation period.
The equation for the market model:
Eq. (2)

Rit = ai + bi (Rmt) + eit

Where Rit = return on security i in period t,
ai = intercept (called alpha),
bi = beta for security i,
Rmt = return on the market in period t,
eit = error term on security i in period t,

Beta is calculated by using the following formula:

$$\textbf{Beta} = \frac{\mathbf{n\sum XY - (\sum X)(\sum Y)}}{\mathbf{n\sum X^2 - (\sum X)^2}}$$

Where X is the market index return and Y is the stock return
Alpha is calculated by using the following formula:

$$\textbf{Alpha} = \overline{\mathbf{Y}} - \textbf{Beta}(\overline{\mathbf{X}})$$

The daily excess or Abnormal return for the security is estimated by Abnormal return = Actual stock return – Expected stock return i.e. XRt = Rt – E (Rt)

Where t = day relative to an event.
XRt = Excess return on the security for day t.
Rt = Actual Return on the security for day t.
E (Rt) = Expected rate of return on the security for day t.

The Cumulative Abnormal Return (CAR) of merger announcement in a 60 day (-60, +60) window were estimated by summation of the abnormal returns in the window.
The null hypothesis formulated was tested by using the t-test at 5% level of significance to these abnormal returns.

8. Result and Discussion

The study of market model shows that the values of parameter Alpha and Beta was found to be 0.18 and 0.74 percent respectively. The share price analysis reveals that the announcement day return was found to be -0.69 percent (table1). Cumulative return for the period -5 to +5 shows that cumulative return increased from -1.296 percent to 2.18 percent (table1). The excess return on announcement day was 0.78 percent (table 4) under the market model. These positive excess return indicate that market was reacting to the merger news and further mean abnormal return for all other windows shows positive gain except for (-5 to +5) window period it shows marginal gain. The value of t- test for t+30 and t-30 days was 0.581618. Hence the calculated value is lesser than table value so null hypothesis was accepted at 5% level of significance that shows that there is no significant difference in abnormal return pre and post press announcement date of merger.

Table 1: Kotak Mahindra Bank's Daily Stock Return

Day t	Date	Stock return	Cumulative return
-5	13-11-14	-1.296	-1.296
-4	14-11-14	-1.64	-2.94
-3	17-11-14	1.34	-1.596
-2	18-11-14	-2.08	-3.676
-1	19-11-14	-0.69	-4.366
0	20-11-14	1.136	-3.23
1	21-11-14	8.57	5.34
2	24-11-14	-0.61	4.73
3	25-11-14	-1.85	2.88
4	26-11-14	-0.62	2.26
5	27-11-14	-0.078	2.18

Source- calculated

Table 2: Mean Returns percent for Different Time Window Period

	-60 to +60	-30 to +30	-5 to +5
Mean	0.257	0.39	0.198

Source- calculated

Table 3: Mean Abnormal Return for Different Window Period

	-60 to +60	-30 to +30	-5 to +5
Mean	-0.004	0.138	-0.07

Source- calculated

Table 4: Abnormal Return for 30 Days Before and After Announcement Date

Day t	Abnormal Return Percent	Cumulative Abnormal Return
-30	0.74	0.74
-29	-0.14	0.60
-28	0.11	0.71
-27	-0.64	0.07
-26	1.0	1.07
-25	-1.23	-0.16
-24	0.15	-0.01
-23	0.47	0.46
-22	-1.22	-0.76
-21	0.37	0.39
-20	-0.75	-1.14
-19	0.35	-0.79
-18	4.04	3.25
-17	-0.489	2.76
-16	2.24	5.00
-15	-0.72	4.28
-14	-1.02	3.26
-13	0.40	3.66
-12	0.65	4.31

-11	-0.89	3.42
-10	1.29	4.71
-9	-0.64	4.07
-8	-1.51	2.56
-7	-0.46	2.10
-6	1.34	3.44
-5	-1.25	2.19
-4	-2.11	0.081
-3	0.79	0.87
-2	-2.22	-1.34
-1	-0.49	-1.83
0	0.78	-1.05
1	7.73	6.68
2	-1.25	5.43
3	-1.45	3.98
4	-0.91	3.07
5	-0.42	2.65
6	0.61	3.26
7	2.76	6.02
8	-0.35	5.67
9	1.43	7.1
10	-0.88	6.22
11	1.64	7.86
12	1.15	9.01
13	0.24	9.25
14	-0.157	9.09
15	0.75	9.84
16	1.33	11.17
17	-0.14	11.03
18	3.52	14.55
19	-2.43	12.12
20	-1.17	10.95
21	-1.46	9.49
22	-0.41	9.08
23	0.16	9.24
24	0.51	9.75
25	-0.52	9.23
26	-0.07	9.16
27	-0.91	8.25
28	0.13	8.38
29	0.28	8.66
30	0.26	8.92

Source- calculated

Table 5: T- Test Score

t-statistics value 0.58161

Source- calculated

9. Findings

- Abnormal return for the announcement day is excess (0^{th} day- 0.78, +1 day -7.73) this shows that the market reacting to information of merger and there is a positive gain.
- Null hypothesis is accepted that shows the abnormal returns for pre and post announcement dates of merger are to be uniform. Hence there is no significant effect on stock return on this merger during short period of time.

10. Conclusion

Merger and acquisition has become very common in banking industry. Under this case market has reacted to merger announcement as there is increase in abnormal return (0^{th} day 0.78, +1 day 7.73) and the shareholder supported the merger which made to increase the return. This merger doesn't show any benefit over a short period of time as there exist uniformity in abnormal return in the pre and post merger period.

11. Research Gap

The new study can be conducted in some other Industry involving merger or in same Banking Industry in which any merger occur in future.

12. Reference

1. Merger announcement of Kotak Mahindra Bank with ING Vysya Bank, 2014.
2. Neetu Mehndiratta, Shuchi Gupta. Impact of Dividend Announcement on Stock Prices, International Journal of Information Technology and Knowledge Management, 2010; 2(2):405-410.
3. Mahima Rai, Sharma MC. An Empirical Analysis of the Stock Price Behaviour on Merger & Acquisition Announcement (with Specific Reference to Mergers Involving ICICI Bank), SMART Journal of Business Management Studies. 2014; 10(2).
4. Arun Kumar Gopalaswamy, Debashis Acharya, Jaideep Malik. Stock price reaction to merger announcements: an empirical note on Indian markets, Investment Management and Financial Innovations, 2008; 5(1).