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# CONCEPTUAL FRAMEWORK FOR TESTING THE MARKET TIMING AND STOCK SELECTION ABILITY OF MUTUAL FUND MANAGERS' IN INDIA

**Chetna Vashisht*; Mohit Gupta****

*Assistant Professor,
Shree Atam Vallabh Jain College,
Punjab University, Chandigarh, INDIA

**Professor,
School of Business Studies,
Punjab Agricultural University,
Ludhiana, Punjab, INDIA

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## ABSTRACT

*Most of the research carried out in the domain of mutual fund portfolio performance pertains to studying of return and risk parameters. It was observed that less attention given to the concept of market timing ability and stock selection ability of mutual fund. The aim of the study is to discuss the conceptual frame work of unconditional models to test the ability of the mutual fund manager to time the market along with the right selection of stock as returns are dependent on the kind of a decision taken by the fund manager. These abilities help to improve the skills of investment manager to pick the best stock at the right time. Different parameters like mutual fund rating, mutual fund portfolio composition, year wise return rating are significant determinants of performance attribution in context to fund managers' stock selection ability and market timing ability using unconditional models.*

**KEYWORDS:** *parameters, significant, ability, attribution, portfolio, pertains.*

## INTRODUCTION

Mutual fund performance is one of the globally addressed issues in mutual fund literature. According to Securities and Exchange Board of India mutual fund is defined as 'a fund established in the form of a trust to raise monies through the sale of units to the public or a section of the public under one or more schemes for investing in securities, including money market instruments or gold related instruments (Anonymous 2008). From the earliest works on performance evaluation to multi-variate analysis of the issues that influence performance, this issue has seen a great evolution. Researchers have shown wider interest not only in measuring the performance of mutual fund, developing better models of performance measurement, but also in various factors and attributes that influence performance. At present interest of the researchers' lies in developing various models in context to fund managers' stock selection and market timing ability of performance evaluation. Closely associated to the issue of mutual fund performance are the issues of mutual fund performance persistence and fund managers' market

timing and stock selection abilities. Performance evaluation provides help to the investors in choosing the best combination of funds on the basis of these models. Sometimes the wrong decision taken by the mutual fund manager can put the investor in big loss or crisis

Mutual fund performance evaluation and identification of successful fund manager is of great interest to both the investors and academicians. Such evaluation is useful to the investors in efficiently allocating investment funds and indicates superior performance or forecasting skills which may be of interest to academicians in refuting efficient market hypothesis. Fund managers generate superior performance either by stock selection or through market timing. Stock selection skills involve forecasting of individual stock prices and identification of over and undervalued securities relative to the broader equity markets. The skills for market timing involve correctly finding the market direction and positioning of the portfolios accordingly. The two basic models commonly suggested in literature to access the market timing ability of the fund manager are Treynor and Mazuy model (Treynor and Mazuy 1966) and Henriksson and Merton Model (Henriksson and Merton 1981). Both these models are unconditional and excessively used for finding the market timing ability and stock selection ability of mutual fund managers (Deb *et al* 2007). Several other research evidences and models(for example see Ferson and Scadt 1996, Ferson and Warther 1996, Christopherson et al 1999) found that conditional models are better in identifying market timing skills and stock selection abilities of fund managers' as compared to unconditional models. Another study by Chang and Lewellen 1985 conducted the procedure derived from Arbitrage Pricing Theory for the stock selection ability of the investment manager which mentioned two important sources of market timing ability and stock selection ability to achieve the performance of mutual funds where as another study concluded that superior performance existed among growth funds and those with the smallest net asset values (Grinblatt and Titman 1989). Performance attribution models and regression based models of market timing and stock selection are used by majority of academicians and fund managers (TSG 2007) for evaluation of portfolio performance determinants. Various studies (for example see Bollen and Busse2001, Vashisht *et al* (2017) also demonstrated that the performance of mutual funds depend upon the mutual fund manager ability in terms of stock selection and market timing. Some studies have shown contrasting results of positive market timing ability (Chen & Jang 1994, Bello & Janjigian 1997).Most of the research evidence in Indian mutual fund industry revolves around performance evaluation but very little research is evident in the field of performance attribution and market timing and stock selection. With plethora of investment schemes available to Indian mutual fund investor, it becomes necessary to assess not only their performance but its attributes too.

Especially with regard to mutual fund measurement of portfolio performance is an important goal both for investors and fund managers. It helps the clients by providing important information about the results of investment decision. Performance of portfolio manager is evaluated on the basis of diversification, stock selection and market timing ability.For timing ability Treynor Mazuy and Fama measure can be used to test the selectivity skills of fund managers'.

Fund managers generate superior performance either by stock selection or through market timing. Stock selection skills involve forecasting of individual stock prices and identification of over or under valued securities relative to the broader equity markets. The skill for market timing

involves correctly finding the market direction and positioning of the portfolios accordingly. The two basic models commonly suggested in literature to assess the stock selection and market timing ability of the fund manager are Treynor and Mazuy model (Treynor and Mazuy 1966) and Henriksson and Merton model (Henriksson and Merton 1981). Both these models are unconditional and have been excessively used for finding the stock selection and market timing ability of the fund manager (Deb *et al* 2007). Treynor and Mazuy model is represented by the following equation

$$R_p - R_f = \alpha + \beta * (R_m - R_f) + \Upsilon * (R_m - R_f)2 + \varepsilon$$

Rp = Return on the fund

Rf = Risk free rate of return

Rm = Return on market portfolio (here index or benchmark)

ε= random or error term

α, β, γ = regression coefficients or parameters of the model.

According to the model the estimated value of the parameter γ works as a measure of market timing ability of the fund manager. The significant value of γ shows the market timing ability of the fund manager. The market timing ability of the fund manager can be positive or negative and it has to be checked against the null hypothesis of zero for its statistical significance. The model argues that when the fund manager just concentrates on stock selection, he can fairly assume the beta to be constant, but when he actually times the market he attempts to change the beta or portfolio, that when he is anticipating bull market, he may increase the portfolio beta and when he anticipates the bearish market, he may decrease the portfolio beta. In this case the plot of fund's excess return will lie above the linear relationship in the bullish market and below the linear relationship line and that curvature is captured by the quadratic term added to the linear model. The significant coefficient of this curvature term signifies market timing of the fund manager. The coefficient α denotes the stock selection ability of the fund manager in the equation.

The study also made use of Henriksson Merton model (Henriksson Merton model 1981), which takes rather a more qualitative approach to market timing. As per this model, fund manager who is successful market timer, is required to select high up-market beta and a low down-market beta. Such relationship is mathematically represented by the following regression equation

$$R_p - R_f = \alpha + \beta * \left(R_m - R_f\right) + \Upsilon * [D * \left(R_m - R_f\right)]2 + \varepsilon$$

$R_p$ = Return on the fund

$R_f$ = Risk free rate of return

$R_m$ = Return on market portfolio (here index or benchmark)

D = dummy variable that equals 0 in up markets and -1 in down markets

ε= random or error term

α, β, γ = regression coefficients or parameters of the model.

Therefore the beta of the portfolio is β in bull market and is (β – γ) in the down market. Therefore the parameter γ indicates the difference of the two betas and positive and significant value of the same would indicate the market timing abilities of the fund manager. The coefficient γ indicates the stock selection ability of the fund manager.

## CONCLUSION

Mutual fund sector offer abundance of schemes to the investors around the world. Mostly investors rely on performance with respect to risk and return of the scheme but fund manager ability in determining the market timing and stock selection pay little attention. This paper focused on the ability of the manager in terms of market timing and stock selection which is very crucial aspect for the success of the mutual fund. Both Treynor and Mazuy model (Treynor and Mazuy 1966) and Henriksson and Merton model(Henriksson and Merton 1981) are commonly suggested in literature to assess the stock selection and market timing ability of the manager.

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