

**Risk Perception and Portfolio Management of Equity Investor**

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**ABSTRACT**

*Identifying key factors influencing individual investor's decision to make portfolio choices is important to understand their different investment behavior. This paper explores individual investor's preference for portfolio choices and provisionally investigates impacts of risk tolerance and risk perception on their investment decision. Specifically we decide socioeconomic status difference in investment preference for portfolio choices with respect to investor's age, income level. Using chi-square analysis on investment experiments to obtain some evidences from a sample of 200 respondents in survey; our results indicate that investor's decisions to make their portfolio choices are significantly and negatively related to personal income level. This finding implicates that investor with higher risk tolerance level shows higher likelihood to make their investment decision on portfolio choices it is found that male investor demonstrates much preference on portfolio choices with higher percentage of total return.*

**Keywords:** Perception, Equity share, Risk, Investment

**INTRODUCTION:**

A portfolio is a collection of investments held by an institution or a private individual. In building up an investment portfolio a financial institution will typically conduct its own investment analysis, whilst a private individual may make use of the services of a financial advisor or a financial institution which offers portfolio management services. Holding a portfolio is part of an investment and risk-limiting strategy called diversification. By owning several assets, certain types of risk (in particular specific risk) can be reduced. The assets in the portfolio could include stocks, bonds, options, warrants, gold certificates, real estate, futures contracts, production facilities, or any other item that is expected to retain its value.

Portfolio management involves deciding what assets to include in the portfolio, given the goals of the portfolio owner and changing economic conditions. Selection involves deciding what assets to purchase, how many to purchase, when to purchase them, and what assets to divest. These decisions always involve some sort of performance measurement, most typically expected return on the portfolio, and the risk associated with this return (i.e.the standard deviation of the return). Typically the expected returns from portfolios, comprised of different asset bundles are compared.

Thus, portfolio management is all about strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety and numerous other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

Aspects of Portfolio Management:

Basically portfolio management involves

- A proper investment decision making of what to buy & sell
- Proper money management in terms of investment in a basket of assets so as to satisfy the asset preferences of investors.
- Reduce the risk and increase returns.

#### **OBJECTIVES OF PORTFOLIO MANAGEMENT:**

The basic objective of Portfolio Management is to maximize yield and minimize risk. The other ancillary objectives are as per needs of investors, namely:

- Regular income or stable return
- Appreciation of capital
- Marketability and liquidity
- Safety of investment
- Minimizing of tax liability.

#### **SCOPE OF STUDY:**

This study covers the Markowitz model. The study covers the calculation of correlations between the different securities in order to find out at what percentage funds should be invested among the companies in the portfolio. Also the study includes the calculation of individual Standard Deviation of securities and ends at the calculation of weights of individual securities involved in the portfolio. These percentages help in allocating the funds available for investment based on risky portfolios.

#### **OBJECTIVE OF STUDY**

How to analyze securities

- How portfolio management is done
- A study to find the returns, variance, & standard deviation of dividend and growth fund.
- Based on the returns I tried to correlate these two funds, to know whether there exist positive or negative correlations.
- To study the investment pattern and its related risks & return
- To help the investors to choose wisely between alternative investment
- To understand, analyze and select the best portfolio

#### **REVIEW OF LITERATURE:**

Numerous studies and research have been conducted by various researchers and scholars of different universities and research centers from all over the world to understand about investor's perception and psychology while investing in different markets. The literature relevant to risk perception was studied to know the factors that are already been studied related to psychology of investors and conclusions drawn by other researchers was also studied. Some scholars concluded that there is a direct relationship between risk and investment which means that if an investor feels that there is huge risk involved in a particular investment then he tends to buy more of that investment, whereas some researchers argued that there is an indirect relationship between the two. Some researchers also observed from their respective studies that, general factors like herding, over-reaction, cognitive bias, over and under-confidence, demographic factors, have a greater impact on investor's behaviour in the stock market, and also these factors influence the individual investor's decision making in the investment markets.

### **Articles:**

AUTHOR: Harry Markowitz

JOURNAL: The Journal of Finance (volume 7) no1 (March 2007) ABSTRACT:

The process of selecting a portfolio may be divided in two stages. The first stage starts with observations and experience and ends with beliefs about the future performance of available securities. The second stage starts with the relevant beliefs about future performance and ends with the choice of portfolio. This paper is concerned with the second stage. We first consider the rule that the investor does maximize discounted expected, returns. This rule is rejected both as a hypothesis to explain, and as a maximum to guide investment behavior. We next consider the rule that the investor does consider expected return a desirable thing and variance of return an undesirable thing. We illustrate geometrically relations between beliefs and choice of portfolio according to the "expected returnsvariance of returns" rule.

ARTICLE:2

TITLE: Reduction of risk through portfolio management.

AUTHOR: Fisher N & Hall GR,

JOURNAL: The Economic Challenger, no12, issue46 (March2010) ABSTRACT:

The rationale investor analyses the risks associated with the investment before investing his or her wealth in various investment. Risk is the probability of occurrence of loss. It consists of two components, Systematic risk and unsystematic risk. Systematic risk is the measurable part of total risk and the techniques used in the evaluation of portfolios. Unsystematic risk is not measurable and so it is not considered for portfolio evaluation.

ARTICLE:3

TITLE: Portfolio Management process.

AUTHOR: Prasanna Chandra

JOURNAL: Investment Analysis and portfolio management-2010 ABSTRACT:

Portfolio management is a complex activity which may be broken down into following. Specification of investment objectives and constraints, the typical objectives sought by investors are current income capital appreciation and safety of principal. Choice of the asset mix; this is concerned with proportion of stocks and bonds on the portfolio. Formulation of the portfolio strategy; once a certain asset mix is chosen an appropriate portfolio strategy has to be implemented.

**ARTICLE:4**

TITLE: Portfolio Management Services AUTHOR:

Dorota Maria.

JOURNAL: International Advance in Economic Research (2007).

ABSTRACT: In today competitive world where banks and financial institutions provide number of services which provides a customer with a wide spectrum of investment opportunities. They in order to retain their customers provide them special services beside traditional services. The invention of new technology and services by bank and financial institution has given the customers a wide range of investment avenues to invest in one of the special services brought out by objective of this program is to review the real meaning of portfolio management, its objectives framework, responsibilities of portfolio manager and the study of various other issues related to it such as its comparison with mutual funds with role of merchant.

ARTICLE:5

TITLE: Portfolio Management process. AUTHOR: Prasanna Chandra JOURNAL: Investment Analysis and

portfolio management-2010 ABSTRACT: Portfolio management is a complex activity which may be broken down into following. Specification of investment objectives and constraints, the typical objectives sought by investors are current income capital appreciation and safety of principal. Choice of the asset mix; this is concerned with proportion of stocks and bonds on the portfolio. Formulation of the portfolio strategy; once a certain asset mix is chosen an appropriate portfolio strategy has to be implemented.

## **RESEARCH METHODOLOGY:**

### **DATA COLLECTION METHODS:**

The data collection method secondary collection method.

Secondary collection methods:

The secondary collection methods includes the lectures of the superintendent of the department of market operations and so on., also the data collected from the news, magazines and different books issues of this study

Superintendent

**Arithmetic average or mean:** The arithmetic average measures the central tendency. The purpose of computing an average value for a set of observations is to obtain a single value, which is representative of all the items. The main objective of averaging is to arrive at a single value which is a representative of the characteristics of the entire mass of data and arithmetic average or mean of a series (usually denoted by  $\bar{x}$ ) is the value obtained by dividing the sum of the values of various items in a series ( $\sum x$ ) divided by the number of items ( $N$ ) constituting the series.

**STANDARD DEVIATION:** The concept of standard deviation was first suggested by Karl Pearson in 1983. It may be defined as the positive square root of the arithmetic mean of the squares of deviations of the given observations from their arithmetic mean. In short S.D may be defined as "Root Mean Square Deviation from Mean

**VARIANCE:** The square of standard deviation is known as Variance. Variance is the square root of the standard deviation:

### **CORRELATION**

Correlation is a statistical technique, which measures and analyses the degree or extent to which two or more variables fluctuate with reference to one another. Correlation thus denotes the interdependence amongst variables. The degrees are expressed by a coefficient, which ranges between  $-1$  and  $+1$ . The direction of change is indicated by (+) or (-) signs. The former refers to a sympathetic movement in a same direction and the later in the opposite direction.

**DATA ANALYSIS:**

**MARUTI SUZUKI:**

Year	(P0)	(P1)	D	(P1-P0)	$D+(P1-P0)/ P0*150$
2015-16	924	992	4.5	68	16.86
2016-17	992	520	5	-472	-42.58
2017-18	520	2060	3.5	1,040	203.50
2018-19	2060	1921	6	-189	-2.91
2019-20	1921	935	7.5	-486	-26.70
<b>AVERAGE RETURN</b>					<b>28.63</b>

**ACC CEMENTS:**

Year	(P0)	(P1)	D	(P1-P0)	$D+(P1-P0)/ P0*150$
2015-16	1574	1528	20	-46	20.72
2016-17	1528	478	20	-550	-33.50
2017-18	478	872	23	394	155.43

2018-19	872	1576	30.5	204	53.89
2019-20	1576	1686	16	60	16.58
<b>AVERAGE RETURN</b>					<b>31.62</b>

**HDFC BANK:**

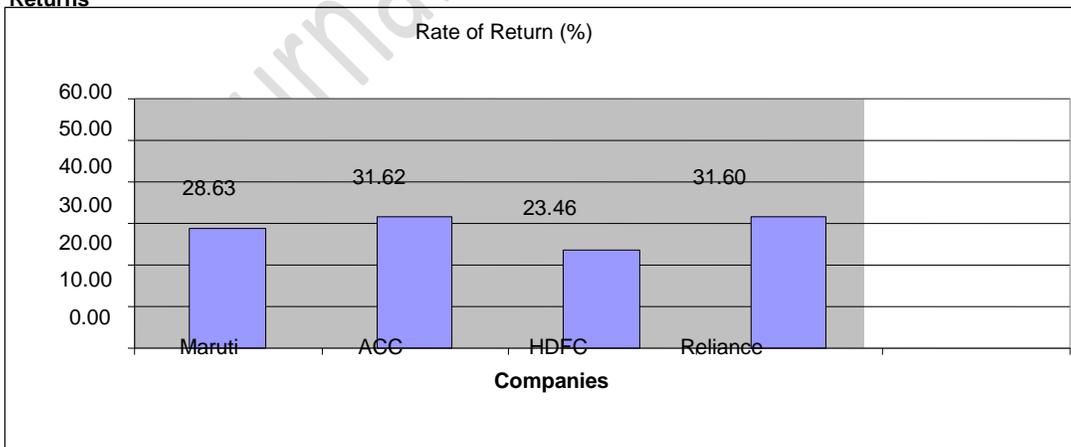
Year	(P0)	(P1)	D	(P1-P0)	$D + \frac{(P1-P0)}{P0} * 150$
2015-16	899	1731	15	332	46.93
2016-17	1731	448	16	-783	-52.61
2017-18	448	876	16	428	156.54
2018-19	876	1695	17	269	42.71
2019-20	1695	684	19	-461	-26.26
<b>AVERAGE RETURN</b>					<b>23.46</b>

**RELIANCE:**

Year	(P0)	(P1)	D	(P1-P0)	$D+(P1-P0)/P0*150$
2015-16	638	1924	16	786	184.20
2016-17	1924	620	18	-809	-43.81
2017-18	620	1589	18	474	90.07
2018-19	1589	1558	7	-31	4.20
2019-20	1558	692	8	-366	-26.59
<b>AVERAGE RETURN</b>					<b>31.60</b>

**Comparative Returns on Selected Scrips:**

**Returns**



Scrip	Rate of Return (%)
Maruti	28.63
ACC	31.62
HDFC	23.46
Reliance	31.60

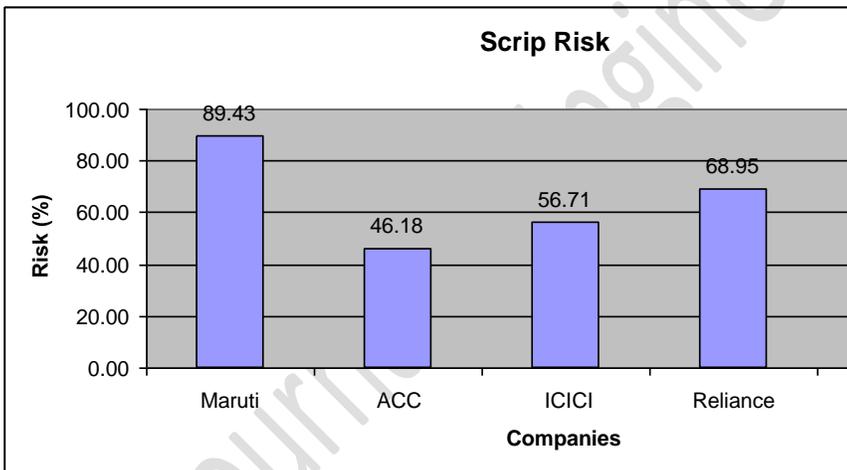
**CALCULATION OF STANDARD DEVIATION:**

Standard Deviation =  $\sqrt{\text{Variance}}$

Variance =  $1/n (R-R)^2$

Variance =  $1/n.(R-R)^2 = 1/5 (23772.16) = 4754.42$

Standard Deviation =  $\sqrt{\text{Variance}} = \sqrt{4754.42} = 68.95$  **DIAGRAMATIC PRESENTATION OF COMPANIES RISK**



Scrip	Risk (%)
Maruti	89.43
ACC	46.18

HDFC	56.71
Reliance	68.95

**CALCULATION OF CORRELATION:**

$$\text{Covariance (COV ab)} = 1/n (RA-RA)(RB-RB)$$

$$\text{Correlation Coefficient} = \text{COV ab} / \sqrt{a} * \sqrt{b}$$

$$\text{Covariance (COV ab)} = 1/5 (20367) = 3073$$

$$\text{Correlation Coefficient} = \text{COV ab} / \sqrt{a} * \sqrt{b} \quad a =$$

$$\sqrt{56.71}; b = \sqrt{68.95}$$

$$= 3073 / (56.71)(68.95) = 0.785$$

**FINDINGS AND CONCLUSIONS:**

- Individual returns on the selected stocks including Maruti, ACC, HDFC, Reliance are 28.63%, 31.62%, 23.46%, 31.60% respectively.
- Individual risks on the selected stocks including Maruti, ACC, HDFC, Reliance are 89.43%, 46.18%, 56.71%, 68.95% respectively.
- Correlation between all the companies is positive which means all the combinations of portfolios are at good position to gain in future.
- Portfolios Returns of followed by ACC & HDFC (35%) and Maruti & ACC (33.08%) stood on the top while Portfolio Returns of Maruti & HDFC (21.2%) and HDFC & Reliance (24.15) stood at the bottom.

**CONCLUSIONS:**

The main objective of the Portfolio management is to help the investors to make wise choice between alternate investments without a post trading shares. Any portfolio management must specify the objectives like Maximum returns, Optimum Returns, Capital appreciation, Safety etc., in the same prospectus. This service renders optimum returns to the investors by proper selection and continuous shifting of portfolio from one scheme to another scheme of from one plan to another plan within the same.

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