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Price Reaction of Indian Banking Stocks to the sector specific Shocks

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ABSTRACT

This study adds to the existing literature on the reaction of Indian banking sector stocks to the sector specific events. The study analyses the impact of the recent events like demonetization, fine on banks for non-adherence to KYC norms, Capital base modification and the ING-Vysya bank and Kotak Mahindra merger on the stocks of the banking NSE index. The study uses event methodology and constant mean methodology to analyze the significance of these events on the cumulative abnormal returns of these stocks. The closing stock prices of the events were used to calculate the actual returns and then the market returns were compared to the actual returns to arrive at abnormal returns. The market prices were analyzed using the daily prices of BSE sensex index. The significance level was analyzed for pre event window :T-20 days(T being the event date) and the post event window : T+20 days. The significance level was arrived at using two tailed test with 18% degrees of freedom at 5%. The cumulative abnormal returns for pre event window is CARi and the cumulative abnormal returns for post event window is CARj. The results displayed that the demonetization evet did not attract any significant changes in share prices, as it did not cause any significant change in financial position of the banks. In case of fine on the banks for non-adherence to KYC norms; banks which were fined showed significant changes in share prices. Capital base modification event did not attract any significant changes in share prices as it was only a notification by RBI and was not the initiative of the banks. The Kotak Mahindra bank and ING-Vysya bank merger showed significant changes in share prices as the merger would directly affect the shareholding pattern of shareholders of both the banks. Therefore the study concluded that any events which cause significant change in the financial position of the banks and which affect the shareholder's position in the banks.

INTRODUCTION

Over the years banks have been a driving force in establishing a sound financial sector in India. The origin of Banks in India can be traced back to 1921 when imperial bank (former name of SBI) was established. Later RBI the regulating body was established in 1935. Indian banking sector is classified into scheduled and non-scheduled banks and consists of 26 public sector banks, 20 private sector banks, 43 foreign banks, 56 regional rural banks, 1,589 urban cooperative banks and 93,550 rural cooperative banks, in addition to cooperative credit institutions. Indian banking sector is a well-organized and well-regulated sector, which monitors the economic and financial activities. Over the years, the scope of banking sector has widened due to the impact of globalization, digitalized economies, financial inclusion etc. The growing demand for financial services and investment avenues have led to the growth of stock markets, mutual funds and money markets in India. Many banking stocks are listed on the stock exchanges like NSE, BSE and various regional stock exchanges, which have facilitated trading, and investment opportunities. Banking sector stocks have been one of the most traded stocks on NSE and BSE. The market capitalization of banking stocks is 14million each on NSE and BSE. Stocks listed on exchange are subjected to price reactions. Price reaction refers to movement in stock prices due to sector specific shocks or related news. Sector specific shocks, refers to events which affect the particular sector directly or indirectly. These shocks can be related either to a particular bank or to all the banks in general. Any sector specific shock affects investors' confidence and causes either a positive or a negative pressure in the share prices of the stocks. Markets face the problems of insider trading i.e. when few stakeholders who have access to confidential information, use such information for their own benefit before the information becomes public. When insider trading occurs, it triggers an immediate reaction from other investors, which creates a bullish or bearish effect on the stocks.

This paper aims at analyzing the price reaction of Indian banking sector stocks to the sector specific shocks using the event methodology and the constant mean return model. This study fulfils an important research gap by focusing on a variety of events affecting the Indian banking sector stocks, wherein earlier research areas covered only one sector specific shock. This paper attempts to study four recent events affecting banking sector, out of which three are common to all the banks in the NSE index: the demonetization policy of the government, fines imposed on banks for non-adherence to KYC norms of RBI, Capital base modification and one bank specific event which is ING-Vysya bank LTD and Kotak Mahindra bank LTD merger.

The demonetization event occurred on November 8th 2016, was an initiative of the Government to eradicate the problem of parallel economy by de-monetizing the Rupees 500 and 1000 notes. The RBI notification on 28th July 2016, to impose fine on the banks not adhering to KYC norms affected the investor confidence in the banks and affected the banks share prices. A notification was issued by RBI on 2nd march 2016 allowing the banks to increase their capital base. The ING-Vysya bank and the Kotak Mahindra bank announced their merger on the 20th November 2016.

1. LITERARTURE REVIEW

2.1 PRICE REACTION

Research has been undertaken to analyze price reaction of stocks using the event methodology to analyze if mergers and acquisitions create any positive impact for the banks, which depicted that Investors favor both acquirers and sellers with high prior profitability. George Kyriazopoulos & Evangelos Drymbetas (2015). Research has been undertaken to analyze the impact of monetary policy announcements on the stock price of large European banks during the financial crisis using the vent methodology. It was observed that the banks with weaker balance sheets and operating with high-risk were more sensitive to monetary policy interventions (2015). Constant mean methodology and event methodology was used to analyze the impact of release of financial statements of banking industry in Sri Lanka. The results depicted that Cumulative abnormal returns were positive and insignificant. Menike M.G.P.D Wang Man(2013).

2. DATA

The analysis of sector specific shocks requires data on the share prices of the banks to calculate the expected returns, Risk free rate of return, market return data to analyze the actual returns.

The share prices of the NSE banking sectors index were considered, which comprise of 12 banks. The same set of banks have been considered for price reaction analysis. The share prices of the 12 banking stocks listed in NSE are collected from Yahoo finance database. For the purpose of data collection Event Study Methodology was used in which four sector specific shocks (events) have been identified- demonetization, fine on banks for non-compliance of KYC norms, ING Vysya and Kotak merger, Increase in minimum capital requirement of banks as per the Basel Norms. The event dates were identified for each of the four events from the news articles on the online version of the papers: The Economic times and the Business Standard E-papers.

CAPM estimation method was used for analyzing the changes in banking share prices, but due to the small sample size, the method was not effective. The Constant Mean Return Model was used to estimate the expected returns. This method uses the mean return of an asset over a period (+20,-20 window) as the estimate of the expected return of that asset. To calculate the abnormal returns BSE Sensex, 3- month bond yield data was collected. The daily closing share prices of all the banks were collected for 141 days; involving a 100-day estimation window, 20 days pre-event window, event date (Day T0) and 20 day post event window. The India 3-month bond yield was used for the risk free rate of return data. For the market return estimations daily prices of BSE Sensex index was used.

3. METHODOLOGY

We analyze the price reaction of banking sector stocks to sector specific shocks by collecting Secondary data from Yahoo finance. Event based methodology was used for the analysis wherein four recent events which affected the banking stocks were identified out of which three are common to all the banks in the NSE index and one event is bank specific which is ING-Vysya bank LTD and Kotak Mahindra bank LTD merger.

The data was classified into different events and the data was standardized to match the dates of all the data variables.

A rolling index methodology was used wherein the banking share prices were collected for 141 days, involving a 100-day estimation window, 20 days pre-event window, event date (Day T0) and 20 day post event window. Closing prices of all the banks, closing prices of market index, and the returns prices of the risk free rate of return are collected.

Returns are calculated by using the formula.

(Closing price- opening price)/ opening price

The rolling regression procedure allows us to obtain more precise values of expected returns for each day (week) of event window. Rolling beta was obtained by establishing co-variance between market returns and Bank returns. Expected returns were computed as an average of actual returns of the past 20 days window. Abnormal Returns (AR) are calculated by subtracting these expected returns from actual returns for each day.

The Constant Mean methodology was used to calculate average returns for the period from -20 to -1 days and obtained estimates of pre-event cumulative abnormal returns, labelled as *CARi*. Similarly for the period from 0 to 20 days post-event cumulative abnormal returns are estimated and labelled as *CARj*. SCAR is estimated by standardizing the cumulative abnormal returns (CAR). SCAR tends to follow t-distribution with (T-2) degrees of freedom (where T is the number of days) and is tested for significance on 5 percent level on two-tailed basis at 18% degrees of freedom. This allows us to find which of the banks have significant abnormal returns in the pre-event and post-event windows. This estimation procedure is repeated for the other three event dates.

4. EMPIRICAL RESULTS

5.1 DEMONETISATION

The two-tailed test at 5% Degrees of freedom showed that the Cumulative Abnormal Returns (CAR) were insignificant in the twenty-day window before the event date for all the banks. This indicates that the markets are perfect and there is no insider trading. Out of the 11 banks,9 banks showed insignificant changes in abnormal returns this suggests that the investors did not react to the news. Significant changes in abnormal returns might occur after the announcement of year-end financials of the banks.

5.2 FINE FOR NON-ADHERENCE TO KYC NORMS

The cumulated abnormal returns(CAR) results were insignificant in the twenty-day window before the event date for all the banks, indicating that markets are perfect. The two tailed test of significance showed that the banks which were penalized did show significant changes in cumulated abnormal returns (CAR) in the twenty day window after the event. The banks, which were warned and did not attract penalty showed insignificant changes in the CAR. This indicates that monetary fine on banks affects the shareholders expectations on the returns.

5.3 CAPITAL BASE MODIFICATION

The CAR results of all the banks before the event were insignificant depicting that the markets are perfect. The twenty-day window after the event depicted that 9 out of the 12 banks showed continued results of insignificance and the other 3 banks showed significant changes. Share-holders usually do not react to the news by RBI, in this case the news was announced by RBI and it was not the initiative of the banks.

5.4 ING VYSYA AND KOTAK MAHINDRA BANK

The CAR results were insignificant before the event and were significant for both the banks after the merger. The news of merger causes a change in the shareholders reaction as it affects their shareholding in the bank directly.

5. SUMMARY

In this paper we analyze the reaction of banking sector stocks to the sector specific stocks by using the Event-Methodology and the Constant mean returns methodology. The sector specific shocks are Demonetization, Fine for non-adherence to KYC norms, Capital base modification, ING-Vysya bank and Kotak Mahindra bank merger.

Initially, a pre- period (t-20 day) return analysis was conducted for all the events to verify the existence of insider trading. In case of all the four events it was identified that there was no insider trading which indicates that the markets are perfect. To understand the impact of events on the share prices of banks an event study methodology was conducted to analyze the change in the cumulative abnormal returns.

Demonetization- The analysis showed insignificant changes in the share prices after the announcement of the event. This can be explained by the lack of knowledge among the shareholders about how the event would affect the banks financial status. The changes in share prices might be observed after the announcement of year-end financial statements of the banks.

Fine for non-adherence to KYC norms- The analysis showed that the share prices of banks, which paid monetary fine, showed significant results, the stock returns for these banks declined. The share prices of banks that were warned and not fined depicted insignificant changes. Therefore, the study proves that Shareholders are affected the events, which directly affect the financial position of banks and these events have significant impact on the share prices.

Capital base modification- The analysis of the cumulative abnormal returns after the event was announced shows insignificant changes in the share prices of banks. Shareholders usually do not react to the news or notifications by RBI, unless the notification is followed by an announcement by the bank regarding the change. In case of capital base modification, RBI gave right to banks to increase their capital base. The share prices of the banks, which did not increase their capital base, did not show any significant changes.

ING-Vysya bank and Kotak Mahindra bank merger- The analysis of the cumulative abnormal returns after the announcement of merger shows significant changes in the share prices of both the banks. The change in share prices indicates that investor confidence is affected due to the merger, as the merger would directly affect their shareholding in the banks.

Therefore the study proves that any information directly announced by banks and affecting their financial performance shows significance changes in share prices. The events, which affect the position of shareholders in the banks, also affect the share prices.

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DATA

			KYC Fine			
	CARi	SCARi		CARj	SCARj	
BOB	-2.31%	1.114	insignificant	-0.00135	0.045208	insignificant
BOI	-1.60%	0.628	insignificant	-0.04003	1.48584	insignificant
FEDERAL BANK	-0.60%	0.002	insignificant	-0.0314	2.24712	significant
ICICI	0.37%	-0.177	insignificant	-0.11236	6.223973	significant
PNB	-3.25%	0.873	insignificant	-0.14898	6.719944	significant
SBI	0.54%	-0.378	insignificant	0.018013	0.835651	insignificant
AXIS	1.96%	1.192	insignificant	0.007223	-0.53932	insignificant
KOTAK	-0.58%	0.470	insignificant	0.00704	-0.73263	insignificant
CANARA	0.34%	-0.152	insignificant	0.150051	-5.60952	insignificant
HDFC	0.02%	-0.025	insignificant	0.042838	-6.09023	insignificant
YES	-0.13%	0.069	insignificant	0.011345	-0.76367	insignificant

Table 1

DEMONETISATION

	CARi	SCARi		CARj	SCARj	
BOB	-0.138	-6.24619	insignificant	0.045	1.182	significant
BOI	-0.132	-7.1205	insignificant	-0.003	-0.100	insignificant
FEDERAL BANK	-0.040	-1.47695	insignificant	-0.167	-5.808	insignificant
ICICI	0.068	2.366961	insignificant	-0.098	-4.590	insignificant
PNB	-0.112	-4.17229	insignificant	-0.170	-4.611	insignificant
SBI	-0.083	-4.74533	insignificant	-0.045	-1.608	insignificant
AXIS	-0.115	-5.27583	insignificant	-0.072	-4.090	insignificant
KOTAK	0.004	0.312678	insignificant	-0.096	-6.187	insignificant
CANARA	0.093	3.680862	insignificant	0.095	3.451	significant
HDFC	-0.010	-1.43537	insignificant	0.011	1.079	significant
YES	0.017	1.367339	insignificant	-0.046	-3.266	insignificant

Table 2

CAPITAL BASE MODIFICATION

	CARi	SCARi		CARj	SCARj	
BOB	0.808	13.480	insignificant	0.9234	31.9288	significant
BOI	0.028	0.879	insignificant	0.0074	0.2150	insignificant
FEDERAL BANK	0.075	2.889	insignificant	-0.1023	-4.7894	insignificant
ICICI	0.014	0.440	insignificant	0.0553	1.9165	insignificant
PNB	-0.082	-2.225	insignificant	0.1313	4.8516	significant
SBI	0.027	0.756	insignificant	0.0541	1.5530	insignificant
AXIS	0.041	1.360	insignificant	0.0819	4.5213	significant
KOTAK	-0.061	-2.974	insignificant	0.0119	0.8264	insignificant
CANARA	-0.033	-2.404	insignificant	-0.0684	-4.7561	insignificant
HDFC	-0.031	-4.127	insignificant	-0.0132	-1.5855	insignificant
YES	0.066	3.830	insignificant	-0.0038	-0.2537	insignificant

Table 3

ING VYSYA& KOTAK MERGER

	CARi	SCARi		CARj	SCARj	
KOTAK	0.036704	2.218032912	insignificant	0.100014	4.885711	significant
ING VYSYA	0.190913	6.961679079	insignificant	0.071677	4.024243	significant

Table 4

DATES	28th July 2016		8th NOV 2016		2nd march 2016			20th nov 2016	
Banks	BEFORE EVENT	AFTER EVENT	BEFORE EVENT	AFTER EVENT	BEFORE EVENT	AFTER EVENT		BEFORE EVENT	AFTER EVENT
BOB	insignificant	insignificant	insignificant	significant	insignificant	significant	KOTAK	insignificant	significant
BOI	insignificant	significant	insignificant	insignificant	insignificant	insignificant	ING	insignificant	significant
FEDERAL BANK	insignificant	insignificant	insignificant	insignificant	insignificant	insignificant			
ICICI	insignificant	significant	significant	insignificant	insignificant	insignificant			
PNB	insignificant	significant	insignificant	insignificant	insignificant	significant			
SBI	insignificant	insignificant	insignificant	insignificant	insignificant	insignificant			
AXIS	insignificant	insignificant	insignificant	insignificant	insignificant	significant			
KOTAK	insignificant	insignificant	insignificant	insignificant	insignificant	insignificant			
CANARA	insignificant	significant	significant	significant	insignificant	insignificant			
HDFC	insignificant	significant	insignificant	significant	insignificant	insignificant			
YES	insignificant	insignificant	insignificant	insignificant	insignificant	insignificant			

Table 5