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An Analysis of Risk-Return Relationship in The Indian Banking sector track Finance : Behavioural Finance (Capital Market)

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Abstract

Since July 1991, unprecedented foreign exchange crisis, Indian economy has started experiencing a World Bank dictated regime of financial liberalization which leads towards privatisation of nationalised banks. Many studies support the positive link between stock market development and growth in the banking sector. The investors are concerned with returns as the motivating force and the risk associated therewith. Reward in the investment process and it is the key method for investors in comparing alternative investments. Considering it the current topic has been chosen to analyze the risk and return relationship in the Indian banking sector. The share price of the bank scripts and the benchmark index for the period commencing from April 01, 2016 to March 31, 2017 was selected for analysis. The associated risk was measured by using Standard Deviation and Beta of the selected Indian Banking Companies. The study concludes the stock market is sometime highly volatile and it all depends upon the investor's perception and how he can make use of it. Taking into consideration the investor's risk-return requirements. The study suggests that the portfolio should be constructed on the basis of risk-return requirement and must be reviewed regularly.

Key words: *Risk, Beta, FDI, Portfolio*.

Introduction

Since the early 1950s till the early 1990s, Indian policy makers had been nourishing the goal of the Socialist pattern of society. . Before 1990's the main area of investment where bank deposits, gold, property and such other forms of tangible assets, but for the past few years we had been witnessing a lot of investment opportunities coming up in the form of property insurance, shares etc. Analysis the risk associated with every investment option and evaluates the return out of that investment become very crucial.. Since July 1991, in the face of an unprecedented foreign exchange crisis, Indian economy has started experiencing a World Bank dictated regime of financial liberalization which leads towards privatisation of nationalised banks. Since the globalization and the privatization move of the Indian economy during the last decades of the 20th century pumped billions of foreign capital into the Indian economy as in the form of FDI. Many studies made during the period support the positive link between the stock market development and the parallel growth in the money market. Levine and Zervos (1998) in their cross-country study found that the development of banks and stock markets has a positive effect on growth

The following Table 01 indicates the growth in terms of GDP of Indian economy during the past six years since 2012 to 2017.

Table 01: Real GDP growth (Annual percent change)

Year	2012	2013	2014	2015	2016	2017
Growth (real) (%)	5.5	6.4	7.5	8	7.1	6.7

Source: http://www.img.org. Retrieved on November 30, 2017.

1.2 Industry Profile Of The Indian Banking Sector

Banking in India originated with The General Bank of India in 1786. The oldest bank in existence in India is the State Bank of India being established as "The Bank of Bengal" in Calcutta in June 1806. A couple of decades later, foreign banks like Credit Lyonnais started

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their Calcutta operations in the 1850s. At that point of time, Calcutta was the most active trading port, mainly due to the trade of the British Empire, and due to which banking activity took root there and prospered. The Reserve Bank of India formally took on the responsibility of regulating the Indian banking sector from 1935. After India's independence in 1947, the Reserve Bank was nationalized and given broader powers. In post liberalization era small number of private banks, which came to be known as New Generation tech-savvy banks, which included banks such as UTI Bank, ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, kick started the banking sector in India. The next stage for the Indian banking has been setup with the proposed relaxation in the norms for FDI, with the opening of the foreign banks.

1.3.1 Return

Return is the primary motivating force that drives investment. It represents the reward for undertaking investment. The return of an investment consists of two components current returns and capital returns. Current return relates to periodic cash flow, such as dividend or interest generated by the investment. It is measured as the periodic income in relation to the beginning price of the investment. The second component of return is reflected in the price change called the capital return.

1.3.2 RISK

Risk refers to the possibility that the actual outcome of an investment will differ from its expected outcome. More specifically, most investors are concerned about the actual outcome being less than the expected outcome, the wider the range of possible outcomes the greater is the level of risk. Bhalla (2012) classifies risk into two broad categories, i.e. Systematic and Unsystematic risk.

1.3.3 Risk- Return Relationship

The relationship between stock returns and risk is the efficient frontier, a curve that is a part of the modern portfolio theory. The curve forms from a graph plotting return and risk indicated by volatility, which is represented by the standard deviation. According to the modern portfolio theory, funds lying on the curve are yielding the maximum return possible given the amount of volatility. To determine if the proposed fund or stock has an optimal return for the amount of volatility acquired, an investor needs to do an analysis of the fund's standard deviation.

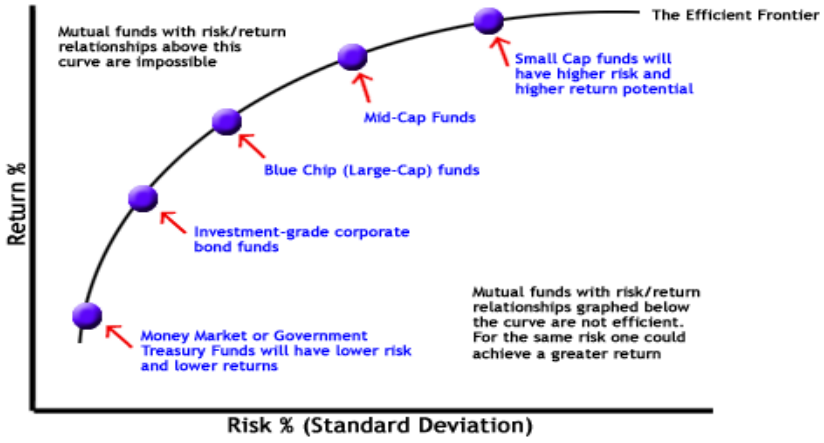

Fig 1.1: Risk – return relationship

1.3.4 Tools measuring Risk-Return Relationship:

The risk/return relationship is a fundamental concept in not only financial analysis, but in every aspect of life (Sharpe, 1962).

Standard Deviation

The standard deviation reports the volatility, which indicates the tendency of the returns to rise or fall drastically in a short period of time. A security that is volatile is also considered higher risk because its performance may change quickly in either direction at any moment. The stock with the lowest standard deviation would be more optimal because it is maximizing the return received for the amount of risk acquired.

Beta

While the standard deviation determines the volatility of a fund according to the disparity of its returns over a period of time, beta, another useful statistical measure, determines the volatility (or risk) of a fund in comparison to that of its index or benchmark. A fund with a beta very close to 1 means the fund's performance closely matches the index or benchmark. A beta greater than 1 indicates greater volatility than the overall market, and a beta less than 1 indicates less volatility than the benchmark.

2. Literature Review

In the area of risk and return analysis two well known economists made an effort to study the relation between risk and return and they are the people who quantify the risk and return aspects of an instrument, they are Harry Markowitz (1950) and William Sharpe (1962). Broadly the investment process consists of two tasks. The first task is security analysis which focuses on assessing the risk and return characteristics of the available investment alternatives. The second task is portfolio selection which involves choosing the best possible portfolio from the set of feasible portfolio.

Risk provides an alternative to earn as an explanation for market mispricing. Healy and Palepu (1990) provide evidence of increases in the systematic risk of banking firms around the world and the market apparently failing to incorporate these increases in systematic risk into pricing decisions at the listing date. Aggarwal et al. (1999) examined the events that caused large shifts in volatility in emerging markets. Both increases and decreases in the variance were identified first and then events around the period when volatility shifts occurred were identified. They found the dominance of local events in causing shifts in volatility.

Return is the motivating force and the principle reward in the investment process and it is the key method available to investors in comparing alternative investment. In the Indian context Shah (1995) documents a phenomenal 105.6% excess return over the offer price in a study of 2056 new listings over the period January1991 to May 1995. However, this study provides evidence for the short run performance only while Madhusoodanan and Thiripalraju (1997) from a study shows that under pricing was higher than the international experiences in the short run and in the long run too they yield higher returns compared to the negative returns recorded from the international markets. Measuring historical return allows investors to assess how well have done, and it plays a part in the estimation of future unknown returns. Keeping this point in mind the current topic has been chosen to analyze the risk and return relationship of the key players in the Indian banking sector.

3. Objectives Of The Study

a To analyze the risk and return of the Indian Banking Companies.

b To study the volatility of the Indian Banking companies.

c To guide the investors about the various investment opportunities in the banking sector.

4. Research Methodology

4.1 The Study

The present study is descriptive by nature.

4.2 Sample Size And Selection

The data collection was made through secondary sources. Three banking companies were selected on the basis of market capitalization at BSE as on March 31' 2017.

Secondary Data

Secondary sources such as magazines, journals and the internet were used to collect the information required. The stock price and market index were collected from the website of Bombay Stock Exchange apart from that data have been taken from different company websites.

4.3 Period Of Study

The study considers the financial period April 01, 2016 to March 31, 2017. The selection of the particular period was to incorporate the effect of Demonetazation.

4.4 Measuring Instruments

The data were scored by calculating the percentages and means with the help of MS applications and other statistical tools like rate of return, variance and beta.

Step 1. Logmatric returns of the stock prices of the selected bank scripts were calculated as

Stock price(Y) = (Closing-Opening)/ (Opening)*100 (of stock price)

Step 2. Logmatric returns of the benchmark index BSE Sensex were calculated as:

Market return (X) = (Closing-Opening) / (Opening)*100 (of index price)

Step 3. Beta between the two values were calculated by using the following formula:

$$\textbf{BETA } (\beta) = \frac{\text{Covariance of X and Y}}{\text{Variance of X}}$$

The results were interpreted by measuring the beta value of the following scripts. A beta of a fund very close to 1 means the fund's performance closely matches the index. A beta greater than 1 indicates greater volatility than the overall market, and a beta less than 1 indicates less volatility than the benchmark index.

5. Results And Findings

Table 5.1 Valuation of Stock Returns

	SBI	ICICI Bank Ltd.	HDFC Bank Ltd.
Mean return (%)	-0.071	-0.066	-0.062
SD	1.807	1.775	0.948
VAR	3.2667	3.1521	0.899
COVAR	1.402	1.42	0.545
Beta	**0.4292**	**0.4504**	**0.6067**

5.1 ICIC Bank Ltd.

The mean return of the stock ICICI Bank Ltd. 'Y' was negative 6.6 percent as compared to negative 2.3 percent of the Sensex 'X' for the same period. The table reveals that the negative average stock return is higher than the market return. The highest stock return of 6.57 percent was recorded on November 9' 2016 against 5.840 percent of BSE Bankex. Major cause was due to news related demonetization which got exposure to the very strong banking sector leads to high volatility in the price of the stock too.

The lowest stock return was recorded on April 04' 2016 as negative 4.832 percent compared to negative 2.52 percent of the Bankex. In the month of April there was downfall due to depressed market conditions, although the market price fluctuates more as compared to stock on the same period.

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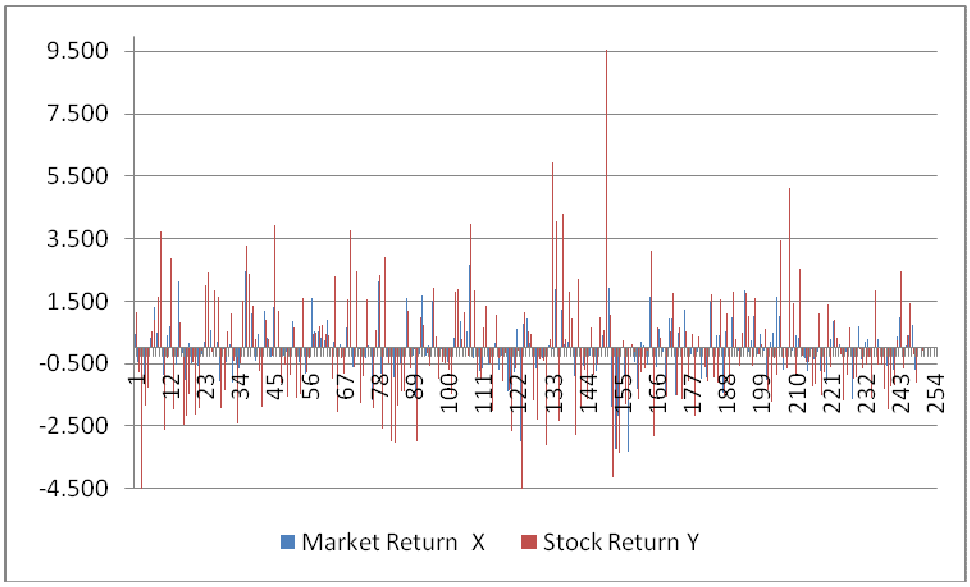

Figure 5.1: ICICI Bank Stock return and BSE Bankex returns

Standard deviation (total risk associated with stock) for the stock of ICICI Bank Ltd. was 1.775 whereas the beta value is 0.450 which was less than 1 . The beta value less than 1 indicates less volatile as compared with market returns. The month wise overall performance of this stock is promising the risk associated with this stock comparatively less. Investors can hold the stock for a long time.

5.2 HDFC Bank Ltd.

The mean return of the stock HDFC Bank Ltd. was negative 6.2 percent as compared to negative 2.3 percent of the Bankex . The highest return of 3.167 percent was found on Feb. 20 2017 although days before it records lowest negative return of 4.298 percent. This turmoil arose due to frequent fluctuation in the stock price makes the investor more vigilant as notified by RBI the foreign holdings had gone below the prescribed limit. Hence the restrictions placed on the purchase of shares of the above company are withdrawn with immediate effect. Bankex returns found to be more stable, although negative as compared to the returns of the stock of HDFC Bank.

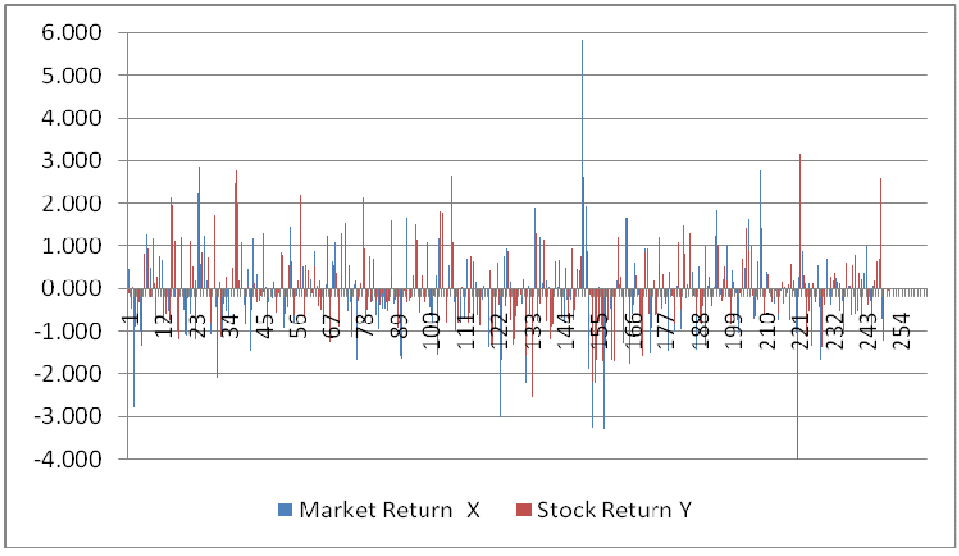

Figure 5.2: HDFC Bank Stock return and BSE Bankex returns

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Standard deviation of HDFC Bank Ltd. was 0.948 and the beta value to be 0.6067 which was higher as compared to all three. The higher level of volatility indicates opportunities to earn higher returns along with higher market risks. The average stock return and market return show a decreasing trend and also decrease in stock return well above the market return Table 5.2 disclosed the returns of HDFC bank and Bankex for the period of study.

5.3 State Bank of India Ltd.

The mean return of the stock SBI was negative 7.1 percent as compared to negative 2.3 percent of the Sensex. The table reveals that the average stock return is more negative above the market return. The BSE Bankex returns found to be less volatile as compared to the returns of the stock of SBI. This indicates more level of volatility exists in this stock. The higher level of volatility indicates opportunities to earn higher returns along with higher market risks. The highest stock return of 8.455 percent was recorded on November 09' 2016 against return of 5.840 of BSE Sensex. Major cause was due to the declaration of the demonization on Nov. 08' 2017. The Bank has posted a net profit of Rs. 10484 million for the year ended March 31, 2017 as compared to Rs. 127432 million for the year ended March 31, 2016 leads to greater overall volatility as compared to Bankex. The lowest stock return was recorded on Nov. 21' 2016 as negative 6.714 percent compared to negative 3.305 percent of the Bankex

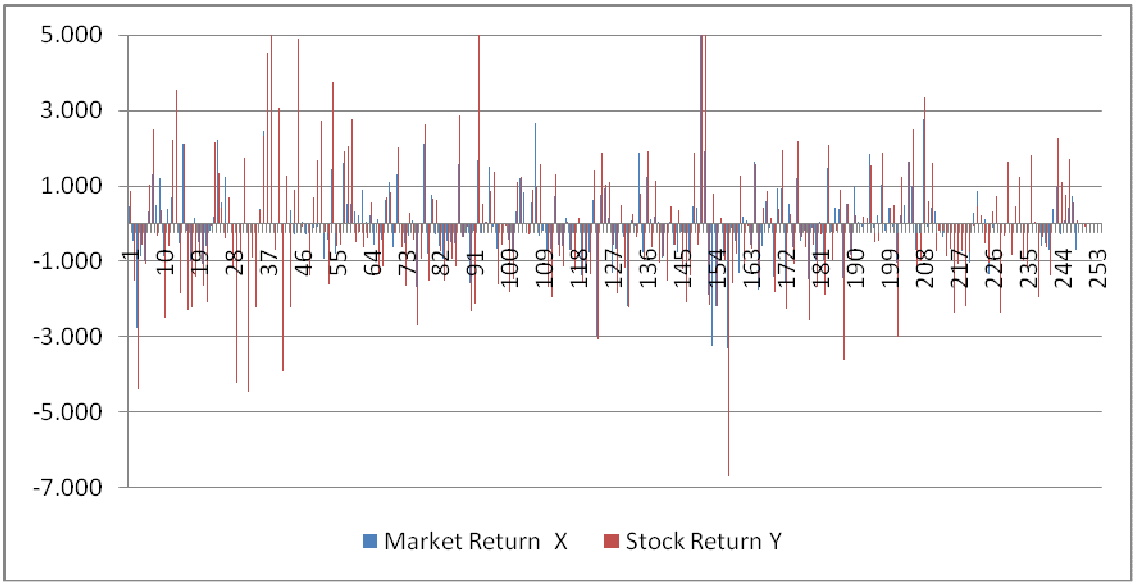

Figure 5.3: SBI Stock return and BSE Bankex returns

Similarly, Standard deviation of SBI was 1.807 and the beta value to be 0.429. The level of beta of SBI found to be lowest as compared to HDFC Bank Ltd. 0.6067 and 0.4504 of ICICI Bank Ltd. The systematic risk here is well above the standard risk associated with any stock. So an investor should be careful while investing this stock. The average stock return and market return show a decreasing trend and also decrease in stock return well above the market return. Frequent fluctuation in the stock price makes the investor more vigilant. Proper diversification of the portfolio will help the investor to eliminate the considerable part of the risk.

6.1 Discussion

As far as the returns of the selected companies are concerned, SBI is comparatively performing well in isolation where as HDFC Bank Ltd. performed poorly. As far as the Standard deviation of the selected companies is concerned, SBI is very high of 1.807. This means that the higher the level of volatility, the higher is the risk. Whereas, HDFC is having low SD of 0.948 indicated lesser levels of risk. The systematic risk (Beta) of SBI is 0.429, ICICI 0.450 and HDFC 0.607. In terms of the systematic risk beta of SBI is lower means stock value is more consistent as

compared to the market risk. In the similar study made by Begum (2012) for the period 2007-12 standard deviation of SBI found to be very high as compared to higher beta value of 1.838 in the stock of ICICI Bank Ltd. Risk behavior has been associated with assumptions of rational behavior, outcome weighing, and utility maximization. Aaker and Jacobson (1987) found support for a positive association between performance and both systematic and unsystematic risk. The existing study remains an indifferent regarding risk-returns relationship. The level of risk found to be lowest in ICICI bank making more stable and safest investment.

6.2 Recommendations

Based on the finding derived at, risk less investment can be made in the banking stocks, although they are volatile, but still the risk associated with that stock is less as compared to other sectors. In the banking sector, it can suggest SBI can be the best buy in terms of returns and volatility. When an investor opts to enter the stock market he should first gather sufficient information about the type of investment options available to him. He should diversify his investment portfolio so that he is exposed to minimum risk.

7.1 Conclusion

The objective of the study was to determine the risk – return relationship among the selected banking stock of the Indian firms. Three banks were selected on the basis of market capitalization as on March 31' 2017. The performance of the banking firms was evaluated by daily mean returns. The mean return was negative in all cases, but HDFC Bank Ltd. found to be more stable. In order to determine the level of risk beta was measured. Highest beta was recorded by HDFC Bank Ltd and the lowest was found by SBI. As a whole the stock market is sometime highly volatile it all depends upon the investor's perception how he can make use of this consideration the investor's risk-return requirements, portfolio should be constructed and reviewed regularly.

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Web Resources

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