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MERGERS AND ACQUISITIONS: VALUATION OF KOTAK MAHINDRA BANK LTD.

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Introduction

In this research paper, I have try to calculate the banks financial data for analyzing ratios with statistical tools and methods to test and evaluate the research prediction, research methodology of the comparing merge banks on the basis of pre and post performances after Merger and Acquisitions (M&As). It has been adopted, by using following financial parameters which are as follows- Gross profit margin, Net profit margin, Operating profit margin, Return on capital employed, Return on equity, and Debt equity ratio etc.

I have chosen private sector bank in order to evaluate the impact of M&As. The pre-merger (3years prior) and post-merger (5 years) of the financial ratios are being compared in calculation ways. The analysis observation of each case in the sample is considered as an independent variables. Before merger two different banks carried out operating business activities and after the merger the bidder bank carrying business of both the banks data. Evaluation of data variable view and data view for the purpose & objectives of the study independent t-test and standard deviation is being employed under this research part. Selecting the year of merger was considered as a base year and denoted as 0 and it is excluded from the evaluation. Banks pre (3 years before) merger the combined ratios of both banks are equally considered and for the post-merger (after 5 years) the ratios of acquiring bank were used.

The Student's t-distribution is-

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s} \sqrt{\frac{n_1 n_2}{n_1 + n_2}}$$

$$\bar{x}_2 = \frac{\sum x_2}{n2} \quad \bar{x}_1 = \frac{\sum x_1}{n1}$$

Where $\bar{x}_1$ is the mean of combined pre-merger ratio of both banks $\bar{x}_2$ is the mean of acquiring bank post-merger n_1 and n_2 are the number of observations of 1st and 2nd series respectively. S is the combined standard deviation.

$$s = \sqrt{\frac{\sum(x_1-A_1)^2+\sum(x_2-A_2)^2-n_1(\bar{x}_1-A_1)^2-n_2(\bar{x}_2-A_2)^2}{n_1 + n_2 - 2}}$$

$$(n_1 + n_2 - 2)\text{Degree of freedom}$$

Where A^1 and A^2 are the assumed means of 1st and 2nd series

RATIOS FORMULAS

Gross Profit Margin = Gross Profit/Sales × 100
Net Profit Margin = Net Profit/Sales × 100
Operating Profit Margin = Operating Profit/Sales × 100
Return on Capital Employed (ROCE) =Net Profit/Total Assets × 100
Return on Equity (ROE) =Net Profit/Equity Share Holder's Funds × 100
Debt Equity Ratio (Pure Ratio) = Total Debt/ Share Holder Equity

HYPOTHESES

I have testing the various hypotheses under as given bellow-

(1) Testing the significance difference between Pre and Post merger Gross Profit Margin-

- H0 (Null Hypothesis) There is no significance difference between the pre and post-merger Gross Profit Margin.
- H1 (Alternative Hypothesis) There is significance difference between the pre and post-merger Gross Profit Margin.

(2) Testing the significance difference between Pre and Post merger Net Profit Margin-

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- H0 (Null Hypothesis) There is no significance difference between the pre and post-merger Net Profit Margin.
- H1 (Alternative Hypothesis) There is significance difference between the pre and post-merger Net Profit Margin.

(3) Testing the significance difference between Pre and Post merger Operating Profit Margin -
- H0 (Null Hypothesis) There is no significance difference between the pre and post-merger Operating Profit Margin.
- H1 (Alternative Hypothesis) There is significance difference between the pre and post-merger Operating Profit Margin.

(4) Testing the significance difference between Pre and Post merger Return on Capital Employed
- H0 (Null Hypothesis) There is no significance difference between the pre and post-merger Return on Capital Employed.
- H1 (Alternative Hypothesis) There is significance difference between the pre and post-merger Return on Capital Employed.

(5) Testing the significance difference between Pre and Post merger Return on Equity
- H0 (Null Hypothesis) There is no significance difference between the pre and post-merger Return on Equity.
- H1 (Alternative Hypothesis) There is significance difference between the pre and post-merger Return on Equity.

(6) Testing the significance difference between Pre and Post merger Debt Equity Ratio
- H0 (Null hypothesis) There is no significance difference between the pre and post-merger Debt Equity Ratio.
- H1 (Alternative hypothesis) There is significance difference between the pre and post-merger Debt Equity Ratio.

PRE AND POST BANK MERGER INTERPRETATIONS

I have been selected bank to the merger of shows the combined performance of both banks prior to merger. Similarly, in this case, depicts the ING Vysya Bank Ltd. (Target Bank) and Kotak Mahindra Bank Ltd. (Bidder Bank) for the last three financial years is ending before the merger announcement. Financial Ratio of KMBL, 2016-2020, indicates the performance of Kotak Mahindra Bank Ltd. (Bidder Bank) for the next five financial years was ending after the merger announcement. In this case financial and accounting ratios have computed by the researcher's through banks and financial data providing resources.

Table-1

Profile of ING Vysya Bank Ltd. (Target Bank) and Kotak Mahindra Bank Ltd. (Bidder Bank) for the last three financial years is ending before the merger announcement

Financial Ratios (in Percentage)

Financial Ratios	**ING Vysya Bank Ltd. (Target Bank)**			**Kotak Mahindra Bank Ltd. (Bidder Bank)**		
	31 March 2014	31 March 2013	31 March 2012	31 March 2014	31 March 2013	31 March 2012
Gross Profit Margin = Gross Profit/Sales × 100	5	5.46	2.54	13.43	10.00	8.00
Net Profit Margin = Net Profit/Sales × 100	10.83	10.96	11.83	17.13	16.91	17.55
Operating Profit Margin = Operating Profit/Sales × 100	6.1	6.51	3.83	1.17	2.48	1.74
Return on Capital Employed (ROCE) =Net Profit/Total Assets × 100	12.35	15.81	13.98	15.95	16.91	17.52
Return on Equity (ROE) =Net Profit/Equity Share Holder's Funds × 100	11.45	14.6	14.28	12.23	14.37	13.59
Debt Equity Ratio = Total Debt/ Share Holder Equity	0.08	0.05	0.06	1.05	2.16	2.08

Source: Researcher's compilation from financial statement of Banks retrieved

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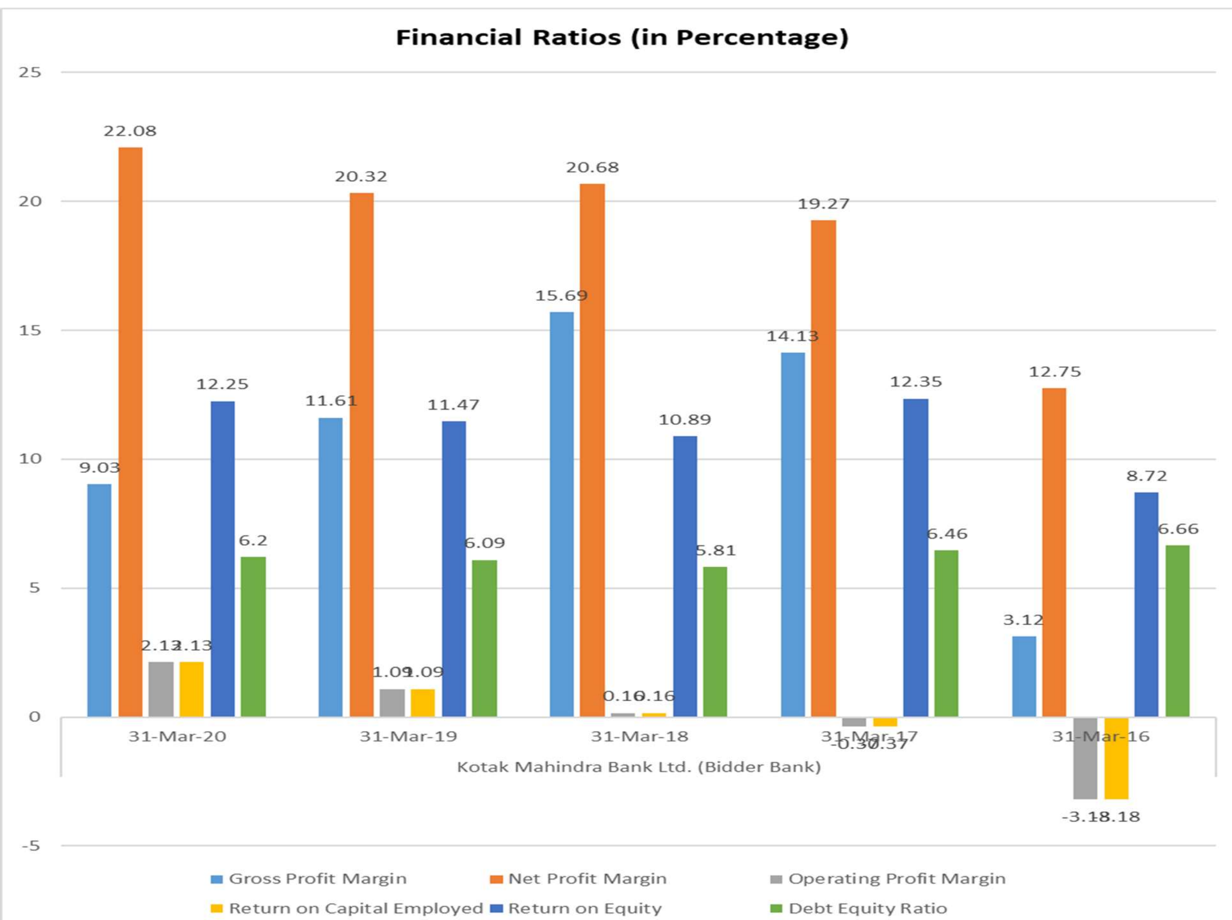
Table-2

Profile of Kotak Mahindra Bank Ltd. (Bidder Bank) for the next five financial years was ending after the merger announcement

Financial Ratios (in Percentage)

Financial Ratios	Kotak Mahindra Bank Ltd. (Bidder Bank)				
	31 March 2020	31 March 2019	31 March 2018	31 March 2017	31 March 2016
Gross Profit Margin = Gross Profit/Sales × 100	9.03	11.61	15.69	14.13	3.12
Net Profit Margin = Net Profit/Sales × 100	22.08	20.32	20.68	19.27	12.75
Operating Profit Margin = Operating Profit/Sales × 100	2.13	1.09	0.16	-0.37	-3.18
Return on Capital Employed (ROCE) =Net Profit/Total Assets × 100	2.13	1.09	0.16	-0.37	-3.18
Return on Equity (ROE) = Net Profit/Equity Share Holder's Funds × 100	12.25	11.47	10.89	12.35	8.72
Debt Equity Ratio = Total Debt/ Share Holder Equity	6.20	6.09	5.81	6.46	6.66

Source: Researcher's compilation from financial statement of Banks retrieved
1. https://www.moneycontrol.com/financials/kotakmahindrabank/ratiosVI/KMB
2. https://money.rediff.com/companies/Kotak-Mahindra-Bank-Ltd/14060005/ratio



Graph: Financial Ratio of KMBL, 2016-2020, Calculated with SPSS

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Table-3

Mean and Standard Deviation of Pre-merger and Post-merger Ratios of combined (ING Vysya Bank Ltd. & Kotak Mahindra Bank Ltd.) and Acquiring Bank Kotak Mahindra Bank Ltd.

		Mean	Std. Deviation	t-value	Sig.
Gross Profit Margin	Pre	10.4767	2.74620	4.848	.008
	Post	10.7160	4.94310		
Net profit Margin	Pre	17.1967	.32517	11.664	.000
	Post	19.0200	3.64639		
Operating Profit Margin	Pre	1.7967	.65684	-.038	.971
	Post	-.0340	1.99963		
Return on Capital Employed	Pre	16.7933	.79148	-.038	.971
	Post	-.0340	1.99963		
Return on Equity	Pre	13.3967	1.08302	16.861	.000
	Post	11.1360	1.47681		
Debt-Equity Ratio	Pre	1.7633	.61906	42.401	.000
	Post	6.2440	.32929		

Source: Researcher's compilation based on SPSS

Table-4

Statistics-PRE MERGER							
		Gross Profit Margin	**Net profit Margin**	**Operating Profit Margin**	**Return on Capital Employed**	**Return on Equity**	**Debt-Equity Ratio**
N	**Valid**	3	3	3	3	3	3
	Missing	2	2	2	2	2	2
Mean		10.4767	17.1967	1.7967	16.7933	13.3967	1.7633
Std. Deviation		2.74620	.32517	.65684	.79148	1.08302	.61906

Source: Researcher compilation based on SPSS

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Table-5

Statistics-POST MERGER							
		Gross Profit Margin	**Net profit Margin**	**Operating Profit Margin**	**Return on Capital Employed**	**Return on Equity**	**Debt-Equity Ratio**
N	**Valid**	5	5	5	5	5	5
	Missing	0	0	0	0	0	0
Mean		10.716	19.02	-0.034	-0.034	11.136	6.244
Std. Deviation		4.9431	3.64639	1.9996	1.9996	1.4768	0.3293

Source: Researcher compilation based on SPSS

Table-6

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GPM	4.848	4	.008	10.71600	4.5783	16.8537
NPM	11.664	4	.000	19.02000	14.4924	23.5476
OPM	-.038	4	.971	-.03400	-2.5169	2.4489
ROCE	-.038	4	.971	-.03400	-2.5169	2.4489
REO	16.861	4	.000	11.13600	9.3023	12.9697
DER	42.401	4	.000	6.24400	5.8351	6.6529

Source: Researcher compilation based on SPSS

In this case of this research analysis, Mean and Standard Deviation of Pre-merger and Post-merger Ratios of combined (ING Vysya Bank Ltd. & Kotak Mahindra Bank Ltd.) and Acquiring Bank Kotak Mahindra Bank Ltd. and Acquiring Bank Kotak Mahindra Bank Ltd. has been compared on the basis of key ratios.

Mean and Standard Deviation of Pre-merger and Post-merger Ratios of combined (ING Vysya Bank Ltd. & Kotak Mahindra Bank Ltd.) and Acquiring Bank Kotak Mahindra Bank Ltd. and Acquiring Bank Bank Kotak Mahindra Bank Ltd. is found that there is shown increase difference in the mean of Gross Profit Margin (10.47 percent Vs 10.7160 percent) and t-value 4.848. It is seen that the mean value of Gross Profit Margin has been improve so it is considered that it great got good impact by merger, so it is shows significant.

The net profit margin statistically confirmed significance with mean value (17.1967 percent Vs 19.0200 percent) and t-value 11.664. The mean of net profit margin increased after the merger so the performance of the bank has been improved in post-merger that means its shows significant.

Similarly, the mean value of Operating Profit Margin shows significant and increase in the mean (1.7967 percent Vs -.0340 percent) and t-value -.038 which indicates that it has been not effective and negative impact after merger and statically it is not significant.

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Result also shows the mean difference on Return on Capital Employed (16.79 percent Vs -.0340 percent) and t-value -.038 which is conformed not significant statically, this shows the Return on Capital Employed has been decrease after the merger and bank has shown negative impact of merger on investment.

The mean difference on Return on Equity (13.39 percent Vs 11.1360 percent) and t-value 16.861 which is conformed not significant statically, this shows the Return on Equity has been decrease after the merger and bank is not get gain. Hence bank has shown negative impact of merger on investment.

While lastly of this case analysis of debt equity ratio shown change in significance with same value of mean increase (1.76 percent Vs 6.2440 percent) and t-value 42.401. Therefore, this indicates that the debt equity ratio also in growth position after merger so improvement in the performance of the banks and got significance.

Table-7

ING Vysya Bank Ltd. merged with Kotak Mahindra Bank Ltd.		
Ratio Analysis	**Hypothesis Selection**	**Result with Explanations**
Gross Profit Margin	**H1** (Alternative Hypothesis) **is accepted**	Mean and Standard Deviation of Pre-merger and Post-merger Ratios of combined (ING Vysya Bank Ltd. & Kotak Mahindra Bank Ltd.) and Acquiring Bank Kotak Mahindra Bank Ltd. is found that there is shown increase difference in the mean of Gross Profit Margin (10.47 percent Vs 10.7160 percent) and t-value 4.848. It is seen that the mean value of Gross Profit Margin has been improve so it is considered that it great got good impact by merger, so it is shows significant.
Net Profit Margin.	**H1** (Alternative Hypothesis) **is accepted**	The net profit margin statistically confirmed significance with mean value (17.1967 percent Vs 19.0200 percent) and t-value 11.664. The mean of net profit margin increased after the merger so the performance of the bank has been improved in post-merger that means its shows significant.
Operating Profit Margin	**H0** (Null Hypothesis) **is accepted**	Similarly, the mean value of Operating Profit Margin shows significant and increase in the mean (1.7967 percent Vs -.0340 percent) and t-value -.038 which indicates that it has not been effective and negative impact after merger and statically it is not significant.
Return on Capital Employed.	**H0** (Null Hypothesis) **is accepted**	The mean difference on Return on Capital Employed (16.79 percent Vs -.0340 percent) and t-value -.038 which is conformed not significant statically, this shows the Return on Capital Employed has been decrease after the merger and bank has shown negative impact of merger on investment.
Return on Equity	**H0** (Null Hypothesis) **is accepted**	The mean difference on Return on Equity (13.39 percent Vs 11.1360 percent) and t-value 16.861 which is conformed not significant statically, this shows the Return on Equity has been decrease after the merger and bank is not get gain. Hence bank has shown negative impact of merger on investment.
Debt Equity Ratio.	**H1** (Alternative Hypothesis) **is accepted**	Debt equity ratio shown change in significance with same value of mean increase (1.76 percent Vs 6.2440 percent) and t-value 42.401. Therefore, this indicates that the debt equity ratio also in growth position after merger so improvement in the performance of the banks and got significance.

Calculation: Hypothesis testing of the financial ratios

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I have found in financial parameter indicate that bank performance has been negative and positive and not very much improved after merger analysis of selected banks.

Discussions

After the bank merger analysis, I have got that in various financial parameter of the bank performance have improved in both cases and some parameter have shown no change, some negative and some positive in the mean and standard deviation but it may be possible that improved performance of merged Bank would be shown in later years the profit are not visible in progressive in few years got positive in net profit ratio, gross profit ratios. I have compared after merger five years financial ratios and three years pre-merger financial ratios, it has proven that profit will be not seen in future in current merger and acquisitions so need to merged large size of bank including three or four bank then will find positive. There are some financial parameters which goes on down worth to bank merger aim and objectives. It is not necessary to achieved all objectives and policy but after merger, the size of the bank would be increasable but lack of guarantee to increase net profitability after merger.

The success of merger is dependent upon synergy gains and government policy and created after the merger and overall performance of bank, the financial performance of the selected banks have been not proven in recent years i.e. 31 March 2016 to 31 March 2020, selected banks in five years performance wise the reaction comes out in terms of Gross Profit Margin, Net Profit Margin, Return on Capital Employed, Return on Equity and Debt Equity Ratio. But in the certain cases of the financial ratios were not positively affected by merger and show no relation between pre and post-merger performance and may require due time for showing profitability in constantly growing basis.

Impact of Covid-19 on the performance of the Bank

The Indian economy would be impacted by Covid-19 pandemic with contraction in industrial and services output across small and large businesses. The Bank's business is expected to be impacted by lower lending opportunities and revenues in the short to medium term. The impact of the Covid-19 pandemic on Bank's results, including credit quality and provisions, remains uncertain and dependent on the spread of Covid-19, further steps taken by the government and the central bank to mitigate the economic impact, steps taken by the Bank and the time it takes for economic activities to resume at normal levels. The Bank's capital and liquidity position is strong and would continue to be the focus area for the Bank during this period.

References

1. https://money.rediff.com/money/jsp/ratio.jsp?companyCode=14030016
2. http://www.moneycontrol.com/stocksmarketsindia/
3. https://www.ndtv.com/business/stock/punjab-national-bank_pnb/financials-historical-ratio
4. http://www.moneycontrol.com/stocksmarketsindia/
5. http://www.moneycontrol.com/stocksmarketsindia/
6. https://www.moneycontrol.com/financials/hdfcbank/ratios/hdf01
7. https://www.ndtv.com/business/stock/hdfc-bank-ltd_hdfcbank/financials-ratio
8. https://www.ndtv.com/business/stock/hdfc-bank-ltd_hdfcbank/financials-ratio
9. https://www.goodreturns.in/company/icici-bank/ratios.html,
10. https://money.rediff.com/companies/ICICI-Bank-Ltd/14030056/ratio
11. https://www.ndtv.com/business/stock/state-bank-of-india_sbin/financials-historical-ratio
12. https://www.ndtv.com/business/stock/state-bank-of-india_sbin/financials-historical-ratio
13. http://www.iaeme.com/MasterAdmin/Journal_uploads/IJMET/VOLUME_9_ISSUE_5/IJMET_09_05_028.pdf
14. https://www.ndtv.com/business/stock/kotak-mahindra-bank-ltd_kotakbank/financials-historical-ratio,
15. https://www.moneycontrol.com/financials/kotakmahindrabank/consolidated-ratios/KMB#KMB,
16. https://money.rediff.com/companies/Kotak-Mahindra-Bank-Ltd/14060005/ratio