

## RISK RETURN RELATIONSHIP: A STUDY OF SELECTED MUTUAL FUNDS

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### ABSTRACT

*"Saving" and "investing" are often used interchangeably. However, there are differences between the two. Saving refers to funds kept for making specific purchases in the relatively near future and for emergencies. Investing, on the other hand, focuses on increasing net worth and achieving long-term financial goals. Investing involves risk of loss of principal and is more concerned on the return of investment. This total risk, measured by standard deviation, can be divided into two parts: Unsystematic risk, systematic risk. Unsystematic risk is also called diversifiable risk. Systematic risk may be called non-diversifiable risk, unavoidable risk or market risk and can be measured by Beta. The objective of the present study is to test whether the relationship between total risk and return is positive on selected mutual funds schemes during the study period. And whether there is a positive relationship between return  $E(R_i)$  and systematic risk. The study found a positive relationship between risk and return on selected mutual funds during the study period.*

**Keywords:** Risk, Mutual Fund, Unsystematic risk, Systematic risk, Beta.

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Prudent investing requires information of key financial concepts and an understanding of your investment profile and how these work together to affect investing decisions and results. "Saving" and "investing" are often used interchangeably. However, there are differences between the two. Saving refers to funds kept for making specific purchases in the relatively near future (usually three years or less) and for emergencies. Preservation of the principal and liquidity of the funds (ease of converting to cash) are essential aspects of savings. Consequently, savings generally yield a low rate of return and do not maintain purchasing power. Investing, on the other hand, focuses on increasing net worth and achieving long-term financial goals. Investing involves risk (of loss of principal) and is to be considered only after you have adequate savings and have done proper risk management. In short, investing is more concerned on the return of investment, while savings is on the return of capital. All investments involve some element of risk because the future value of an investment is uncertain.

Risk, simply stated, is the possibility that the actual return on an investment will vary from the anticipated return or that the initial principal will decline in value. Risk implies the possibility of loss on your investment.

Mutual Fund "Is a fund, managed by an investment company with the financial objective of generating high Rate of Returns". Or An investment vehicle managed by finance professionals that raises capital by selling shares (called units) in a chosen and balanced set of securities to the public.

A mutual fund is a type of investment fund. An investment fund is a collection of investments, such as stocks, bonds or other funds. Unlike most other types of investment funds, mutual funds are "open-ended," which means as more people invest, the fund issues new units or shares. A mutual fund typically focuses on specific types of investments. For example, a fund may invest mainly in government bonds, stocks from large companies or stocks from certain countries. Some funds may invest in a mix of stocks and bonds, or other mutual funds. These asset management or investment management companies collect money from the investors and invest those money in different Stocks, Bonds and other financial securities in a diversified manner. Before investing they carry out thorough research and detailed analysis on the market conditions and market trends of stock and bond prices. These things help the fund managers to speculate properly in the right direction. The investors, who invest their money in the Mutual fund of any Investment Management Company, receive an Equity Position in that particular mutual fund. When after certain period of time, whether

long term or short term, the investors sell the Shares of the Mutual Fund, they receive the return according to the market conditions.

### **OBJECTIVES OF THE STUDY**

The objective of the study is to test whether the relationship between risk and return is positive on selected mutual funds schemes during the study period. And whether there is a positive relationship between return  $E(R_i)$  and systematic risk.

### **REVIEW OF LITERATURE**

The performance evaluation of managed portfolios has been a widely debated issue in the area of finance. The subject has received serious attention from Harry Markowitz. His innovative contribution has completely revolutionized thinking on the issue.

Sarkar (1991) critically examined mutual fund performance evaluation methodology and pointed out that Sharpe (1966) and Treynor (1968) performance measures rank mutual funds similarly on performance in spite of their differences in methodology.

Obaidullah and Sridhar (1991) evaluated the performance of two major growth oriented mutual funds - Mastershare and CaDshare from India and concluded that these funds provided abnormal returns.

Gupta and Sehgal (1998) evaluated investment performance of 80 mutual fund schemes for the Indian market over a four year period 1992-96. It tested propositions relating to-fund diversification, consistency of performance, parameter of performance and objective stationarity in addition to examining risk-return relationship in general.

Fama and French (1992) study also found an insignificant between average return and beta.

O.P. Gupta reproduced (1989) the work of G.C. Maheshwari and K.R. Vanjara on risk and return relationship. They found an inverse relationship between systematic risk and return on securities during the year 1986. The relationship was presented by a negative rank correlation coefficient.

Cadsby (1992) found that risk was rewarded at the turn of the month but not during the rest of the year and late in the week but not early in the week.

The empirical results reported in the study indicated that mutual fund industry has performed reasonably well for the Indian market. Taken as a whole, the studies examined offer contrary results in that mutual funds were sufficiently successful in beating the market portfolio.

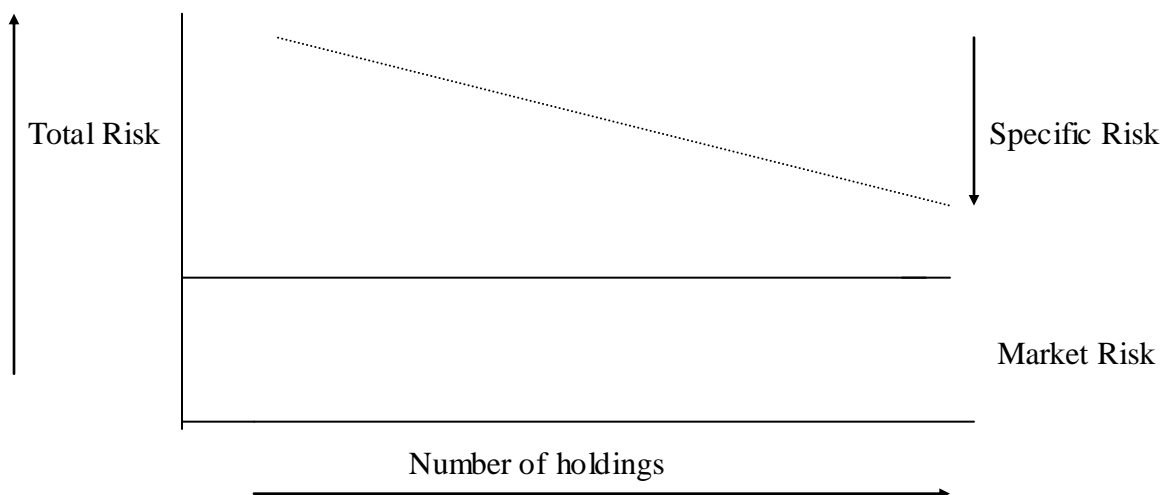
### **The Risk and Return Relationship**

Generally speaking, risk and rate of return are directly related. As the risk level of an investment increases, the potential return would increase as well. The greater the potential of

reward is, the greater also is the potential of risk. There is no such thing as a riskless investment. It is all but impossible to increase the performance of an investment without also increasing the risk.

This total risk can be divided into two parts: Unsystematic risk, systematic risk. Unsystematic risk is also called diversifiable risk. It is that portion of total risk that is peculiar or unique to a firm. Factors such as consumer preferences, plant break down labour strikes, competition, management ability; development of a new product, access to a new market, etc. are a few examples of unsystematic variability. With diversification the investor can eliminate unsystematic risk to a great extent.

Systematic risk may be called non-diversifiable risk, unavoidable risk or market risk. Systematic risk is that portion of total risk caused by factors affecting all the economy, such as interest rate, money supply, taxation, exchange rates, prices of commodities, govt. spending and monsoon. To some extent, the fortunes of all the companies move with the economy. Factors as mentioned above affect all companies to some greater or lesser extent. So, total risk of a security is the sum of specific risk and market risk, and specific risk can be removed by diversification.



**Figure 1.1 Risk Reduction by diversification**

### **Length of the Study**

The study is entirely based on the secondary data. The scope of the study kept limited to the time period of 5 years (January 2003 to December 2007). The sample consists of 10 growth schemes, which is chosen at random basis. It is important to point out that NAVs have taken on monthly basis.

### Methodology

Portfolio's return ( $R_n$ ) is calculated by using the following formula:

$$R_p = \frac{(NAV_t - NAV_{t-1})D_t + C_t}{NAV_{t-1}}$$

$R_p$  = Portfolio return

$NAV_t$  = Net asset value on time period t

$NAV_{t-1}$  = Net asset value in the period t-1

$D_t$  = dividend in the form bonus distributed in the period t

$C_t$  = cash dividend distributed in the time period t

Year wise returns have been calculated for all mutual funds scheme since their commencement of the study period

The risk is calculated by determining the standard deviation and the formula to calculate standard deviation is

$$\text{Standard deviation of the portfolio} = \sqrt{\frac{(R_p - \bar{R}_p)^2}{n-1}}$$

Total risk is calculated with standard deviation.

As stated earlier that beta is a measure of systematic risk.

$$\beta = \text{Cov}(R_p, R_M) / \sigma^2(R_M)$$

### RESULTS

The standard deviation values of selected mutual funds vary between 0.73 to 0.13. The beta values of selected mutual funds vary between 1.7361 to -0.1053. The correlation coefficient between risk and return in the same period is 0.65. But when the systematic risk of a mutual fund is compared with the return of that mutual fund, the correlation coefficient is 0.12. The present study found, a positive relationship between return and risk. Yalwar's (1985) study based on individual stocks also indicates the same results as obtained in the present study. The coefficient of correlation between beta i.e. systematic risk and return is 0.12. It indicates an insignificant but positive relationship between systematic risk and return.

Table 3.5

## Return and Risk Coefficient of Various Sample Schemes

Fund Schemes	Return	$\sigma$	$\beta$
1. Alliance' 95(G)	0.3177	0.4283	0.888
2. Birla Advantage (A)	0.3817	0.6382	0.2823
3. Canganga	0.0845	0.2737	0.6693
4. Chola Freedom (G)	-0.0125	0.3555	0.9261
5. ICICI premier	0.1465	0.1341	0.3084
6.Kothari Pioneer Bluechip (G)	0.1682	0.6035	-0.1053
7.Reliance Growth Fund	0.4313	0.624	0.8951
8. Reliance Vision	0.2836	0.402	1.6329
9. Tata Pure Equity Fund	0.31 89	0.749	1.7361
10. UTI Master Plus' 91	0.128	0.35	0.8616
BSE Sensex	0.0718	0.3366	1
Corelation		0.65	0.12

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