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A STUDY OF BETA OF SELECTED SECURITIES WITH RESPECT TO NIFTY STOCKS

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Abstract
Market risk and volatility of investing in stocks is commonly measured by what is called beta. It is a tool that facilitates investor's choices regarding the type of investment that best suits their risk tolerance. The study is made to find out the relationship between Beta of Securities & NIFTY Stocks. The Source of data is Secondary, the study is limited to only 10 securities of different companies. Five different sector software, pharmacy, banking, petroleum & electrical were chosen for the study. From each sector, 2 companies were selected, total comprising of 10 companies. . Upon which Findings & Conclusion was made.

Keywords: Market Risk, Volatility, Risk, Beta.

Introduction To Risk

The definition of risk includes the following meanings "Possibility of loss or injury…the degree or probability of such loss". Investors commonly identify six kinds of hazards to which their investments are exposed they are; Business Risk, Financial Risk, Purchasing power Risk, Market risk, Interest Rate Risk, Social or Regulatory Risk

Risk Elements

Risk can be of Systematic and unsystematic. Systematic refers to that portion of total variability of the return caused by common factors affecting the prices of all securities alike through economical, political, social factors. Unsystematic refers to that portion of the return caused due to unique factors relating to that firm or industry. For example Business Risk, Financial Risk and Management Risk.

BETA

Beta is an indicator of an investment's systematic risk. It measures systematic risk associated with an investment in relation to total risk associated with market portfolioThe beta measures the riskiness of individual security relative to market portfolio. It is a ratio of "its covariance with the market" to "the variance of market as a whole".

Objective of the Study

Primary Objective

- To be able to measure the market risk or beta of a security and to find out the variation of stock compared to benchmark index of the nifty.

Secondary Objective

- To relate the market risk of the security to the rate of return that investors demand and apply this rate to stock valuation.
- To know the beta or risk of the company individually

Literature Review

Anbukarasi and Nithya (2014) made an attempt to bring out the correlation between select stock indices and the NIFTY from January 2013 to June 2014. It was found that there was a significant correlation of all the selected indices except Metal, Pharma, Bank and Realty indices. It was also concluded t hat the Pharma and Bank indices have a strong impact on NIFTY movements.

Shanmugasundram and Benedict (2013) conducted a study on the volatility of the sectoral indices with reference to NSE. In this study the risk relationship in different time intervals of the CNX NIFTY index and five sectoral indices including Auto index, Bank index, FMCG index, Infrastructure index and IT index was examined. The results of the study did not support any significant difference across the risk of sectoral indices and NIFTY.

Swarna Lakshmi (2013) used the ARCH model to measure the volatility in NIFTY and other 11 select sectoral indices in India for the period 2008 to 2013. A conclusion was made on the 11 sectors volatility in comparison with the NIFTY and it

was found that among the 11 sectors, the realty sector was the most volatile than any other sector. The paper also has discussions on the reasons for the same.

Research Methodology

The methodology used is exploratory research.

Data Sources

Research is totally based Secondary data. The data has been collected from the opening & closing values of NIFTY closings from July 1st 2014 to September 30th 2016.

Data Analysis and Interpretation

Method Used

To achieve the objective the following methods are used

- July 1st 2014 to September 30th 2016 NIFTY closings and NIFTY securities values have been taken to execute the analysis part of the study.
- In the second phase, the NIFTY securities' returns and NIFTY returns have been calculated.
- The beta values of the securities have been calculated using the following formula:

$$\beta = \frac{n\Sigma xy-(\Sigma x)(\Sigma y)}{n\Sigma x^2-(\Sigma x)^2}$$

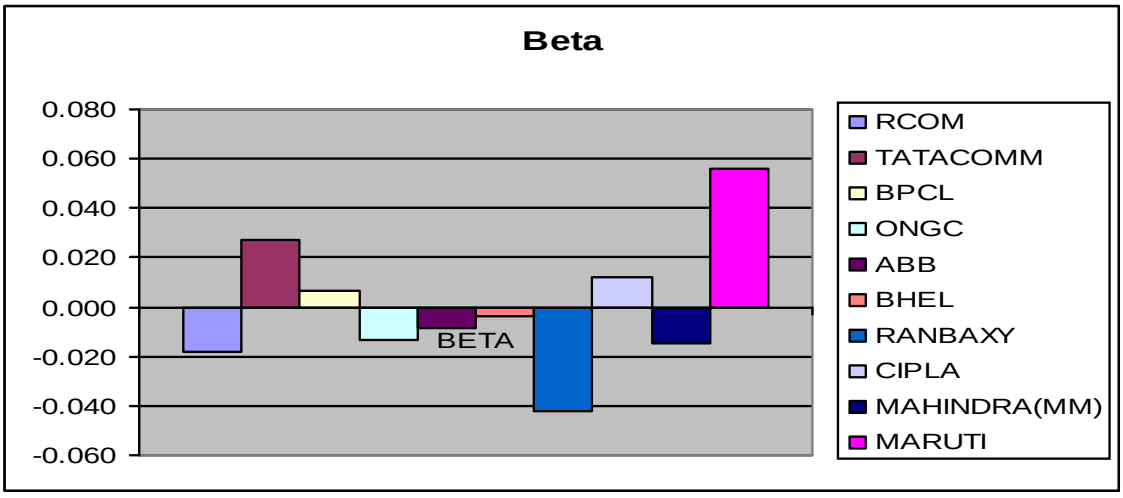
Table Showing The B Values of the Selected Stocks

S NO	SECURITY	Nifty Return (x)	Security's Return (y)	β VALUES
1	BPCL	-769.81	41.79	0.006583
2	ONGC	-769.81	25.71	-0.01344
3	ABB Ltd	-769.81	4.85	-0.00862
4	BHEL	-769.81	-0.40	-0.0039
5	RANBAXY	-769.81	-27.29	-0.04196
6	CIPLA	-769.81	2.91	0.011913
7	MAHINDRA & MAHINDRA	-769.81	29.01	-0.015
8	MARUTI Ltd	-769.81	57.14	0.056108
9	RCOM	-769.81	-13.56	-0.0182
10	TATACOMM	-769.81	21.75	0.026889

Inference

The β is the volatility of securities. It represents the responsiveness of securities returns to the market portfolio returns. Here NSE is taken as portfolio to compare and calculate β. The market portfolio β will be 1 always. Comparing to this, the companies having β less than 1 has lower risk than NSE. Therefore it can be said the risk is below NIFTY's risk.

Graph Showing Beta Values of all Securities



Inference

The above graph shows the beta values of all the ten companies. It shows that MARUTI is having the highest beta value and RANBAXY is having the lowest beta value. The volatility of the MARUTI is higher and it is more risky security.

Findings

1. In Telecommunication sector, TATA communications was more when compared to RCOM
2. In petroleum sector, BPCL was noticed with high risk when compared to ONGC.
3. In electrical sector, securities like ABB and BHEL were taken and it was observed that risk (β) associated with BHEL was more when compared to ABB.
4. In the case of Pharmacy sector, RANBAXY was showing lower β value when compared to CIPLA.
5. In the case of Automotive sector, MARUTI was showing higher β value when compared to MAHINDRA & MAHINDRA.
6. On the whole, it is observed that all securities are having the beta value less than 1 which shows that the risk associated with these securities is low.

Conclusion

Every investor wants to guard himself from the risk. Understanding the nature of the risk and careful planning can do this.Looking at the beta values, the investor can gauge the risk factor and make wise decisions according to his risk tolerance.The investor should be prepared to hold the stock for a period of time to reap the benefits of the rising trend in the market. He should be careful in the timings of the purchase and sale of the stock. He should purchase it at the lower level and should exit at higher level. The securities like ABB, BPCL, CIPLA and Ranbaxy are having beta values less than 1 which indicates that these securities are less volatile when compared to the other securities. The risk associated with these securities is less, so the investors can invest in these securities.

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Website

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