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80. TESTING OF SHARPE'S SINGLE INDEX MODEL FOR BSE SELECTED COMPANIES WITH OTHER SELECTED COMPANIES IN INDIAN CAPITAL MARKET

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Abstract— **An attempt is made here to get an insight into the idea surrounded in Sharpe's single index model and to construct an optimal portfolio empirically using this model. Taking BSE Sensex as market performance index and considering BSE 30 companies and considered 30 different sectors and selected one company in each sector with highest market capitalization. In this article the secondary data is considered. The main objective of this research is verifying the Sharpe's single index model with BSE 30 companies and my own selection of 30 companies for construction of optimal portfolio and testing this model in Indian capital market as well as testing BSE selection was it appropriate. Descriptive research methodology used for this study and taken 6.62% as risk free rate as specified for 30 years Govt. bond rate. Calculated Beta co-efficient for selected stocks keeping market is independent variable. In this article used Linear Programming Problem (LPP) for proportion of investment in selected stocks and tested the result for BSE selection companies and my selection companies. The result of optimal portfolio construction seven for BSE and ten companies are selected for own selection as per the model. This was tested for a period of almost two months resulting that BSE portfolio gives around -9.42% loss whereas own selection gives around 11.27% as returns. So it can be considered that, model is working in Indian capital market and selection of 30 companies by BSE India was not much appropriate since, Sensex has increased by 8.64% from last two months.**

Keywords— ***Optimal Portfolio, LPP, Risk free rate, Beta***

I. INTRODUCTION

For every person who is parking their savings for future uncertainty or to get good returns or capital appreciation is called investment. By diversifying and minimizing the risks of their investment people prefers portfolio investment. Portfolio is the collection of financial assets like - equity shares, bonds, debentures, treasury bills etc. Portfolio is a combination of assets or and securities. Portfolio is helps out in decisions regarding risk and return. The major aspect is constructing portfolios investors need to look at expected return of each investment in perspective of risk of the overall portfolio. The portfolio management is concerns the construction and maintenance of a collection of investment. In the investment platform investment of funds in different securities in which the total risk of the portfolio is minimized. It is primarily focuses on reducing risk rather than increasing return. The portfolio construction is the investing range of funds that will work together to create an investment solutions for an investors.

II. LITERATURE REVIEW

Dr. S Poornima, Aruna P Remesh: The authors main aim of this study was to construct an optimal portfolio using Sharpe's Single Index model. For this purpose monthly closing prices of 10 companies from banking sector and 10 companies from IT sector listed in the Bombay stock exchange (BSE) were selected. Share prices for the period of January 2010 to December 2015 had been considered. Using all the collected data a "cut-off "rate had been calculated and that rate had been considered for the construction of optimal portfolio. The finding of the study is very useful for investors, policy makers, corporations and their financial market participants.

Dr. Sathya Swaroop Debasish and Jakki Samir :The main focus of the research is to construct an optimal portfolio in Indian stock market with the help of the Sharpe single index model. Portfolio construction is an important process of the investors for investment in the equity market. A good combination of portfolio will give maximum return for a particular level of risk. In this research, 14 selected stocks from the various manufacturing sectors. The daily data for all the stocks for the period of January 2003 to November 2012 have been considered. The proposed method formulates a unique cut off point (Cut off rate of return) and selects stocks having excess of their expected return over risk free rate of return surpassing this cut-off point. Percentage of investment in each of selected stocks is then decided on the basis of respective weights assigned to each stock depending on respective beta value, stock movement variance unsystematic risk, return on stock and risk free return vis-a-vis the cut off rate of return. The study finds that only three company stocks constitute the optimum portfolio and these are Asian Paints, Tata motors and Hero Motor Corp. with ideal proportion of investment of 1.9 %, 38.88 and 58.22% respectively. This research findings and suggestions would be helpful to investors.

III. STATEMENT OF THE PROBLEM

In the fluctuating market, it is the foremost importance to diversify the investment sensibly so as the risk is minimized and a maximum return for the amount of risk levied is gained. This study is helping to the investors to build upon the optimal portfolio from the companies of various sectors. This is