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THE IMPLICATION OF A MERGER ANNOUNCEMENT ON SHAREHOLDER'S WEALTH: AN EVENT-STUDY ANALYSIS OF KOTAK MAHINDRA BANK

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Abstract

The study attempts to examine the impact of merger event on the stock price behavior of bidder as well as the target shareholders. The present study explores the implications of a merger announcement on shareholder's wealth by using the event study approach. kotak mahindra bank has been merged with ING vysya bank on April 1, 2015 and became the 4th largest private bank in India with 1214 branches, with a wide-spread pan-India network, business size of Rs. 2,25,000 crore, 40,000 employees and a customer base of 1 crore. The impact of merger has been analysed by calculating the abnormal returns earned by shareholders during the event period. The study identified statistically significant abnormal returns only on the merger announcement date in case of bidder bank. On the other hand results for target bank experience significant abnormal returns on and around merger announcement date. This research shows adequate evidence of stock market reaction to merger announcement and earned large positive impact on target bank shareholders with adequate abnormal returns and no significant abnormal returns to bidder bank except on event date.

Keywords: Abnormal Return, Market Model, Shareholder's wealth, event study approach.

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1. INTRODUCTION

In today's globalize economy, mergers and acquisitions (M&A) are being increasingly used the world over for improving competitiveness of companies through gaining greater market share, broadening the portfolio to reduce business risk, for entering new markets and geographies, and capitalizing on economies of scale etc. The mergers, takeovers, divestitures, spin-offs and so on, referred to collectively as Corporate Restructuring, an external growth have become a major trend in the financial and economic environment all over the world. A 'merger' is a combination of two or more entities into one; the desired effect being not just the accumulation of assets and liabilities of the distinct entities, but organization of such entity into one business. The possible objectives of mergers are manifold - economies of scale, acquisition of technologies, access to sectors / markets etc. Generally, in a merger, the merging entities would cease to be in existence and would merge into a single surviving entity. The objective of the analysis is to access whether there are any abnormal or excess returns earned by security holders, where an abnormal or excess return is defined as the return beyond what would be predicted from the market movements alone (Bodie et al., 1995).

Mergers in Indian Banking Sector

Mergers in the banking sector is a common phenomenon across the world. The primary objective behind this move is to attain growth at the strategic level in terms of size and customer base. This, in turn, increases the credit-creation capacity of the merged bank tremendously. The process of merger is not a new happening in case of Indian banking. Times Bank merged with HDFC Bank, Bank of Madura with ICICI Bank, Nedungadi Bank Ltd. with Punjab National Bank and Global Trust Bank merged with Oriental Bank of Commerce and state bank of saurashtra with State bank of India. The consolidation efforts in the Indian banking sector can be broadly placed, as per the nature of the entities involved and of the mergers, into following categories:-

a) Forced mergers

b) Voluntary Mergers

c) Acquisitions

Banking profile of kotak Mahindra bank and ING Vysya bank:

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Kotak, with 641 branches and relatively deeper presence in the West and North, has a differentiated proposition for various customer segments including HNIs, deep corporate relationships including emerging corporates, a wide product portfolio, including agricultural finance and consumer loans, and a robust capital position.

ING Vysya has a strong customer franchise for over 8 decades, with a national branch network of 573 branches and deep presence in South India, particularly in Andhra Pradesh, Telengana and Karnataka. ING Vysya has a large customer base across all segments. It is particularly noted for a best-in-class SME Business, as also for serving large international corporates in India by access to the international relationships of ING Group.

The transaction date for the merger was fixed as 1st April 2015. Kotak mahindra bank's promoter holding will reduce to 34% from 40%. ING Vysya shareholders received 725 shares in Kotak for every 1,000 shares of ING Vysya. The implied price of the exchange ratio is 790 for each ING Vysya share based on the average closing price of Kotak shares during one month to November 19, 2014, which is a 16% premium to a like measure of ING Vysya market price. This merger will result in the issue of approximately 15.2% of the equity share capital of the merged Kotak Mahindra bank.

Post-merger, Kotak mahindra bank has became the 4th largest private bank in India with 1214 branches, with a wide-spread pan-India network, business size of Rs. 2,25,000 crore, 40,000 employees and a customer base of 1 crore. While ING Vysya had around 10,000 employees, Kotak Bank had around 29,000 employees, the merged entity will offer a variety of services to customers.

2.REVIEW OF LITERATURE

Numerous studies investigate impact of merger and acquisition announcements on shareholder's wealth . The impact of merger announcement on shareholder's wealth of acquiring firms has been analysed by many researchers in Indian as well as global context. Most of the event studies are conducted on the sample of acquiring and target firms involved in the merger process.

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Leong, M F; Ward, B and Gan, C. (1996) has examined market efficiency by analysing the behaviour of share prices of single firm around the date it was involved in a merger proposition and Shows some evidence that the market was efficient in assimilating information on the occasion under review, and it supported the semi-strong form of the efficient capital market hypothesis; that is, on average the stock market adjusts in an efficient manner to an event announcement.

Healy, Palepu and Ruback (1992) integrate accounting and stock return data in a consistent form to permit richer tests of corporate control theories. They discovered a strong positive co-relation between post-merger increase in operating cash flows and abnormal stock returns at merge announcements including those expectations of economic improvements which explain a significant portion of the equity revaluation of the merging firm.

Leeth and Borg (2000) results confirmed that target firm shareholders earn positive abnormal returns. However, evidence indicates that target shareholder earn significantly positive abnormal returns in the days around M&A announcements.

DeLong (2001 and 2003) found that the non-US domestic bank mergers differ quantitatively from the US domestic bank mergers in that non-US bidders earn more and the non-US targets earn less than their US counterparts.

Cybo-Ottone and Murgia (2000) analysed the banking markets of European Union and find positive increase in shareholder's wealth for bidder and target banks.

Pandey (2001) has examined the issue of takeover announcements, open offer and its impact on shareholder value in the Indian corporate sector.

Campa & Hernando (2004) analysed typical findings of significant positive abnormal returns to the shareholders of the target firms and insignificantly negative returns to shareholders of bidder firms around the M&A announcement period

Anand and Singh (2008) analysed five mergers in the Indian banking sector and found that merger announcement adds value to both acquiring and target companies.

Selvam, Vanitha, Gayathri, Bennet and Nageswari(2010) analysed 17 manufacturing companies which have undergone mergers and acquisitions during 2000, 2001 & 2002 but did not find any significant returns to the acquiring companies.

Venkatesan & Govindarajan (2011) also demonstrate that acquisition activities of public sector banks have a significant positive impact on their shareholders' wealth.

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Sikarwar (2012) examine the impact of merger announcements of subsidiaries of SBI on its shareholder's wealth by using event methodology and shows the mixed effects of merger events on targets shareholders.

Aasif Shah& Malabika Deo(2013) Conducted a study to examine the impact of merger events on the stock price behavior of acquirer as well as the target shareholders in the Indian banking industry.

Priyanka Shah & Parvinder Arora(2014) had examined a sample of M&A announcements in the Asia-Pacific region during the time period of May 2013 – September 2013 to identify the post-facto effect of M&A announcements on the stock prices of the target and the bidding firms by using event methodology and the results of the study indicate that CAAR of bidding firms across different event windows are not statistically significant, signifying thereby that they do not create any abnormal returns as a result of the M&A announcement.

3.OBJECTIVES OF THE STUDY

1. To study the impact of announcement of merger on the shareholders wealth.
2. To determine whether abnormal returns of target bank are significantly different from abnormal returns of bidder bank.

4.HYPOTHESIS

The basic hypothesis in this study is to test whether the market is efficient absorbing the news of merger announcement i.e. the hypothesis whether there is any significant impact of merger announcement on shareholders wealth during event days has been tested by calculating abnormal returns. So it can be stated that,

HO: There is no significant influence of shareholders wealth during event days of merger announcement. ($AR_t = 0$)

H1: There is a significant influence of shareholders wealth during event days of merger announcement. ($AR_t \neq 0$)

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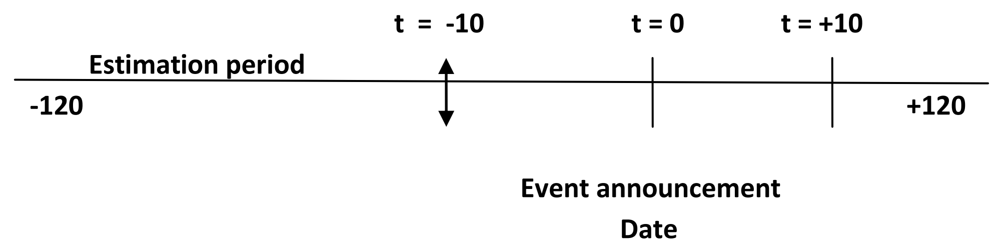
5. RESEARCH METHODOLOGY

The present study is an attempt to examine the impact of merger announcement on its stock returns. The effect of a merger on the performance of a company could be analyzed by many ways. One of the popular methods is an event study. The impact of merger announcement on shareholder's wealth of an bidder and target firm could be analyzed by event study approach.

Event-Study Approach



Time line of an Event study

An event study is an empirical analysis that is normally used to measure the effect of an event on stock prices (returns). The event study is of importance because it can be used to evaluate the impact of company policies on firm value. The event study approach developed by Brown and Warner(1985). The primary concerns which arise when using daily data when using an event study approach are also discussed in detail. Specifications of the Ordinary Least Squares(OLS) market model, which is a commonly used event study approach, are also specified. Ball and Brown (1968) concluded that annual

accounting income data contains information that is related to stock prices. They found that income forecast errors, which are measured by the difference between announced and expected accounting

earnings, have a positive impact on the abnormal performance index around the annual report announcement date. Clinical studies and large sample studies. A clinical study investigates the effect of an event on stock prices of a single company, such as an analysis of the market reaction

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to a takeover announcement; where the study focuses on the acquiring firm and/or on the target firm (Lys and Vincent, 1995).

In order to apply event methodology, the following steps were followed,

a) TO IDENTIFY THE EVENT IN QUESTION.

The event in this study is the merger of ING Vysya Bank with Kotak Mahindra Bank . ING Vysya Bank merged with Kotak Mahindra Bank on April 1, 2015.

b) IDENTIFY THE ESTIMATION, EVENT AND POST EVENT WINDOWS

The merger of ING Vysya Bank was officially approved on Nov 20,2014. This date was taken as an announcement date to determine the event period and the merger was actually happened on April 1, 2015.So the event window for the event of merger of ING Vysya Bank with Kotak Mahindra Bank has been taken as -10 days to the date of announcement to 10 days i.e. {-10, +10}. The estimation period has been taken -120 days to -10 days to the date of announcement of merger.

c) MEASURING ABNORMAL RETURNS IN THE EVENT WINDOW

In order to estimate the daily abnormal returns for kotak Mahindra bank/ING vysya bank in a 10-day event window, market model given by Fama and Miller (1972) has been used as follows;

$$AR_t = R_t - (\alpha + \beta \times R_{mt})$$

Where,

AR_t = Abnormal return of stock of Kotak Mahindra Bank/ ING vysya bank at time t

R_t = Actual return of stock of Kotak Mahindra Bank/ ING vysya bank at time t

α = Ordinary Least Squares (OLS) estimate of the intercept of the market model regression

β = Ordinary Least Squares (OLS) estimate of the coefficient in the market model regression

R_{mt} = Return to the market (S&P CNX 500) at time t

R_t and R_{mt} are calculated as follows,

$R_t = (P_t - P_{t-1})/P_{t-1}$, where P_t and P_{t-1} is the price at time t and t-1 respectively.

The data were analyzed using XLSTAT software, in which parameters are estimated using a pre-event period sample with ordinary least squares (OLS) regression and the parameter estimates

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and the event period stock and market index returns are then used to estimate the abnormal returns. This study utilized an estimation period of -120 to -10 days prior to the event date for each stock. The resulting individual excess returns are then typically compared to the daily and cumulative abnormal returns using a t -test, which reports the statistical significance of the abnormal return relative to the period of interest.

d) TEST OF NORMALITY

The test of normality of abnormal returns is essential before applying the significance tests as parametric tests assume that the abnormal returns are normally distributed. The Lilliefors test is performed by using XLSTAT in order to check the normality. The distribution of abnormal returns is supposed to follow the normal distribution if p value>0.05 at 5% level of significance.

e)SIGNIFICANCE TESTS

Parametric Test: The standardized t test used widely in the literature is applied if abnormal returns follow normal distribution. From abnormal returns, the standard deviation of abnormal returns and the t-value for the event period is calculated. The standard deviation of abnormal returns for the estimation period -120 days to -21 days has been computed. The one-day test statistic (Kothari & Warner, 1997) is:

$$\mathrm{t-value} = \frac{AR_t}{\sigma(AR)_t} \text{ where } \sigma(\mathrm{ARt}) = \sqrt{\frac{1}{119}\sum_{t=-120}^{-11}(AR_t - \overline{AR})}$$

The statistical significance of daily abnormal returns has been examined using the t statistic. If t value is greater than 2.086 and less than 2.85, it is significant at 5% level. If its value exceeds 2.85, it is significant at 1% level. If t value is greater than 1.725 and less than 2.086, it is significant at 10% level. In the event of the t statistic being significant, it implies that there are abnormal returns associated with the merger announcement of ING vysya bank during event period.

Non parametric test:

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If the abnormal returns do not follow a normal distribution, Corrado(1989) Rank test is performed. The Corrado test ranks the returns in the event window relative to the period including both the estimation window and the event window. To implement the rank test, it is first necessary to transform each day's abnormal returns in ranks (Kt) over the combined period that includes the estimation and the event window. The test then compares the ranks in the event period for each firm, with the expected average rank ($\bar{k}$) under the null hypothesis of no abnormal returns. The Corrado test includes the following test statistic:

$$R = \frac{k_t - \bar{k}}{\sigma(k_t)} \quad \text{where } \sigma(k_t) = \sqrt{\frac{1}{130}\sum_{t=-120}^{+10}(k_t - \bar{k})^2}$$

If R value is greater than 2.086 and less than 2.85, it is significant at 5% level. If its value exceeds 2.85, it is significant at 1% level. If R value is greater than 1.725 and less than 2.086, it is significant at 10% level.

Data: Data used for the study is basically secondary in nature. Closing prices of kotak Mahindra bank and ING vysya have been collected from official website of NSE. S&P CNX 500 has been used to calculate the market return as it covers the wide range of diverse sectors and supposed to be a better proxy to calculate market returns.

6. RESULTS AND DISCUSSION

The study was to find whether there are any abnormal returns during the event period of announcement of merger of ING vysya bank. In order to find abnormal returns, parameters are estimated using the market model. The parameters are highly significant (p value < .0000) and could be used for predicting the abnormal returns. The overall model is highly significant (Table 1) at the adjusted R square value of 16% having a satisfactory Durbin Watson statistic (1.61). The results of Normality are presented in Table 2 which find that the abnormal returns for the event period of kotak Mahindra bank are non-normal(p<0.05)(figure2a) unlike the abnormal returns for ING vysya bank(p>0.05)(figure2b). Table 3 reveals the significant abnormal returns in the event period for the merger of ING vysya bank calculated by using standardised t-test. It is evident from the calculated t value that abnormal returns are significant at 5 % level of significance (t= 6.261) on the date of the announcement itself i.e. november 20, 2014 which leads reject the null hypothesis. But if we look at the one day before the announcement day, the abnormal returns are significant at 1% level of significance (t >2.845) which probably are the

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result of positive anticipation and expectations of investors regarding the merger announcement. Similarly three days after the date of announcement there are abnormal returns(t= -1.923) at 10% level of significance which indicates that the stock prices do not immediately respond to the news and take some time to absorb it. Also from the date of announcement to the date of merger investors are able to earn abnormal returns on different dates which indicate the information asymmetry during the period.

The results of test of significance of abnormal returns for the kotak Mahindra bank are surprisingly different. Table 4 presents the significance of daily abnormal returns for the event period for the kotak Mahindra bank by performing Corrado Test. There are significant abnormal returns at 10% level of significance(R=1.591) on the date of announcement of merger. There are no abnormal returns after and before the date of merger announcement. The abnormal returns of ing vysya bank(7.81) are more significant than kotak Mahindra bank (7.14) on the date of announcement of merger. over all ing vysya bank shareholders achieved positive returns than the kotak Mahindra bank shareholders.

7. CONCLUSION

This study had two primary objectives. First, to determine whether abnormal returns of target bank are significantly different from abnormal returns of bidder bank. Second,to compared abnormal returns experienced by target versus bidder bank. The study examine the impact of merger announcements of kotak Mahindra bank with ING vysya bank on its shareholder's wealth by using event study approach. The study concludes and provides mixed evidences about the efficiency of the markets. The abnormal returns are found significant in case ING vysya bank (target bank) around and on the date of announcement of merger which creates shareholders wealth during the event period. It infers that information immediately absorb by the market and investors are able to generate abnormal returns around the event date. In fact these abnormal returns are concentric towards the event date. The market takes some time to reflect the information into the share prices. On the other hand, Shareholders of target bank enjoy a significant abnormal returns. They earn a high abnormal return around the announcement day which is in line with the Hubris theory. The study provides evidence that shareholders of target bank must maximize their means during the announcement of Merger. This research shows

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adequate evidence of stock market reaction to merger announcement and earned large positive impact on target bank shareholders with adequate abnormal returns and no significant abnormal returns to bidder bank except on event date.

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TABLE 1 MODEL SUMMARY

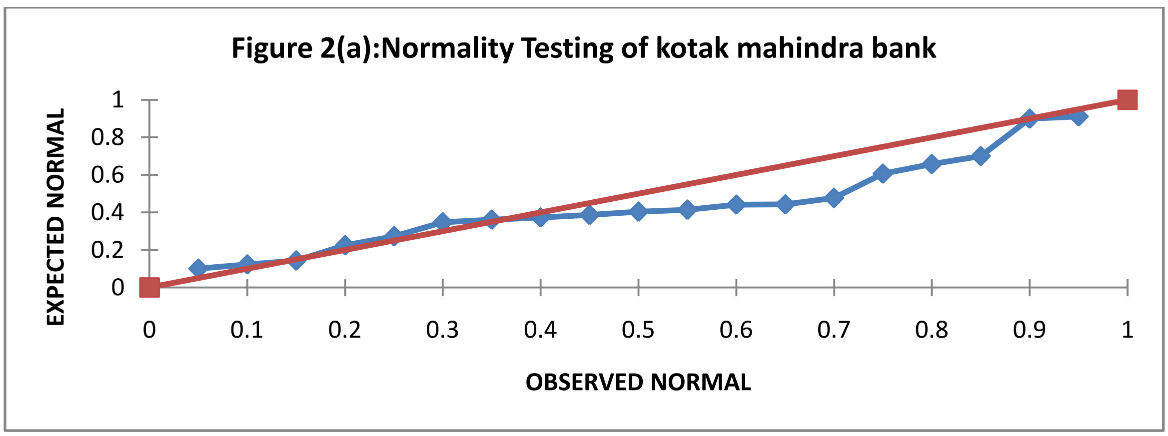
	Intercept	slope	R-Square	Standard Error	Durbin – Watson test
Kotak Mahindra bank	0.0011	0.7829	0.2062	0.0144	1.612
ING VYSYA BANK	0.00	0.057	0.00	0.015	1.337

Source: XLSTAT

TABLE 2 TEST OF NORMALITY

	Lilliefors test			
	D	D(standardized)	p-value	Alpha(α)
Ari for kotak Mahindra bank	0.223	0.997	0.010	0.05
Ari for ING VYSYA BANK	0.099*	0.443	0.874	0.05

*Follows normal distribution



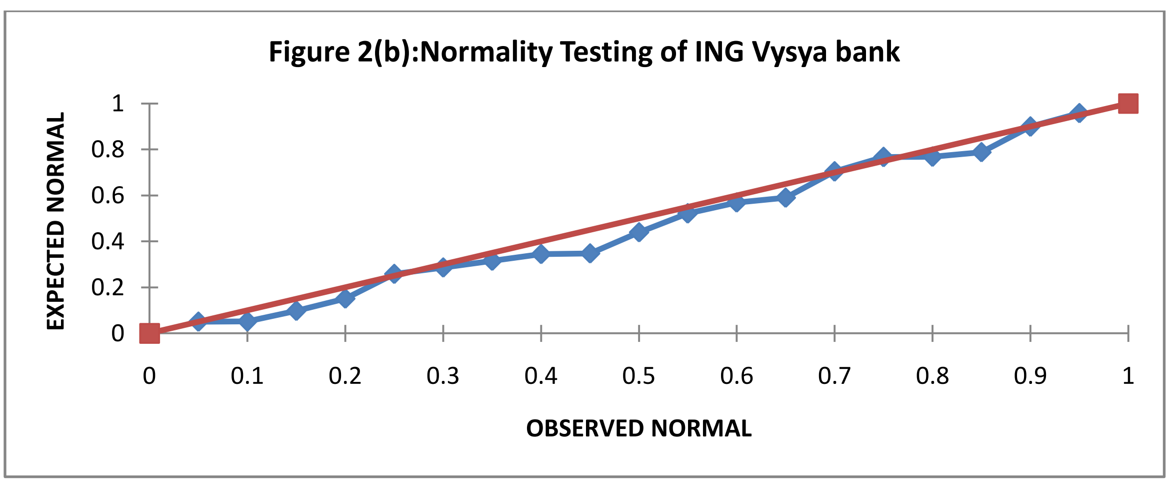


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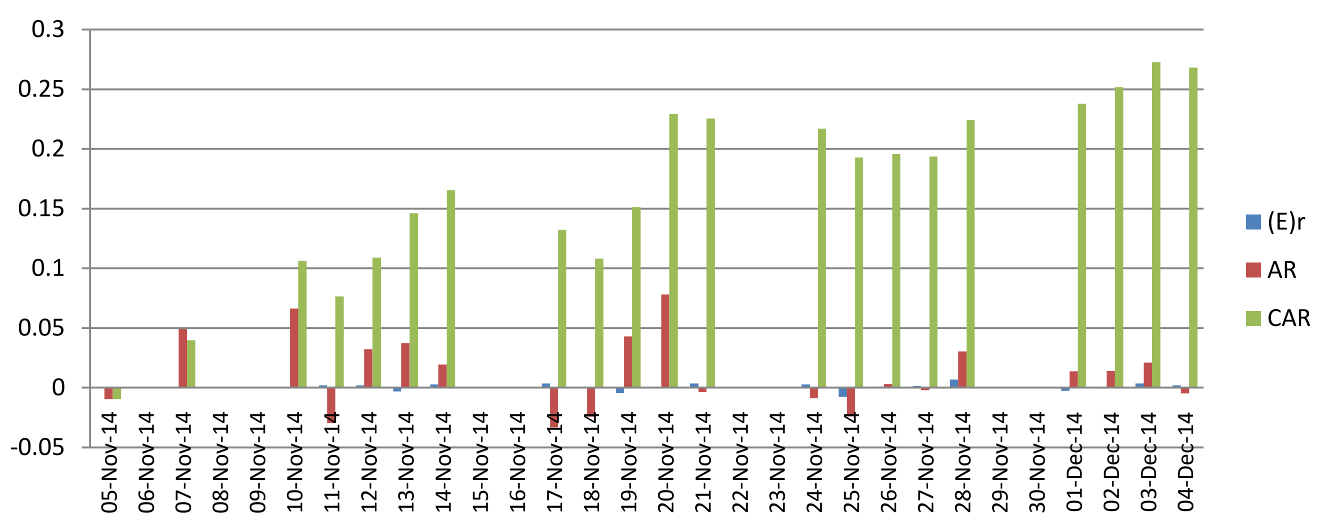
TABLE 3 ABNORMAL RETURNS OF ING VYSYA BANK (T TEST)

Date	AR	AR t-test
5-Nov-14	-0.95	-0.761
7-Nov-14	4.92	3.9444***
10-Nov-14	6.64	5.3268***
11-Nov-14	-2.96	-2.371**
12-Nov-14	3.22	2.5864**
13-Nov-14	3.72	2.9873***
14-Nov-14	1.94	1.5564
17-Nov-14	-3.32	-2.66**
18-Nov-14	-2.42	-1.941*
19-Nov-14	4.31	3.4537***
20-Nov-14	**7.81**	**6.261***
21-Nov-14	-0.37	-0.297
24-Nov-14	-0.87	-0.7
25-Nov-14	-2.40	-1.923*
26-Nov-14	0.30	0.2416
27-Nov-14	-0.21	-0.17
28-Nov-14	3.04	2.4411**
1-Dec-14	1.37	1.0995
2-Dec-14	1.40	1.1225
3-Dec-14	2.09	1.6777
4-Dec-14	-0.47	-0.374

*sig at 10% ** sig at 5% *** sig at 1%. Source: Author's calculations

Figure 3(a): ING Vysya Bank Abnormal returns for [-10,10] day time window



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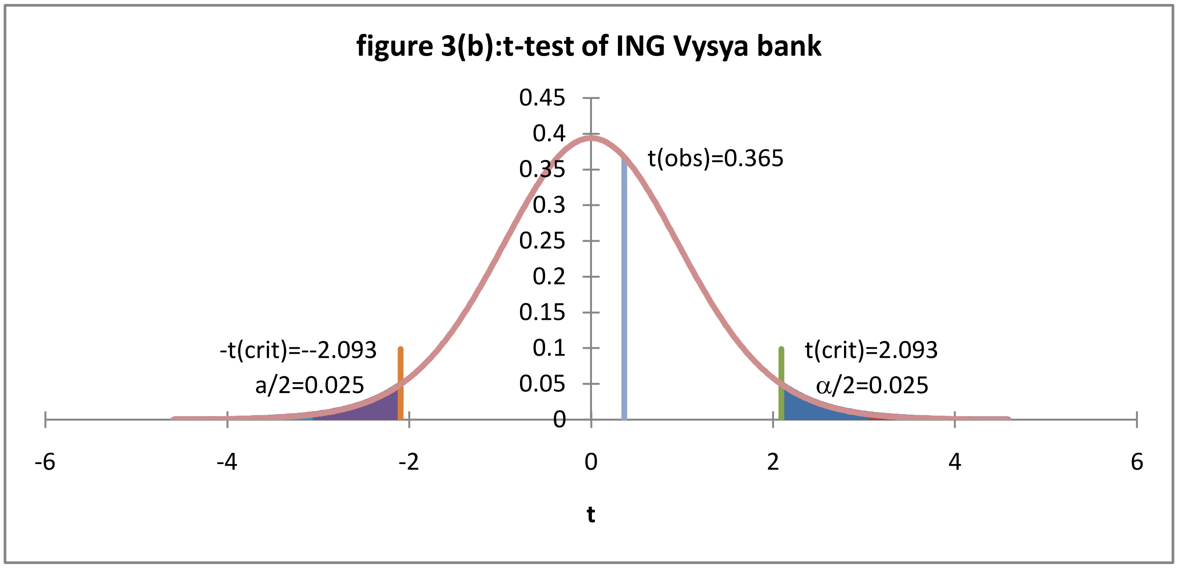

TABLE 4 ABNORMAL RETURNS OF KOTAK MAHINDRA BANK (CORRADO TEST)

Date	AR	R value
11/5/2014	1.38	1.096
11/7/2014	-0.66	-0.882
11/10/2014	-1.45	-1.212
11/11/2014	-0.52	-0.552
11/12/2014	1.31	0.932
11/13/2014	-1.13	-1.047
11/14/2014	-2.13	-1.377
11/17/2014	0.76	0.602
11/18/2014	-2.32	-1.542
11/19/2014	-0.35	-0.223
11/20/2014	**7.14**	**1.591** *
11/21/2014	3.09	1.426
11/24/2014	-0.44	-0.387
11/25/2014	-2.58	-1.706
11/26/2014	-0.29	-0.058
11/27/2014	-0.58	-0.717
11/28/2014	2.94	1.261
12/1/2014	0.05	0.437
12/2/2014	1.05	0.767
12/3/2014	-0.13	0.272
12/4/2014	-0.14	0.107

*sig at 10% ** sig at 5% *** sig at 1%. Source: Author's calculations

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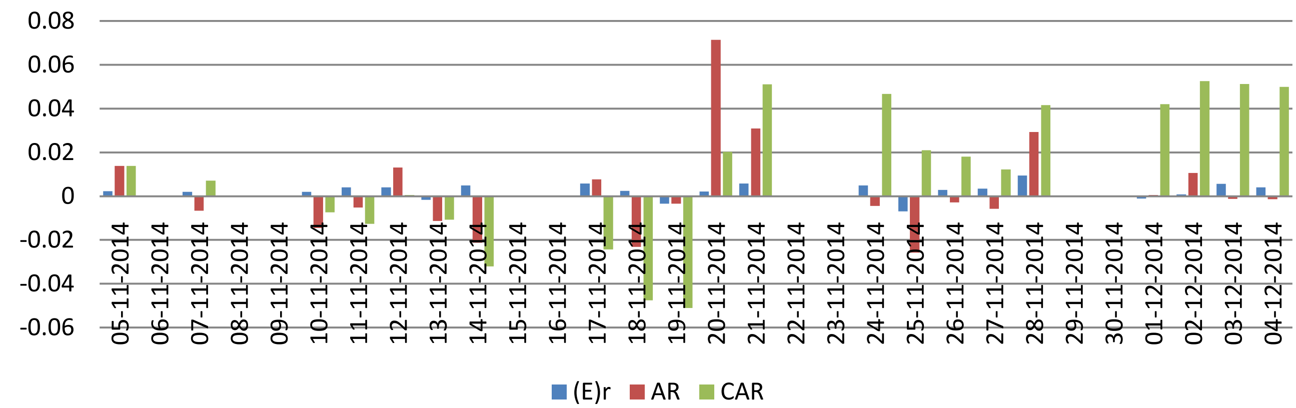
Figure 4(a):kotak Mahindra Bank Abnormal returns for [-10,10] day time window



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