# A Study on Market Timing abilities of Indian Equity Mutual fund Managers

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ABSTRACT   :As the Equity fund have become more attractive to the investors ,evaluation of these funds become attractive topic to the researchers .The study has evaluated funds from both private sector and public sector Equity funds from the perspective of measuring market timing abilities of .fund managers .For this purpose 26 funds were chosen from private sector and 4 funds were chosen from public sector. Timing abilities were evaluated  using and Henrickson -Merton model. It was found that neither in public sector nor in private sector the funds  possessed timing abilities.

Key words: Equity Diversified funds, AMC ,Public sector, private sector, Market Timing Henrickson -Merton model.,

## I.    INTRODUCTION

A Mutual Fund is a trust that pools the savings of a number of investors and invests them in securities on the basis of investment goal of investors. The portfolio of fund,  hence, contains Equity shares, Debentures, Govt. securities, money market instruments depending on risk profile  assumed by the investor and expected returns. The returns earned by investments in portfolios and the capital appreciation are proportionately shared by investors ,according to ,the number of units held by them. The returns earned by funds are measured in the form of NAV.

Selectivity of funds  plays a crucial role in construction of portfolio, which is termed as micro forecasting .Assessment of movements in markets are as important as selection of stocks which is termed as macro forecasting .When the markets are dull, cash proportion has to be increased in

Treynor-Mazuy    and    Henrickson-Merton   are   two techniques available to study Market timing abilities of managers. Treynor added  a squared term to the CAPM version of portfolio returns .The coefficient of the term is termed as Gamma($\gamma$).When the t test is conducted on the Gamma values  It is possible for fund managers to generate superior return by timing the market correctly, in addition to stock selection techniques. Thus,not only micro selection of stocks but also by macro market timing activity,enables a fund manager to build a good portfolio returns. A very small number of researches are devoted to the study of market timing and stock selectivity skills of fund managers in India. A review of some of such studies is presented in next section.

## II.    LITERATURE REVIEW

The evaluation of performance is of prime requirement to both investors as well as portfolio managers of Mutual funds. In Finance, several performance evaluation measures have been suggested. However, many of Performance evaluation measures concentrate around CAPM framework. The available literature on performance evaluation of mutual funds mainly deals with two important concepts, viz., selectivity and market timing.

**Friend et al (1962)[1]** conducted an in depth analysis on 152 mutual funds established that sampled  schemes could perform by  12.4% annual return of while their composite benchmark performed  an average  annual return of 12.6%. The funds depicted a negative Alpha. However the performance could not imply pervasive inefficiency in the industry. When the fund returns are compared with turnover could not reveal strong relationship

**Sharpe, William F (1966)** [2]evolved a composite measure to estimate return and risk. He analyzed open end mutual funds for the period 1944-63. Reward to volatility ratio for each scheme was considerably less than DJIA and ranged from 0.43 to 0.78.The correlation coefficient was 0.0505 between expense ratio and fund performance

**Jagannathan and Korajayazyic (1986)[3]** analyzed that Market timing abilities can be achieved by creating an artificial portfolio and including option like securities. These spurious portfolios were built with superior performing assets rather than low performing assets included in Market portfolio. Such funds showed a negative relationship between stock selectivity and market timing abilities. They also have suggested some specification tests

to distinguish measure the selectivity

**Ippolit o(1989)[4]** Conducted a test for market efficiency on 143mutual funds andbetween1965-1984.Heused Jensen measure to evaluate performance of funds and impact of certain crucial factors like turnover, expenses and fees on performance of funds using cross section regression analysis. It was concluded that performance of the fund is not correlated with turnover of the fund and management fee

**Grin blatt & Titman (1989)[5]** studied whether fund managers superior stock selection abilities returns using Jensen's measure. They accomplished that better-quality performance might exist among growth funds. With minimum net asset values (NAV).

**MahindarN. Kaur and Jayadev (1995)[6]** in their paper entitled "Performance of Growth oriented mutual funds - An evaluation", have examined performance of five growth funds during the years 1993 to 94. This paper applied methodology which was formulated by Jensen, Sharpe & Fama. The paper concluded that growth oriented mutual funds possibly outperformed the market in terms of total risk. The present has chosen 26 Equity funds from private sector and 4funds from public sector fund houses. It has applied Treynor-Mazuy model to test  Market skills of managers

### III.   OBJECTIVES OF STUDY

1. To study the trends in Mutual funds in India

2. To appraise and compare Market timing abilities of Equity fund managers on selected funds in private and public sector with same objectives on the basis of using Treynor-Mazuy model and Henrickson –Merton model.

#### Scope of the study

A Mutual fund can be evaluated from its historical NAV records. The performance evaluation of Mutual funds has been carried out using parameters like Return, Total Risk and Systematic Risk and applying specified techniques like Jensen's Alpha, Famas's Net selectivity measure, Treynor–Mazuy technique and Henrickson- Merton technique to measure the Timing abilities of managers. The study also makes a comparative analysis of funds with respect to their objective (Equity funds) and  based on sponsorship (private &public) based on above tools.

#### Hypothesis

H0:- No eminent deviation is found in  annualized return yielded by Equity funds sponsored by Private sector AMC and Equity funds sponsored by Public sector.

### IV.   SAMPLING DESIGN

a)  **Sample :** The sample design is made accordance with the objectives framed for the study. A stratified random sampling has been used. The study needs sample from both public sector and private sector funds. As on June 2014, there are 5 public sector fund houses and45 private sector mutual fund houses. The sample is made of Funds selected from private sponsored and Govt. sponsored fund houses, on a prerequisite that, schemes w ould have been launched during the period march1998-march 2003and are actively trading during the study period. The chosen funds have been further categorized on the basis of investment objective i.e. .equity and debt, and the analysis is made on aggregate basis.

b)  **Population**: The sample is chosen from the population of fund houses included in different objectives the study is made with.

c)  **Sampling Unit:** The unit consists of all Equity funds and Debt funds which are actively traded for the current study period from 2004 to 2014.

d)  **Secondary data sources:**:-The current work has primarily depended on sources of  secondary data

a) NAV of various funds are composed from the following sources

i)  Fact sheets of mutual fund companies and Offer documents

ii) Websites like

   a.  NAVS of funds published by fund houses, newspapers& various websites

   b.  http://www.amfi.com/ Amfi website

   c.  Blue chip investment. website

   d.  Nav India website

   e.  value research online website

   f.  Indian mutual fund website

   g.  Individual fund house websites

b)  S&P Nifty100 is used as a surrogate for market returns of the funds. Data on Nifty has been collected from NSE official website www.nse.com

c)  Interest rate offered on fixed deposits of SBI is taken as the surrogate for risk free return and the pertinent statistics was obtained from the SBI publication of its annual reports.

d)  Online archives of newspapers like Economic Times are of immense help in the collection of data.

e) **Study period**

The performance evaluation of Mutual fund schemes is performed from 2004- 2017.For this purpose mutual fund schemes launched between march 1998 to march 2003

have been selected. The study period is considered to be sufficient enough to cover all upswings and down swings in the market. Indian economy has faced boom period between 200-2007.All the financial markets were slashed down during 2007- 2008 and Indian markets are not an exception to it .The Recessionary period continued till 2011and slowly markets started reviving from 2012 onwards. Hence the chosen study period aptly covers various phases of economic cycle .Hence there is vast scope to study the behavior of mutual funds on selected topic in these phases

**f) Sample Size:** The sample size was not chosen on the basis of any scientific lines. The study has chosen the following sample

Equity Funds sponsored by private sector AMC – 26

Equity Funds sponsored by public sector AMC –4

**g) Sampling technique:** Convenience sampling technique is applied .Funds launched during March 1999 and March 2004 and are actively traded during the study period were selected as sample. The following are the sample of funds chosen for the study

**Table 1: Sample of Private Sector Equity Funds**

| S.No. | Name of the Fund |
|---|---|
| 1 | Reliance Banking Fund |
| 2 | Birla Sun life Dividend Yield Plus |
| 3 | Tata Index Fund |
| 4 | Taurus Bonanza Fund |
| 5 | Reliance Growth Fund |
| 6 | Tata Ethical Fund |
| 7 | Taurus Start share |
| 8 | Principal Tax Saving Fund |
| 9 | Franklin Templeton India Prima Fund |
| 10 | Tata Equity Opportunities Fund |
| 11 | Sundar Tax Saver |
| 12 | Franklin Templeton Blue chip Fund |
| 13 | DSP TPO100 Equity Fund |
| 14 | JM Equity Fund |
| 15 | Tata SENSEX Fund |
| 16 | Kotak 50 Regular Growth |
| 17 | Taurus Discovery Fund |
| 18 | Birla Sun life Index Fund |
| 19 | Birla Sunlife Advatage Fund |
| 20 | ICICI Top100 Fund |
| 21 | Sundar Select Focus Fund |
| 22 | Birla Life tax Plus Fund |
| 23 | Principal Index Fund |

| 24 | DSP Opportunitiesa Fund |
|---|---|
| 25 | Birla Life Tax Relief Fund |
| 26 | ICICI Dynamic Fund |

**Table 2: Sample of Public Sector Equity Funds**

| S.No. | Name of the Fund |
|---|---|
| 1 | Canara Robeco Equity Diversified Fund |
| 2 | SBI Magnum Equity Fund |
| 3 | LIC Nomura Growth Fund |
| 4 | Canara Robeco equity Tax Saver Fund |

**II) Measures for testing market timing ability:** Traditionally Investment managers are continuously engaged in selection of best performing stocks. Portfolio management is considered to be synonymous with stock selection .But over a period of time studies have shown that along with selectivity managers need to concentrate on macro forecasting techniques like Market Timing for building up efficient portfolio. .Market Timing can be defined as prediction of movements in Market and their effect on stock price behavior.

In finance literature several measures have been developed to measure Market Timing abilities of managers. But two pioneering works in this field are proposed by Treynor and Mazuy (1966) and by Henriksson and Merton (1981).

## V. DATA ANALYSIS AND INTERPRETATION

Henriksson and Merton (1981) have proposed an new timing sensitive model to test the timing abilities of the portfolio managers. In finance theory parametric and non-parametric models are suggested to examine timing abilities of managers. Non parametric models are applicable only by close observation of fund managers' behavior.

As in practice it is not possible to have a close observation of fund managers behavior, it is appropriate to use parametric models. Henrickson –Merton used parametric methods in predicting the timing abilities of fund managers in devising formula to test Market timing abilities of portfolio managers. Henrickson –Merton model assumes beta only two values. When Rm>Rf markets are said to take upturn and in such instance beta assumes a larger value .When Rm<Rf Markets are said to take downturn and beta assumes a smaller value. Hence it can be assumed that perfect market timing predictor would prefer a larger beta in up market and a smaller beta value in down market. Thus, such a relationship can be estimated by the following equation using a dummy variable:

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + \gamma[D(R_m - R_f)] + e_p$$

Where D is a dummy variable that equals '0' for for up

markets and -1 and down markets.

Hence, the beta of the portfolio is β in a bull or up market and (β - γ) in bear or down markets. Thus, under this formulation, parameter γ indicates the difference between the two betas and positive and significant value of γ would indicate market timing ability of the fund managers. Regression output tests statistical significance of gamma i.e.(t-gamma) for both the tests of Market timing ability of fund managers .Market timing ability of such funds is found to be good whose t beta is positive and significant at 5% significance

The following table explains results of Timing abilities of Equity fund managers in private sector using H-M model

## VI.    ANALYSIS OF PRIVATE SECTOR EQUITY FUNDS USING H&M MODEL

| S.No. | Name of Fund Schemes | Beta | SE-Beta | t- Beta | Gamma | SE- Gamma | t-Gamma |
|-------|----------------------|------|---------|---------|-------|-----------|---------|
| 1 | ICICI Dynamic Fund | 0.0388 | 0.067 | 0.579 | 0.00938 | 0.09715 | 0.09656 |
| 2 | Principal Index Fund | -0.139 | 2.269 | -0.06 | -0.4432 | 3.309 | -0.1339 |
| 3 | Birla Sunlife Advantage Fund | 0.189 | 0.108 | 0.175 | -0.0612 | 0.157 | -0.388 |
| 4 | Sundar Select Focus Fund | 0.3076 | 0..310895 | 0.989 | -0.2118 | 0.4535 | -0.467 |
| 5 | ICICI Top100 Fund | -0.158 | 0.257 | 1.077 | -0.2147 | 0.3748 | -0.5725 |
| 6 | Birla Sunlife Index Fund | 0.2222 | 0.078 | 2.867 | -0.0881 | 0.11306 | -0.7789 |
| 7 | Tata Index Fund | 0.403 | 0.092 | 4.376 | -0.4432 | 0.13431 | -3.2996 |
| 8 | DSP Tpo100 Equity Fund | 0.3565 | 0.085 | 4.197 | -0.4247 | 0.1239 | -3.4283 |
| 9 | Franklin Templeton Bluechip Fund | 0.2629 | 0.067 | 3.915 | -0.3407 | 0,097954 | -3.4782 |
| 10 | Reliance Banking Fund | 0.4011 | 0.099 | 4.038 | -0.5079 | 0.14492 | -3.5048 |
| 11 | JM Equity Fund | -0.299 | 0.113 | 2.64 | 0.78141 | 0.1651 | -4.7331 |
| 12 | Principal Tax Saving Fund | 0.4604 | 0.088 | 5.207 | -0.711 | 0.12899 | -5.5119 |
| 13 | DSP Opportunitiesa Fund | 0.3369 | 0.051 | 6.539 | -0.4334 | 0.07488 | -5.782 |
| 14 | Birla Sunlife Dividend Yield Plus | 0.3488 | 0.047 | 7.46 | 0.422 | 0.068 | -6.19 |
| 15 | Sundar Tax Saver | 0.3545 | 0.488 | 7.265 | -0.4516 | 0.07118 | -6.3451 |
| 16 | Birla Lifetax Plus Fund | 0.4684 | 0.06 | -6.4 | -0.5566 | 0.08692 | -6.4033 |
| 17 | Kotak 50 Regular Growth | 0.4119 | 0.066 | 0.196 | -0.6473 | 0.09696 | -6.6759 |
| 18 | Franklin Templeton India Prima Fund | 0.4119 | 0.066 | 0.196 | -0.6473 | 0.09696 | -6.6759 |
| 19 | Birla Life Tax Relief Fund | 0.4119 | 0.066 | 6.196 | -0.6473 | 0.09696 | -6.6759 |
| 20 | Taurus Discovery Fund | 0.5238 | 0.061 | 8.596 | -0.6129 | 0.08877 | -6.904 |
| 21 | Tata Sensex Fund | 0.3868 | 0.443 | 8.647 | -0.4511 | 0.06456 | -6.9879 |
| 22 | Taurus Bonanza Fund | 0.4471 | 0.05 | 9.025 | -0.538 | 0.07226 | -7.4454 |
| 23 | Taurus Startshare | 0.49 | 0.058 | 8.43 | -0.64 | 0.85815 | -7.46 |
| 24 | Reliance Growth Fund | 0.4367 | 0.045 | 9.73 | -0.5279 | 0.06546 | -8.0653 |
| 25 | Tata Equity Opportunities Fund | 0.4347 | 0.043 | 10 | -0.5535 | 0.06339 | -8.7337 |
| 26 | Tata Ethical Fund | 0.4409 | 0.043 | 10.23 | -0.5574 | 0.06279 | -8.8785 |

The above table reveals out of 26 private sector Equity funds none of the funds of the funds possessed positive and statistically significant values of t -Gamma

The following part of Following table presents the results of t-gamma values of Equity funds in public sector.

**Table No: - A) Analysis of H&M Model on Public Sector Equity Funds**

| | Name of Fund Schemes | Beta | SE-Beta | t-Beta | Gamma | SE- Gamma | t-Gamma |
|---|---|---|---|---|---|---|---|
| 1 | Canara Robeco Equity Diversified Fund | 0.05682 | 0.0596 | 0.95333 | -0.2089 | 0.128 | -1.6297 |
| 2 | Canara Robeco Equity Tax Saver Fund | -0.0474 | 0.054 | -0.864 | -0.6837 | 0.1179 | -5.7986 |
| 3 | Lic Nomura Growth Fund | 0.02533 | 0.04519 | 0.56074 | -0.6266 | 0.09719 | -6.4473 |
| 4 | Sbi Magnum Equity Fund | 0.03458 | 0.04522 | 0.76474 | -0.6351 | 0.09726 | -6.5299 |

From the above table it can be understood that few funds have exhibited positive t gamma. They are statistically not significant. Hence, it can be understood that none the funds possessed positive timing abilities.

## VII. CONCLUSIONS

Timing of Market is a long term forecasting about movement in market. This enables managers to make adjustment in portfolio .Mostly investment managers concentrate on selection rather than timing the market. The present study chosen also proved the same. The results were similar with parallel studies. Fund managers tend to concentrate on micro forecasting of selectivity of funds than on macro forecasting of movements in market. It is proved from the above study none of them are good at timing the Market appropriately..Most of the funds were found to have negative market timing abilities and funds which possessed positive timing are not statistically significant

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