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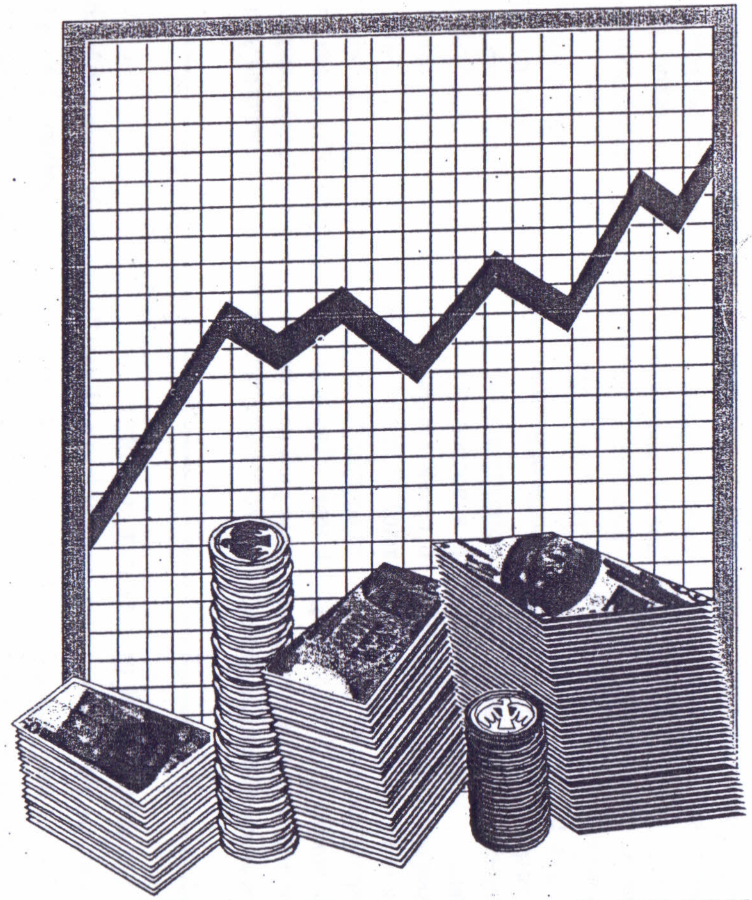

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SHARE PRICE REACTION TO MERGERS AND ACQUISITIONS: A COMPARATIVE STUDY OF ICICI AND HDFC BANKS

Srividya V.
Research Scholar,
Department of Commerce,
Bharathidasan University, Tiruchirappalli

Selvam M.
Reader & Head,
Department of Commerce,
Bharathidasan University, Tiruchirappalli

Mergers, acquisitions and restructuring have become a major force in the financial and economic environment all over the world. Merger event takes place more often in the country because of increasing competition. This study is significant in the sense that it studies the changes in share price movement before and after merger event. By studying the movement of share prices, it can be known whether the decision of merger or acquisition is favourable to the investors of the respective banks.

The efficient securities market is one in which the stock prices always "fully reflect" all available information. The stock prices in an efficient market are assumed to reflect all available information. It is important to note that changes in the stock price may be due to 'n' number of reasons. The reasons may be dividend declaration, announcement of merger and acquisition, stock split etc. The reasons may be known in advance or atleast on the date of actual announcement. There are many reasons like malpractices, spreading false news (rumours) etc that may also influence stock prices and these cannot be determined in advance. These reasons may or may not have long-term impact on stock prices. Against this background an attempt has been made in this study to analyse the occurrence of changes in the stock prices due to announcement of merger and acquisition event.

Profile of Sample Banks

ICICI Limited was founded by the Government of India, World Bank and representatives of private industry on January 5, 1955 to encourage and assist industrial development and investment in India. Since the mid 1980's, ICICI diversified rapidly into areas like merchant banking and retailing. ICICI Bank merged with Bank of Madura on April 11th 2001. ICICI's Indian credit rating by CRISIL agency was AAA.

The Housing Development Finance Corporation Limited (HDFC) was amongst the first to receive an approval from the Reserve Bank of India (RBI) to set up a bank in the private sector, as part of the RBI's liberalization of the Indian Banking Industry in 1994. The bank was incorporated in August 1994 in the name of HDFC Bank Limited with its registered office in Mumbai, India. In a milestone transaction in the Indian banking industry, Times Bank Limited (another new private sector bank) was merged with HDFC Bank Ltd., on February 26, 2000.

In June 2005, HDFC Bank won Asia Money Magazine's "Best Domestic Commercial Bank Award 2005" for India.

Objective of the Study

The objective of the study is to analyse the reaction of security prices to the announcement of merger and acquisition decision in the sample banks (ICICI Bank and HDFC Bank).

Significance of the study

Banking sector plays an important role in the economic development of the country. Further, any change in the structure of the banking industry is closely observed as compared to any changes in other industries. Mergers, acquisitions and restructuring have become a major force in the financial and economic environment all over the world. Merger event takes place more often in the country because of increasing competition. This study is significant in the sense that it studies the changes in share price movement before and after merger event. By knowing the movement of share prices, it can be known whether the decision of merger or acquisition is favourable to the investors of the respective banks.

Methodology of the study

Sample Selection

All types of banks including private sector, public sector and foreign banks have undergone M&A. In this study, an attempt is made to study the impact of merger and acquisition on the share prices of private sector banks. Therefore two sample banks-ICICI Bank (merged with Bank of Madura) and HDFC Bank (merged with Times Bank) has been selected as they are popular among the public and are developing rapidly.

Period of the study

The long run impact on share prices is measured over a period of 28 weeks (-14 weeks pre merger period, 0 weeks merge week, +14 weeks post merger period). The short run impact on share prices due to merger event is measured over a period of 30 days (-15 days per merger period, 0 day merge date and +15days post merger period). Thus, the long run and short run reaction of share prices to announcement of merger have been studied

Data collection

The adjusted share price information were obtained from "PROWESS" - a corporate database. The other data are collected from reputed magazines and web sites.

Tools Used for Analysis

The tools used to measure the stock price movement are Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR)

The Abnormal Returns (AR) are calculated to know the magnitude of change. It can be calculated using the following formula:

$$AR_{it} = R_{it} - R_{mt}$$

Where,

R_{it} - Returns on ith stock for "t" th day

R_{mt} - Returns on market index for "t" th day

The Cumulative Abnormal Returns (CAR) shows the relationship between the magnitude of earning changes and the magnitude of price changes. It also shows the direction (positive or negative) in the stock price changes. The CAR is calculated as follows:

$$CAR_T = \sum_{t=0}^{T} AR_t$$

Where,

CAR_T = Cumulative Abnormal Returns for T^{th} Period

AR_t = Abnormal Returns at time "t" which is calculated using above equation.

Analysis of Share Price Reaction

In order to observe the stock price reaction surrounding merger and acquisition event, abnormal returns (AR) and cumulative abnormal returns (CAR) model have been used. The analysis of this study is presented as given below.

1. Comparison of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) of ICICI Bank and HDFC Bank on a daily basis

Table-1 shows AR and CAR of ICICI Bank and HDFC Bank on a daily basis i.e, 15 days before and 15 days after merger. The movement of adjusted closing price of ICICI bank were fluctuating. The abnormal returns on merged day, – 0 day (i.e., 11th April 2001) were 9.15, which increased from -6.16 on -14th day and again decreased to -5.11 on +15th day. In the same manner, CAR on merged day was 18.08, which increased from -6.16 on -14th day and again decreased to -6.92 on +15th day. The results when charted the CAR moved from negative zone on -15th day and slightly increased to positive zone in the following days (i.e. -13,-12,-11). It reached the peak on +3 day; later CAR started declining from +4th day onwards and again reached negative zone on +14th day. It is evident from the overall analysis that the announcement of M&A exercised impact (i.e., increase in stock price) only for few days (from 0 day to 3rd day). On '0' day, the AR of HDFC Bank was -1.25, which decreased from -0.05 on -14th day and increased to 2.40 on +15th day. This shows that there has been impact from '0' day to +4th day. Similarly, CAR on '0' day was -11.30, which decreased from -0.05 on -14th day and increased to 14.62 on +15th day. It is also noted that CAR for HDFC Bank on Short Run before and after M&A. It is clearly understood that the curve moves upward from -11.30 on 0 day to 14.34 on +4 day which indicates that there is an impact on the share price for about a week after merger. Even after +4th day, the CAR value has moved upward with minor fluctuations. Hence it is clear from the study that M&A event had great effect on security prices of HDFC Bank in the short run.

The CAR of ICICI bank started from negative zone on -14th day and moved to positive zone in the next day itself. Even though the CAR of HDFC bank started from negative zone on -14th day, it further decreased on the following days and remained in the negative zone till +2day. The CAR on '0' day of HDFC bank was -11.30, whereas the CAR of ICICI bank was 18.08. In other words, CAR of both banks moved in opposite direction i.e. it was in the positive zone in the case of ICICI bank whereas it was in the negative zone in the case of HDFC bank. It is important to note that the value of CAR started at negative zone and ended at negative zone. But in the case of HDFC bank, it started in the negative zone and ended in the positive zone. The CAR of ICICI bank and HDFC bank before and after M&A when charted clearly demonstrates that the announcement of M&A had immediate impact on CAR in the case of ICICI bank (i.e. on 0,+1,+2,+3 days), but in the case of HDFC bank, there was no immediate impact on CAR. However, the curve of HDFC bank moved upward from +2 day onwards. This shows M&A event had positive impact from +2 day onwards.

2. Comparison of Abnormal Returns (AR) and Cumulative Abnormal Returns (CAR) of ICICI Bank and HDFC Bank on a Weekly basis

Having studied the impact in the short run, an attempt is made to study the impact in the long run. **Table – 2** exhibits AR and CAR of ICICI Bank and HDFC Bank on weekly basis. The abnormal returns on 0 week was 8.34, which increased from 5.00 on -13th week and further decreased to -0.65 on +14th week. In the case of cumulative abnormal returns (CAR), the returns on 0 week was 34.50, which also increased from 5.00 on -13th week and decreased to 2.89 on +14th week. The result of CAR for ICICI (in long run) when charted, it can be seen that there was no uniform movement of CAR. In fact it could be noted that the movement of CAR was highly fluctuating. From the above chart, it is clearly understood that there was an impact on the share price of ICICI bank from 0 week to +3 week. The curve touched the peak during +1 week.

On '0' week, AR of HDFC Bank was -6.45, which decreased from 7.89 on -13th week and increased to -2.30 on +14th week. In the same way, CAR on '0' week was 77.74, which increased from 7.89 on -13th week and further increased to 111.01 on +14th week. The charted figures of CAR of HDFC bank on a weekly basis clearly indicates the fact that the long run effect was even more positive as compared to the short run, because in no week did the CAR touch the negative zone. The fluctuation in CAR was very meager. It could be observed that the curve was increasing constantly with little variations from -15th day to +13th day. However, after merger the curve (i.e. during post merger weeks) experienced upward movement.

It is evident from the study that the reaction of security prices of HDFC Bank in the long run was also effective. The bank witnessed a growth phase after merger event. The movement of CAR of ICICI bank on a weekly basis was highly fluctuating as compared to HDFC bank. It is evident that in the weeks 1, 2, 3 and 4, the CAR of ICICI bank fluctuated, but the CAR of HDFC bank was increasing. The Charted **figures** CAR of ICICI bank and HDFC bank shows that the curve of HDFC bank was above the curve of ICICI bank throughout the study period (i.e. from -14th week to +14th week). Hence it is evident that on a weekly comparison of CAR, the HDFC bank had greater impact on the share price and it remained in the positive zone. Though ICICI bank exerted positive impact, it was

Table – 1
Comparison of AR and CAR of ICICI Bank and HDFC Bank on a Daily Basis

	ICICI BANK		HDFC BANK	
DAYS	AR	CAR	AR	CAR
-15				
-14	-6.16	-6.16	-0.05	-0.05
-13	5.97	-0.19	-0.69	-0.74
-12	1.45	1.26	-2.48	-3.21
-11	7.41	8.67	-10.48	-13.7
-10	-1.78	6.89	1.48	-12.22
-9	-0.29	6.59	0.76	-11.46
-8	2.51	9.1	9.33	-2.13
-7	-4.77	4.33	-1.69	-3.83
-6	1.72	6.05	0.35	-3.48
-5	2.73	8.78	-5.36	-8.84
-4	1.03	9.81	-7.42	-16.26
-3	2.69	12.51	4.3	-11.96
-2	-4.48	8.03	-0.48	-12.44
-1	0.9	8.93	2.39	-10.05
0	**9.15**	**18.08**	**-1.25**	**-11.3**
1	4.29	22.37	0.55	-10.75
2	-3.05	19.33	4.39	-6.35
3	5.1	24.42	10	3.64
4	-4.66	19.77	10.7	14.34
5	-4.21	15.56	-8.03	6.31
6	0.49	16.05	-0.08	6.23
7	-4.15	11.9	6.26	12.5
8	0.88	12.77	-1.05	11.45
9	-4.14	8.64	-2.15	9.29
10	-0.21	8.42	11.07	20.36
11	1.15	9.58	-3.48	16.88
12	-6.82	2.76	-5.11	11.77
13	-0.89	1.86	2	13.76
14	-3.67	-1.81	-1.54	12.22
15	-5.11	-6.92	2.4	14.62

Source: Prowess Corporate Database
Note: AR – Abnormal Returns
CAR – Cumulative Abnormal Returns

lesser than the HDFC bank. It is also important to note that the long-term impact on the share price need not reflect the impact of only one event but there may be many other information or events, which might have influenced the volatility of share price in the market.

From the analysis, it could be generally observed that the share price behaviour of ICICI Bank was not affected much in the long run through merger event with Bank of Madura. However, the share price of ICICI Bank fluctuated in and around merger event. Hence there is difference in the Security Price behaviour of ICICI Bank around M&A announcement on a daily basis. On the contrary, the share price behaviour of HDFC Bank was affected through merger event with Times Bank. Further, the share price increased during the post merger period. Hence there is no change in the security price behaviour of HDFC Bank around M&A event both on a daily and also on a weekly basis.

Findings of the study

The following are the important findings of the study

1. The impact of M&A on ICICI Bank was only for 0-3 days and 0-3 weeks.
2. The curve of CAR on a daily as well as weekly basis, reached the peak only around M&A event.
3. The reaction of security prices of HDFC bank on a weekly basis was even more effective as compared to daily basis.
4. The curve of CAR on a daily basis for HDFC bank moved upward from -11.30 on 0 day to 14.34 on +4 day, which showed that the impact on share price was for about a week after merger.
5. M&A event had immediate impact on CAR of ICICI bank on a daily basis, but there was no such impact in the case of HDFC bank on a daily basis.
6. On both daily and weekly

Table – 2
Comparison of AR and CAR of ICICI Bank and HDFC Bank on a Weekly Basis

	ICICI BANK		HDFC BANK	
WEEKS	AR	CAR	AR	CAR
-14				
-13	5	5	7.89	7.89
-12	-6.51	-1.51	37.54	45.43
-11	-1.44	-2.94	10.04	55.47
-10	0.58	-2.36	14.84	70.31
-9	-3.4	-5.76	-12.13	58.18
-8	22.67	16.91	-3.14	55.04
-7	-15.1	1.81	-3.39	51.65
-6	3.68	5.49	-1.1	50.55
-5	20.12	25.61	11.09	61.64
-4	6.85	32.46	24.68	86.32
-3	-8.73	23.73	3.7	90.02
-2	-0.09	23.64	-5.49	84.54
-1	2.51	26.15	-0.36	84.18
0	8.34	34.5	-6.45	77.74
1	9.14	43.64	14.14	91.88
2	-6.96	36.68	9.87	101.75
3	-6.1	30.58	1.83	103.58
4	-15.84	14.74	2.74	106.32
5	2.76	17.5	-1.38	104.94
6	-5.6	11.91	-18.12	86.82
7	-0.34	11.57	3.1	89.93
8	3.03	14.6	11.83	101.76
9	1.98	16.58	7.08	108.84
10	1.86	18.44	-11	97.84
11	-6.68	11.77	7.8	105.64
12	-6.45	5.32	23.05	128.69
13	-1.77	3.54	-15.39	113.3
14	-0.65	2.89	-2.3	111.01

Source: Prowess Corporate Database
Note: AR – Abnormal Returns
CAR – Cumulative Abnormal Returns

comparison, the CAR of HDFC bank experienced upward trend and remained in the positive zone.

Conclusion

The present study analyzed the reaction of security prices of sample banks, ICICI bank and HDFC bank during pre-merger and post merger period for short-run as well as long run. It is clear from the study that the market was informationally efficient as it reflected changes in share prices before the announcement of M&A. The impact of M&A on ICICI bank was only for a short period, but the impact was evident for a longer period in the case of HDFC bank. Hence, this study in the long run opens the scope for further research studies to know the reaction of security prices for a longer period.

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