A Study of the Merger and Acquisition Impact on Shareholders' Wealth of HDFC Bank in the Short Run

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Abstract

Mergers and Acquisitions play a significant role in reconstituting business houses. They also trigger the availability of synergy benefits in the short and long run. This case-based study examines the impact of the merger and acquisition on the shareholder wealth of the acquirer company (HDFC Bank) in the short run. This study also encompasses the wealth of shareholders' pre- and post-announcement dates, as well as the pre- and post-merger wealth of shareholders of the acquirer company in the short term. Comparison based on stock indices. For the study, the most popular event methodology was employed. To study the significant stock return, t-tests are proposed. After the study, it is found that the acquirer company, HDFC Bank after the announcement, returns are higher than the market returns. similar to the mergers period, returns are higher than the market returns compared to the pre-merger and announcement period.

Introduction

Mergers and Acquisitions are tools for restructuring the business, both tools are always discussed together but differ from each other Mergers is used when two companies come together to create a new one whereas, acquisition is used when one company takes over another company. Mergers and Acquisitions mostly happen for taking synergy benefits, or to earn competitive advantages to gain market share. Mergers and Acquisitions have various types such as horizontal mergers, vertical merger. Banks come under the financial institution which provides loans to the public and other side accepting deposit from them. Banks work as intermediary's lender and borrower. Mergers and Acquisitions positively impacted the banking industry since 1960. To provide the safety of weaker banks as well as customer in 1961- to 1969 government has nationalized 14 banks and also accepted the proposal of 46 merger in order to improve the condition of poor banks which turned into successful mergers and acquisition. The period became the pre-nationalized is turned into post nationalized period. HDFC banks is become the biggest bank in Indian in form of assets. It is Established in 1994 as a subsidiary of Housing Development Finance Corporation. The first mergers and acquisition took place in the history of financial sector of India is HDFC Bank with Times Banks in February 2000 and second merger was with centurion Bank of Punjab (CBOP) in 2008 that was become the largest merger in the history of financial sector in India. Now the HDFC merged with HDFC bank it was the largest merger of parent company merger with his subsidiary. In this paper, we will assess the stock returns of acquirer and target company after and before the merge and acquisition, announcement and merger. This paper examines the stock returns of HDFC bank and HDFC Ltd. during pre- and post-announcement and merger period. To assess the mergers and acquisition impact on wealth of shareholders pre and post announcement and merger period for that data has been chosen 3 months pre and post period of merger and announcement date.

2. Review of literature

The study performance of acquiring and target companies have been studied in chronological order to find out the gap and implication of mergers and acquisitions on shareholders' wealth in short run.So many studies have been performed to assess the impact of mergers and acquisition such as , Humpery(1997) studied the efficiency of banking sector Burger (1998) observed that mostly studies have been focused baking sector of well developed countries with particular emphasis on US market. Anand Manoj & Singh(2008 studied the mergers announcement of five banks in Indian banking sector on the shareholders bank. These mergers took placed between times bank and HDBC bank, the bank of Madurai the ICICI bank the ICICI ltd with ICICI bank, the global trust bank merged with oriental bank of commerce and the bank of Punjab merged with the centurion bank. They concluded that this mergers had positive and significant impact on the wealth of shareholders.

Mensah et al (2017) studied the impact of mergers and acquisition impact on shareholders wealth they chosen a large sample for the examine the impact of M &As they used 8945 announcement of M&As with the four factor model. They conclude asymmetry return prior and after the mergers announcement.

Lalan(2019) this research main aim to examine the impact of mergers and acquisitions on shareholders returns for the study he chosen the sample of banking and manufacturing industry most popular event methodology through market model has been used for examining the impact of M&As on stock returns. The study concludes positive impact on M&A on wealth of shareholders.

Arasa(2020) Mergers and Acquisition effect of shareholders wealth for the study listed firms in Nairohri securities exchanges have been used the study conclude the that there is not significant positive returns of companies before and after announcement.

Tampakoudis et al(2020) examine the implication of bank mergers and acquisition (M&A) in the unique Greek selling. For the study the researchers collected data of Mergers and Acquisition and transaction during 1997 to 2018 as assessed using both the result. They suggested that the financial stability and prevention of further deepening of the Greek crisis with possible contagion affect the shareholder wealth as well as wealth of firms.

Teti, E., & Tului, S. (2020) studied the M& A creation of shareholder wealth or not for the study researchers have chosen the period of 20 years from 1997 to 2017 of globally listed infrastructure companies. After the study they have concluded that cumulative average abnormal returns (CAARs) are positive and statistically significant while acquirer firms earn positive returns but not significant other side the target companies cumulative average abnormal returns are positive and significant as well.

Ashfaq et al. (2014) assessed the effect of mergers and acquisitions on corporate performance, using descriptive statistics and paired sampled t-tests. Finally, they concluded that the downfall in the financial performance of the company was due to mergers and acquisitions.

Njogo and Nwankwo (2020) examined the impact of mergers and acquisitions on the performance of deposit money banks in Nigeria. The research was conducted through secondary data, collected from annual reports of the companies from 2001 to 2010. For the study, they chose ratios of the companies as variables. **The** study concluded that the performance of deposit money banks was significantly positive in pre- and post-merger periods.

Chen et al.(2020) studied the relationship between financial risk and the acquirer's stockholders' wealth in mergers and acquisitions the study was conducted through a detailed methodological framework takeover creates value for acquirers with higher default risk.

Research gap

We studied various literature, and it was found that few studies have been done in the Indian context. Most studies are conducted outside India at a broad level all they studied either long-term or large sample size, but few studies examined the effect of mergers and acquisitions on shareholders' wealth before and after the announcement as well as before and after mergers of acquirer and target companies.This study has been conducted to assess stock returns before and after the announcement and pre and post-merger periods of acquirer and target companies.

HDFC Bank has been chosen as an acquirer company and HDFC Ltd as the target company and stock returns have been calculated before and after the announcement as well as the mergers of both companies.

Objective of Study

The paper aims to bring an effective conclusion to make the right decision in this connection, we study the pre- and post-announcement of mergers and acquisitions' impact on abnormal or cumulative returns of acquired and target companies.

1. To study the impact of M&As on shareholder wealth in the short run.
2. To study cumulative abnormal returns pre and post-merger and announcement periods in the short run.

Methodology

For the study, merger and acquisition announcement of HDFC Bank and HDFC Ltd stock prices of pre and post-period of 90 days have been chosen, and the stock prices of HDFC Bank and HDFC Ltd are collected from Yahoo Finance, and the validity has been checked with the stock prices of NSE and BSE indices. The study has been conducted through the most popular event study market models.

Limitations of the study

1. This study is conducted on HDFC Bank and HDFC Ltd.
2. The event window has been chosen for 45 pre- and post-announcement and merger periods.
3. The period has been considered from 1 Nov 20221 to 2025.
4. It is a short-term-based study.
5. The Data of the target Company, HDFC Ltd was not available on the various indices.

Observation & Findings

HDFC bank share price has been collected from the website of the company and Yahoo Finance, and slope and intercept value have been calculated It has been assumed that the market is semi-efficient the information reaches out equally to the whole market for the examination, the abnormal returns market model has been employed using by Excel. The stock prices have been divided in two parts before the announcement and after the announcement and before the merger and after-merges.

For measuring the returns various event windows have been used to compare the returns of the HDFC bank and market returns.

Table 1.1 Abnormal Returns of Acquirer Company HDFC bank pre-announcement period in the short run

Event Window	Stock Returns	Market Returns	Normal Returns	Abnormal Returns	t-test
-1	0.002	0.012	0.002	0.000	-0.001
-3	0.025	0.013	0.002	0.024	1.140
-5	-0.009	0.004	-0.001	-0.008	-0.366
-10	0.016	-0.010	-0.006	0.022	1.070
-15	-0.008	0.002	-0.002	-0.006	-0.298
-20	-0.039	-0.014	-0.007	-0.032	-1.539
-25	0.027	-0.048	-0.019	0.046	2.216*
-30	-0.023	-0.002	-0.003	-0.020	-0.979
-35	-0.028	0.008	0.000	-0.028	-1.357

-40	-0.014	-0.013	-0.007	-0.007	-0.337
-45	-0.019	-0.010	-0.006	-0.013	-0.614
ARs:	**ARs =- 0.002**	**AMRs= - 0.001**	**ANRs =- 0.001**	**AARs =0.000**	

Data source & Yahoo Finance, Significant@5%

Hypothesis :-

Ho there is no significant difference between stock returns and market returns pre-announcement period of the HDFC bank

H1 there is significant difference between stock returns and market returns pre-announcement period of the HDFC bank

ARs (Average Returns), AMRs (Average Market Returns) ANRs (Average Normal Returns) ARRs (Average Abnormal returns)

Observation of the above table: -

Pre -announcement window -1 to 3 days the returns of the HDFC bank is positive but not significant different but prior the -5 day window return is negative with the value -0.008 and t value -0.366 which is not significant t value is not significant because it is below from the t 1.98 that's why null hypothesis cannot be rejected as showing the statistical data. The return was higher and significant on the day of 25 prior the announcement the null hypothesis can not be accepted as value of t is 2.216* which was higher from the standard value 1.96 . prior the -30 days and 45 days the return of the companies was not significant as indicated by the t value. The Except the 25 day other days are normal returns as indicated through the above table. Before announcement Average Return is -0.002 it is higher than Market returns -0.001 pre announcement the returns of stock are lower than market return there is no any abnormal returns of the acquirer company before the announcement.

Table 2 Abnormal Returns of Acquirer Company HDFC bank post-announcement period in the short run

Event Window	Stock Returns	Market Returns	Normal Returns	Abnormal Returns	t-test
1	0.073	-0.007	-0.005	0.078	3.768*
3	-0.029	-0.010	-0.006	-0.023	-1.132
5	0.007	-0.008	-0.005	0.013	0.617
10	-0.082	0.010	0.001	-0.083	-4.044*
15	0.021	-0.009	-0.006	0.026	1.281
20	0.006	0.001	-0.002	0.008	0.386
25	-0.026	-0.022	-0.010	-0.016	-0.783

30	0.006	-0.026	-0.012	0.018	0.856
35	0.022	0.009	0.001	0.021	1.021
40	0.036	0.008	. 0.030	0.035	1.713
45	-0.001	0.008	0.000	-0.001	-0.036
Return	**AR=0.001**	**AMR=-0.001**	**ANR=-0.001**	**AAB=0.002**	

Data source & Yahoo Finance, Significant@5%

Ho there is no significant difference between stock returns and market returns post-announcement period of the HDFC bank

H1 there is significant difference between stock returns and market returns post-announcement period of the HDFC bank

ARs (Average Returns), AMRs (Average Market Returns) ANRs (Average Normal Returns) ARRs (Average Abnormal returns)

Observation of the acquirer company HDFC bank post-announcement period.

After the announcement Abnormal returns of the was highly significant as indicated by the t value null hypotheses can not be accepted. 1-day window period the value of AR 0.078 and t value 3.768 which of highly from the t value 1.96. the shareholder of the HDFC benefited because of positive return on the day of 1 window. the 3 day of the window return was negative because but after the day 5 it again turns into the positive but not significant as t value indicates. The day of 10 with the abnormal value -+0.083 was highly negative but significant with the t value -4.044* the null hypothesis cannot be accepted the rest of days returns were not significant as indicated by the t value. Average Return =0.0001which higher from the market return , normal return during the period is -0.001, Average Abnormal returns is 0.002 but there is not significant null can not be rejected.

Table 3 Abnormal Returns of Acquirer Company HDFC bank pre-Merger period in the short run

Event Window	Stock Returns	Market Returns	Normal Returns	Abnormal Returns	t-test
-1	0.024	0.012	0.002	0.022	1.089
-3	-0.004	0.008	0.000	-0.004	-0.195
-5	-0.009	-0.004	-0.004	-0.005	-0.225
-10	-0.004	0.001	-0.002	-0.002	-0.119
-15	-0.009	0.000	-0.002	-0.007	-0.332

-20	-0.003	0.002	-0.002	-0.002	-0.081
-25	-0.018	0.004	-0.001	-0.017	-0.805
-30	-0.014	0.005	-0.001	-0.014	-0.655
-35	-0.014	0.009	0.001	-0.014	-0.689
-40	0.014	0.007	0.000	0.014	0.679
-45	0.003	0.004	-0.001	0.004	0.193
R_s=	**ARs=-0.001**	**AMRs=0.001**	**ANRs=0.00**	**ABRs=0.001**	

Data source & Yahoo Finance, Significant@5%

Ho :there is no significant difference between stock returns and market returns pre-Merger HDFC bank

H1 : there is significant difference between stock returns and market returns post-Merger HDFC bank

ARs (Average Returns), AMRs (Average Market Returns) ANRs (Average Normal Returns) ARRs (Average Abnormal returns)

Observation pre- Merger period of HDFC Bank

The Event- Window -1 day value of stock returns higher than the market returns normal returns just 0.002 HDFC bank earning abnormal returns but not significant as t value is indicating the returns are not significant as t- value is not more than 1.96. The stock returns of -3-day window period is -0.004 it was highly lower than the merger of one day period market returns as positive, but the stock price is below the normal price, and the t-value is not significant, so the null hypothesis cannot be rejected. Similarly, day returns are not significant as the p value cannot be rejected after the merger, except for one day window period returns are not higher, but the stock returns are competing with market returns.

Table 4: Abnormal Returns of Acquirer Company HDFC Bank, Pre-Merger period in the Sort run

Event Window	Stock Returns	Market - Returns	Normal Returns	Abnormal Returns	t-test
1	0.008	0.007	0.000	0.008	0.385
3	-0.008	-0.001	-0.003	-0.005	-0.262
5	0.001	-0.008	-0.005	0.006	0.311
10	-0.002	0.008	0.000	-0.002	-0.095
15	0.043	0.000	-0.003	0.046	2.224*
20	-0.006	-0.001	-0.003	-0.003	-0.133
25	0.003	-0.002	-0.003	0.006	0.281
30	0.002	0.002	-0.002	0.004	0.178

35	-0.019	0.003	-0.001	-0.017	-0.836
40	0.013	0.000	-0.002	0.015	0.736
45	0.012	0.002	-0.002	0.014	0.669
R_s =	**ARs = 0.00 1**	**AMRs = 0.000**	**ANRs=.001**	**AARs =0.002**	

Source & Yahoo Finance, Significant@5%

ARs (Average Returns), AMRs (Average Market Returns) ANR (Average Normal Returns) ARR (Average Abnormal returns)

The stock returns of HDFC bank post mergers period one day is 0.008 which is higher than market return normal returns is 0.000. Abnormal returns are 0.008 t-test is not significant as indicating by t value 0.385. after 3rd day of merger the value of stock return is negative with -0.008 and abnormal returns of the company is negative -0.005 null hypothesis cannot be rejected as t value is not significant. After 5th day of merger company return is higher than the market return but null hypothesis can not be accepted as t- value is not significant.15the day of the merger companies returns are higher than the market returns with value 0.043 and null hypothesis cannot be accepted as t -value is significant 2.224 the rest of days are t value is not significant. The overall studies of conclude that Average stock is returns of overall after 45 days is positive as indicated by AR=0.001 and AMR =0.000, ANR=-0.001 AAR =-0.002. Average stock is higher than the market returns.

Significant Findings

1. The share price of HDFC bank before announcement on the day of 25th event window is higher and the company is earning significant returns during the period so null hypotheses cannot be accepted for the same period.
2. One day after the announcement share price of HDFC Bank is higher than the market return of the company but not significant that is the reason null hypothesis cannot be rejected for the period.
3. 10 day after the announcement stock returns are higher than the market returns as t value is significant during the period null hypothesis cannot be accepted.
4. 15 day after the t value indicate that significant difference between the script and market returns during the period null hypothesis cannot be accepted.
5. The Average stock returns of the 45 days during pre- announcement period were less than the market return. The Shareholders of HDFC bank is not able the earned higher return from the market.
6. The Average stock returns of the acquirer company is higher than the market return

shareholders value is enhancing as compare to market return during the period.

7. The Average stock returns pre-merger period of 45 days were negative where as the market return is higher than the stock return before the merger period null cannot be rejected.
8. The Average stock returns of post-merger period of 45 days were are positive from the market returns.

Conclusion & Suggestion

The Wealth of shareholders after the announcement is better than the pre-announcement period in the short run. Similarly, the performance of HDFC Bank is better in the post-merger period compared to the pre-merger period. The stock returns are higher in the post-announcement period as compare to the pre-announcement period. Average stock returns were higher than the Average market returns during the period.

During the examination of returns, it was found that after the announcement, the stock prices are higher than the market returns and the positions of shareholders are better in the post-announcement period and post-merger period as well.

The study suggested that after the merger, the Bank's position is wealthier compared to the pre-merger period.

Implication

1. **For the Investor: - This study suggested** that M&A deals could be favourable or unfavourable for investors it shown an impact on their investment decision.
2. **For the Manager: - Managers face** various challenges while they are working and they are responsible for appropriate decisions. This study will touch on past experiences.
3. **Shareholders: -** This study helps shareholders to make the right decisions.
4. **Scholar: -** Research scholar also took guidance for their study.
5. **Employee: -** they may asses companies position is stable for their retention or not.
6. **Agent & Broker: -** They may understand the reaction of market before and after mergers and acquisition.

Suggestion

1. This study is based HDFC bank acquirer only other can study the on more sample.
2. This study consider BSE indices to calculate market returns the other one can work on NSE data to examine appropriate the impact of M&A on shareholders wealth.
3. This study focusses on acquirer company other can used target as well.

Reference

1. Tampakoudis, I., Nerantzidis, M., Subeniotis, D., Soutsas, A., & Kiosses, N. (2020). Bank mergers and acquisitions in Greece: the financial crisis and its effect on shareholder wealth. *International Journal of Managerial Finance*, *16*(2), 273-296.
2. Teti, E., & Tului, S. (2020). Do mergers and acquisitions create shareholder value in the infrastructure and utility sectors? Analysis of market perceptions. *Utilities Policy*, *64*, 101053.
3. Nwariaku, I. S., & Okoroiwu, K. I. (2022). Impact of mergers and acquisitions of exploration of oil and gas companies on shareholder returns in Nigeria. *Journal of Management*, *4*(2), 43-55.
4. Ashfaq, K. (2014). Investigating the Impact of Mergers and Acquisitions on Post-Merger Financial Performance (Relative and Absolute) of Companies: Evidence from Non-Financial Sector of Pakistan. Research Journal of Finance and Accounting, 5(13), 88-101
5. Chen, A. S., Chu, H. H., Hung, P. H., & Cheng, M. S. (2020). Financial risk and acquirers' stockholder wealth in mergers and acquisitions. *The North American Journal of Economics and Finance*, *54*, 100815.
6. Yadav, S., & Jang, J. (2021). Impact of merger on HDFC Bank financial performance: A CAMEL analysis approach. *International Journal of Economics and Finance*, *13*(8).
7. Devarajappa, S. (2012). Mergers in Indian banks: A study on mergers of HDFC Bank Ltd and Centurion Bank of Punjab Ltd. *International Journal of Marketing, Financial Services & Management Research*, *1*(9), 33-42.
8. Saha, S. (2024). MERGER OF HDFC BANK & HDFC LTD.: A well-defined product penetration & cross-selling strategy. *VLEARNY Journal of Business*, *1*(2).
9. Tomar, A. S., Talreja, P., Mishra, A., & Shrivastava, A. (2023, December). Measuring Impact of HDFC Groups' Strategic Merger: An Event Study. In *2023 IEEE International Conference on ICT in Business Industry & Government (ICTBIG)* (pp. 1-7). IEEE.
10. Manickaraj, M., & Roy, A. The Merger of HDFC Limited with HDFC Bank.
11. Painoli, G. K. IMPACT OF MERGERS ON THE PERFORMANCE OF BANKS IN PUBLIC AND PRIVATE SECTORS–SBI AND HDFC PERSPECTIVE.
12. Rajamani, M., & Ramakrishnan, P. R. (2015). A Study on Impact of Merger of Centurian Bank of Punjab on the Financial Performance of HDFC Bank. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, *20*(5), 28-31.
13. Sai, V. R. N., & Sultan, D. S. T. (2013). Financial performance analysis in Banking sector-

A Pre & Post Merger perspective. *International Monthly Refereed Journal of Research In Management & Technology*, *2*, 56-66.

14. Kumar, S. (2013). Post-merger efficiency of banks in India-A study of HDFC bank and Centurian bank of Punjab. *Zenith International Journal of Business Economics & Management Research*, *3*(11), 50-61.
15. ED, H. H., KARTHIKA, P., & KRISHNAPRIYA, P. (2024). *POST MERGER FINANCIAL PERFORMANCE ANALYSIS OF HDFC BANK* (Doctoral dissertation, St Teresa's College (Autonomous), Ernakulam).
16. Shobhana, V. K., & Deepa, N. (2011). Mergers & Acquisitions in the Indian banking sector and pre and post merger technical efficiencies-an empirical investigation. *Journal of Banking Financial Services and Insurance Research*, *1*(8), 1-9.
17. Tandon, D., & Batra, D. K. (2023). Merger of Hdfc Ltd & Hdfc Bank: Integration for achieving growth. *JIMS 8M The Journal Of Indian Management And Strategy*, *28*(2), 61-64.

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