

A Study on Selected Banking Stock to Analyse Risk and Expected Return

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ABSTRACT

This paper studies the bank stocks in present scenario with respect to risk and volatility. Every investment is blend of return and risk. Investment can be understood in many aspects but in a broader scenes economic, layman, and financial. A true investor is interested in good and stable returns for a long period of time. Risk is inherent in any investment. Risk is connected to loss of capital or delay in repayment of capital. Every investor is concerned with returns before investment. The higher the return is greater the risk. Investor expects to get back the initial amount as early as possible on maturity without loss and delay. Knowing the recent changes political, economic growth and other national and international factors effecting the volume of trade leading to volatility in the Indian stock market.

Keywords: Return, Risk, Volatility, economic, investment.

I. INTRODUCTION

In simple terms, risk may be defined as the possibility of suffering injury or loss it is presenting in any field or situation. In the context of business or financial world it represents the uncertainly associated with an investment. In other words risk possibility that the actual return on an investment may be different from the expected return. An important concept in this regard is the idea that an investment carrying a higher risk has the potential of a higher yield. Higher risk is associated with greater probability of higher return and lower risk with a greater probability of smaller return this trade off which an investor faces between risk and return while considering investment decisions is called the risk return trade off.

The expected return of the investment is the probability weighted average of all the possible returns. If the possible returns are denoted by X , and the related probabilities are $f(x_i)$, the expected return.

$$E[X] = \sum_i x_i f(x_i)$$

It is the sum of the products of possible returns with their respective probabilities. Systematic risk is the variability in security returns caused by changes in the economy or the market. All securities are affected by such changes to some extent, but some securities exhibit greater variability in response to market changes. Such securities are said to have higher systematic risk. The average effect of a change in the economy can be represented by the change in the stock market index.

Expected Return = Risk Free Rate + Risk Premium

II. OBJECTIVES

General Objectives

The general objective of this research is to find the impact of volatility of stocks. A comparative study on selected public sector banks from BSE India.

Specific Objectives of study

- To identify the banking company script for investment.
- To evaluate the risk involved in stock of bank companies.
- To calculate the expected return and to know the past and current movements in price of stock (selected bank scripts)

III. NEED FOR THE STUDY

From past decades it has been observed reforms in the Indian stock market. The process of reforms in the stock market needs to be extending to speedier conclusion of transactions, greater transparency in operations, improved services to investors and greater investor protection while at the same time encouraging banking sector to raise resource directly from the market on an increasing scale. Modernization of the stock exchanges to bring them equal to world standards in terms of transparency and reliability are also necessary if foreign capital is to be attracted in significant scale.

IV. SCOPE OF THE STUDY

The notion that the corporate announcement might have strong implications on share prices and investor behaviour is in general accepted by practitioners.

V. RESEARCH METHODOLOGY

This study is based on secondary data, internet and scholarly articles. To develop this study in literature review has been used, to present in chronologically order which is collected from websites, i.e. For the period of 01-09-2016 to 31-08-2017 the stock prices of trading day at NSE India. Source of the data is www.nseindia.com historical price data.

What is Beta?

A beta of less than 1 means that the security is theoretically less volatile than the market. A beta of greater than 1 indicates that the security's price is theoretically more volatile than the market. For example, if a stock's beta is 1.2, it's theoretically 20% more volatile than the market.

What is Standard Deviation?

Standard deviation is a measure of the dispersion of a set of data from its mean. It is calculated as the square root of variance by determining the variation between each data point relative to the mean. If the data points are further from the mean, there is higher deviation within the data set.

In finance, standard deviation is a statistical measurement; when applied to the annual rate of return of an investment, it sheds light on the historical volatility of that investment. The greater the standard deviation of a security, the greater the variance between each price and the mean, indicating a larger price range. For example, a volatile stock has a high standard deviation, while the deviation of a stable blue-chip stock is usually rather low.

Sampling Procedure & Sample Size

Bombay Stock Exchange is chosen for this research because this is the main stock exchange of India and Standard & Poor's company has joined hands with it. The data collected from stock exchange market consisting of many banking companies but selected companies for the study are randomly picked. Data that is used for this research is gathered from website bseindia.com and chosen few major players in public and private sector banks [11] like HDFC BANK, ICICI Bank, INDIAN Bank, Oriental Bank of Commerce, Punjab National Bank, State Bank of India, Syndicate Bank. Data is ranging from 01-09-2016 to 31-08-2017 (247 days) is used for analysis. In this study BETA, Expected Return, Variance and Standard Deviation is used for analysis.

Andhra Bank

Andhra Bank is a medium-sized public sector bank of India, with a network of 2803 branches, 4 extension counters, 38 satellite offices and 3636 automated teller machines as of 31 Mar 2016. (Close Price Rs. 62.90 as on 15 Nov).

Headquarters: Hyderabad

CEO: Shri Suresh N Patel (2 Nov 2015–)

Founder: Bhogaraju Pattabhi Sitaramayya

Founded: 20 November 1923, Machilipatnam

Bank of Baroda

Bank of Baroda is an Indian state-owned International banking and financial services company headquartered in Vadodara in Gujarat, India. It has a corporate office in Mumbai. Based on 2017 data, it is ranked 1145 on Forbes Global 2000 list. (Close Price Rs. 175.05 as on 15 Nov).

Headquarters: Vadodara
CEO: P. S. Jayakumar (13 Oct 2015–)
Founder: Sayajirao Gaekwad III
Founded: 20 July 1908

Canara Bank

Canara Bank is one of the largest public sector banks owned by the Government of India. Its headquarters is in Bengaluru. It was established at Mangalore in 1906, making it one of the oldest public sector banks in the country. (Close Price Rs. 370.80 as on 15 Nov).

Headquarters: Bengaluru
CEO: Shri. Rakesh Sharma
Founder: Ammembal Subba Rao Pai
Founded: 1 July 1906
Capital ratio: 12.86% (2017)
Subsidiaries: Canara HSBC Oriental Bank of Commerce Life Insurance Company Limited,

Corporation Bank

Corporation Bank is a public-sector banking company headquartered in Mangalore, India. The bank has a pan-Indian presence. (Close Price Rs. 42.55 as on 22 Nov).

Headquarters: Mangalore
CEO: Jai Kumar Garg (1 Feb 2016–)
Founder: Khan Bahadur Haji Abdullah Haji Kasim Saheb Bahadur
Founded: 12 March 1906, Udupi

HDFC Bank

HDFC Bank Limited is an Indian banking and financial services company headquartered in Mumbai, Maharashtra. It has 84,325 employees and has a presence in Bahrain, Hong Kong and Dubai. HDFC Bank is India's largest private sector lender by assets. (Close Price Rs. 1,855.50 as on 22 Nov).

CEO: Aditya Puri (Sep 1994–)
Headquarters: Mumbai
Founded: August 1994, India
Number of employees: 84,325
Profit: ₹12,817 crore (US\$2.0 billion) (2016)

ICICI Bank

ICICI Bank, stands for Industrial Credit and Investment Corporation of India, is an Indian multinational banking and financial services company headquartered in Mumbai, Maharashtra, India, with its registered office in Vadodara. (Close Price Rs. 318.95 as on 22 Nov).

CEO: Chanda Kochhar (1 May 2009–)
Headquarters: Mumbai
Founder: Industrial Credit and Investment Corporation of India
Founded: June 1994, Vadodara
Profit: US\$1.5 billion (2017)

Indian Bank

Indian Bank is an Indian state-owned financial services company established in 1907 and headquartered in Chennai, India. (Close Price Rs. 408.90 as on 22 Nov).

Headquarters: Chennai
CEO: Kishor Kharat (18 Mar 2017–)
Founded: 15 August 1907

Subsidiaries: Indbank Merchant Banking Svc, Ind Bank Housing

Oriental Bank of Commerce

Oriental Bank of Commerce is an India-based bank established in Lahore, is one of the public sector banks in India .(Close Price Rs. 126.00 as on 22 Nov).

Headquarters: Gurugram
 CEO: AnimeshChauhan (31 Dec 2014–)
 Founded: 19 February 1943
 Owner: Government of India
 Revenue: 200.6 billion INR (US\$3.0 billion)

Punjab National Bank

Punjab National Bank is an Indian multinational banking and financial services company. It is a state-owned corporation based in New Delhi, India. The bank was founded in 1894. . (Close Price Rs. 184.65 as on 22 Nov).

Headquarters: New Delhi
 CEO: Sunil Mehta (6 May 2017–)
 Founder: LalaLajpatRai
 Founded: 19 May 1894, Lahore, Pakistan
 Subsidiaries: PNB Housing Finance Limited, PNB Gilts

State Bank of India

State Bank of India is an Indian multinational, public sector banking and financial services company. It is a government-owned corporation with its headquarters in Mumbai, Maharashtra. . (Close Price Rs.328.90 as on 22 Nov).

Chairperson: Rajnish Kumar
 Headquarters: Mumbai
 Founded: 1 July 1955
 Capital ratio: 13.12% (2016)
 Subsidiaries: SBI Cards, State Bank of Hyderabad

Syndicate Bank

Syndicate Bank is one of the oldest and major commercial banks of India. It was founded by T M APai, UpendraPai and VamanKudva. At the time of its establishment, the bank was known as Canara Industrial and Banking Syndicate Limited .(Close Price Rs.85.50 as on 22 Nov).

Headquarters: Manipal
 CEO: ArunShrivastava (15 May 2015–)
 Founded: 1925, Udupi
 Capital ratio: 12.03% (2017)
 Owner: Government of India
 Founders: T. M. A. Pai, Vaman Srinivas Kudva

VI. DATA ANALYSIS

Data analysis also known as analysis of data or data analytics is a process of inspecting , cleansing transforming and modelling data with the goal of discovering useful information , suggesting conclusions and supporting decision making. Data analysis has multiple facts and approaches, encompassing diverse techniques under a variety of names in different business science, and social science domains.

Data mining is a particular data analysis technique that focuses on modelling and knowledge discovery for predictive rather than purely descriptive purposes, while business intelligence covers data analysis that relies heavily on aggregation focusing on business information .in statistical applications data analysis can be divided into descriptive statistics, exploratory data analysis (EDA), and confirmatory in data analysis (CDA).

Anova: Single FactorAnalysis

SUMMARY

| Groups | Count | Sum | Average | Variance |
|----------------------|--------------|------------|----------------|-----------------|
| Nifty Daily Return % | 247 | 21.7 | 0.1 | 0.8 |
| ANDHRA BANK | 247 | -5.9 | 0.0 | 4.1 |

| | | | | |
|----------------|-----|------|-----|-----|
| BANK of BARODA | 247 | -9.4 | 0.0 | 5.1 |
| CANBK | 247 | 25.5 | 0.1 | 4.3 |
| CORPBANK | 247 | 11.9 | 0.0 | 6.3 |
| HDFC BANK | 247 | 33.4 | 0.1 | 0.8 |
| ICICI BANK | 247 | 17.5 | 0.1 | 3.5 |
| INDIANB | 247 | 35.3 | 0.1 | 8.8 |
| ORIENT BANK | 247 | 11.7 | 0.0 | 6.6 |
| PNB | 247 | 20.6 | 0.1 | 5.9 |
| SBIN | 247 | 12.9 | 0.1 | 2.6 |
| SYNDI BANK | 247 | -7.4 | 0.0 | 5.0 |

ANOVA

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---------------------|-----------------|--------------|----------|----------|----------|-------------|
| Between Groups | 10.07464 | 11 | 0.915876 | 0.204763 | 0.997381 | 1.791884704 |
| Within Groups | 13203.85 | 2952 | 4.472849 | | | |
| Total | 13213.93 | 2,963 | | | | |

ANOVA SUGGESTIONS :-

- Andhra bank, Bank of baroda , and syndicate bank in the investing is not good because the risk is very high.
- The HDFC bank returns are very high so better to invest in that bank.
- In indianbank , sum , avg , varience returns are the positive returns showing.

| Bank Name | Standard Deviation | Expected Return | Variance | Beta |
|---------------------------|--------------------|-----------------|----------|-------|
| Andhra Bank | 0.92 | -0.024 | 0.85 | 1.393 |
| Bank of Baroda | 2.03 | -0.038 | 4.11 | 1.512 |
| Canara Bank | 2.26 | 0.104 | 5.11 | 1.364 |
| Corporation Bank | 2.07 | 0.049 | 4.28 | 1.078 |
| HDFC BANK | 2.52 | 0.136 | 6.35 | 0.619 |
| ICICI Bank | 0.87 | 0.071 | 0.76 | 1.443 |
| INDIAN Bank | 1.87 | 0.143 | 3.49 | 1.860 |
| Oriental Bank of Commerce | 2.97 | 0.047 | 8.8 | 1.850 |
| Punjab National Bank | 2.58 | 0.084 | 6.65 | 1.820 |
| State Bank of India | 2.42 | 0.053 | 5.88 | 1.299 |
| Syndicate Bank | 1.62 | -0.03 | 2.62 | 1.585 |

Interpretation:

Beta = Volatility stock market.

- In beta is a measure of the risk of the data.
- The HDFC bank is [0.62] this volatile is very small and it moves very slow and stable.
- In Indian bank is [1.86] is higher than the market in 86% and more upsides and movements in the market. So we want higher movements we just to choose in Indian bank.

Interpretation:

It is the rate of return, calculated based on assignment of probability distribution with respect to various possible outcomes in the future.

In the given scenario,

The expected rate of Indian bank is 0.143 which high in the given data so the investors would prefer for Indian bank and next preference will be HDFC ,Canara bank like.

Expected Return :

The expected return(0) expected gain on a financial investment is the expected value of its return (of the profit fort the investment). It is measure of the canter of the distribution of the random variable that is the return. It is calculated by using the following formula:

$$E[R] = \sum_{i=1}^n Ri Pi$$

Interpretation:

Variance is usually denoted by π ,it is calculated by finding squared deviation of each data value from the mean of the given data, dividing it by number of observations and then determining its square root. The formula or equation of variance are illustrated below.

Population variance is calculated by the following formula :

$$\pi^2 = \frac{\sum_{i=1}^n (xi-x)^2}{n}$$

Interpretation:

Standard deviation is used to measure the risk of a security standard deviation . It is calculated as a square root of variance in the given scenario.

Standard deviation is variance for Oriental bank of commerce is 2.97 and 8.80 respectively which is more risky security.

Whereas the standard deviation & variance for ICICI bank is 0.70 & 0.87 respectively which are risky security

- Source From www.nseindia.com
- Taken 1 year data 01-09-2016 to 31-08-2017 (when paper was started)
- Referred few papers related to volatility from web site.

VII. CONCLUSION

The Stock market has equal opportunity to every investor but, one succeeds and other may lose. To get successful in investment one must learn from failures. For this investor will search for good performing company in the market. Obesely the established company stock will price high but for this companies also have return and risk factor when it comes to investment . So this paper study the return and risk of 11 bank stock for one year and give a brief idea towards investment. In this process expected return, variance and standard deviation are calculated for more clarity.

From Table 1. We can concluded that ICICI Bank is the optimum choose of investment apart other with respect to long term investment. PNB, SBI ,Canara Bank &HdfcBank are found to be low volatility and price increases leads to profitable portfolio for investor.

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