A STUDY ON SUITABILITY OF WILLIAM SHARPE'S SINGLE INDEX MODEL IN SENSEX IN THE INDIAN CONTEXT

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ABSTRACT

A portfolio consists of any combination of assets and / or securities, the outcome of which cannot be defined with certainty. A portfolio goes with a saying that "A wise man never puts all his eggs in one basket". Since it is rarely desirable to invest the entire funds of an individual or an institution in a single security one should always consider investing in a portfolio. It is essential that every security be viewed as a part of portfolio. Two basic principles of finance form the basis for portfolio theory, namely, Time value of money and the Safety of money.

The objectives of the study are to elicit the applicability and utility of the single index model in Indian context, to construct a corner portfolio using single index model for Sensex in India, and to evaluate the performance of the portfolio thus constructed in terms of its rate of return. The exploratory research is used for the study. With the characteristics of risk and return of individual securities an optimal portfolio constructed. The research conducted is an analytical study, in this paper a study is conducted to determine the level of portfolio mean returns constructed through Sharpe Single Index Model. Data required for this study was secondary data which was collected from various secondary sources like Capital Line Database, BSE, Ministry of Banking, Investopedia, Economy Watch etc. The sampling technique followed for the study is non-probabilistic judgmental sampling. The sample units were identified based on certain criteria which suited for the objective. The sample consists of 30 companies listed in Sensex selected on the basis of the research objective.

Key words: Sensex, Investment, Portfolio,

I. INTRODUCTION

PORTFOLIO

The Portfolio Theory also known as Modern Portfolio Theory was first developed by Harry Markowitz. He had introduced the theory in his paper 'Portfolio Selection' which was published in the Journal of Finance in 1952. In 1990, he along with Merton Miller and William Sharpe won the Nobel Prize in Economic Sciences for the theory.

The theory suggests a hypothesis on the basis of which, expected return on a portfolio for a given amount of portfolio risk is attempted to be maximized or alternately the risk on a given level of expected return is attempted to be minimized. In other words, the theory uses mathematical models to construct an ideal portfolio for an investor that gives maximum return depending on his risk appetite by taking into consideration the relationship between risk and return. According to the theory, each security has its own risks and that a portfolio of diverse securities shall be of lower risk than a single security portfolio. Simply put, the theory emphasizes on the importance of diversifying to reduce risk. The investors stressed on individually picking high yielding stocks to earn maximum profits. So if one particular industry was offering good returns; an investor would have landed up picking all stocks of his portfolio from the same industry thereby making it a highly unwise act of portfolio management. Although it was intuitively understandable, the Portfolio Theory was the first of its kind to mathematically prove it.

WILLIAM SHARPE's SINGLE INDEX MODEL

"There are two elements of security returns-independent and dependent". The basic notion underlying the single index model is that the movements in stock market affect all stocks. Casual observation of share prices reveals that when the market moves up, prices of most shares tend to increase when the market goes down the prices of most shares tend to decline. William Sharpe assumed that, for the sake of simplicity, the return on security could be regarded as being linearly adapted to a single index like the market index.Theoretically, the market index should consist of all the securities trading in the market. However a popular average can be treated as a surrogate for the market index. Acceptance of idea of a market index, Sharpe argued, would obviate the need for calculating thousands of co -variances between individual securities in the single underlying factor being