



**ANALYSIS ON MARKET TIMING AND STOCK SELECTION
ABILITY OF INDIAN OPEN ENDED EQUITY MUTUAL FUND MANAGERS: A
CASE STUDY ON SELECT OPEN ENDED MUTUAL FUNDS**

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Abstract:

The investments in mutual funds is increased rapidly in India during the last three decades, due to the implantation of economic reforms and encouragement given by the government of India to private sector particularly linking to information technology and infrastructure sector resulted in creating more employment and contributed in growth of economy. The increased growth in economy resulted in improving the saving capacity of individuals and this encouraged financial market in India and people are looking for investment opportunities based on their risk capacities.

Mutual Funds are the best investment opportunities for both small and high net worth individuals particularly investors who are ready to take risk based on their investment value and time period. The present paper analyses the performance of open ended equity mutual funds and it analyses the market timing and stock section abilities of fund managers of select funds. It is known fact particularly investments linking to open ended equity funds investors always looking into market timing and stock selection ability of concern fund manager.

The present paper analyses and compares the fund manager market timing and stock selection ability select open ended equity funds and make necessary recommendations to the investors of mutual funds.

Keywords: mutual funds, open ended, risk, fund manager, performance, ability, market timing and stock selection

1. Introduction

Mutual Funds (MF's) are the one of the most financial instruments in Indian financial market, the effective implementation of economic and monetary reforms in India since last three decades provided the variety of investment opportunities for small, medium and high net worth individuals. MF's generally classified into two types viz., open ended and close ended mutual funds these two categories of mutual funds offered wide variety of mutual fund schemes in India. The mutual funds first began in 17th century in Netherland, during the year 1774, A Dutch merchant named Abraham van Ketwich created the financial investment called mutual fund to polled the investments in business. During the 19th century the development of mutual fund industry witnessed a drastic development particularly in countries like USA and UK investors are shown interest invest their savings in mutual funds. At present across the global financial markets approximately 14,000 different forms of mutual funds are available for the investor based on their savings and investment needs.

2. Meaning and Definition of open ended equity mutual funds

Mutual Fund is the financial instrument which acts as the intermediary between investors and big corporates, in general mutual fund is investment tool which the money of small investors is collected and pooled this investment into big companies, simply it acts as a financial intermediary between investors and companies, by nature of investment generally mutual funds are primarily divided into two types which are open ended and close ended funds. Open ended funds do not hold any fixed maturity period and other form of mutual fund i.e.; Close ended funds hold the fixed maturity period.

Open Ended equity mutual-fund is one of the vital financial instruments for the investors who are in position to take certain amount of risk on their investment. Generally, the open ended equity MF is investment tool where the investment made in this investments are pooled into big company's equity instruments, in general the money collected from open ended equity funds is invested into stocks of big companies. The investors are free to enter and exit from the market according to investments needs, and the performance of these funds is depends on performance of stocks concern big companies in security market, these form of investments highly volatile and the returns are depending on market fluctuations. These are the better investment option for the long term investors to retain more earnings on their investments. The investors are advised to examine the prices of NAV i.e., net asset value of the mutual

funds and risk characteristics of concern mutual fund scheme before investing their savings in open ended mutual fund schemes.

3. Mutual Fund Industry in India

In India mutual are treated as one of the financial instrument which offered different types of mutual-fund schemes to the retail and high net-worth investors. The origin of mutual funds in India is started in the year 1963, the government of India launched first mutual fund named UTI i.e., unit trust of India, till the end of 1980's UTI is dominant player in Indian mutual fund industry later on after the implementation of LPG i.e., liberalization, privatization and globalization policies many private mutual fund companies are encouraged to start business since than thousands of different mutual fund schemes are introduced to the investors in India.

It is witnessed in India during the lasts two decades the establishment of private mutual fund companies and penetrations of these companies schemes in tier – I and tier – II cities provided the more investment opportunities for all category of investors across the country, the transformation of privatization of all categories of business in India created the more employment opportunities in both urban and rural areas and this resulted in improving the living standards of people and simultaneously increased the savings of individuals, this motivated the mutual fund companies to attract new investors to invest their savings in different forms of equity schemes by taking a moderate risk on investment based on their investment needs and time-period. By the end of financial year 2021-22 the average AUM (Assets Under Management) stood at approximately 40.49 lakh crore i.e., 40.49 trillion.

4. Market Timing and Stock Selection Ability of Fund Manager

The role of fund manager is very important in mutual fund industry, the investors are looking into the performance of funds before their investment, and also examine the fund manager performance in past. The performance of fund managers of mutual funds is evaluated by the vital parameters namely market timing and stock selection ability. The success rate of these two parameters of fund managers is very important in mutual fund investments.

Market Timing is strategy of fund manager in buying or selling decisions linking to mutual fund investments and these strategies are attempted to predict the future market price movements of NAV's of mutual fund.

The stock selection ability of fund manager is strategy used to choose better stocks from the available stocks in market, here the fund manager micro forecast the available stocks and applied his skills to choose better stock based on the market conditions. There are different methods are available to determine the market timing and stock selection ability of fund managers. The present analysis primarily focused on traditional methods which are widely used in determining the market timing and stock selection ability of fund managers of mutual fund companies. The following two traditional methods are used in present analysis to evaluated the market-timing and stock-selection ability of fund manager.

1. Treynor Mazuy (TM) Model
2. Henriksson Merton (HM) Model

Treynor Mazuy (TM) Model

Treynor and Mazuy introduced new model in 1966 to calculate the market timing and stock selection ability of mutual fund manager based on the excess return of the fund during the specific time-period. The below is the formula designed by Treynor & Mazuy to determine the market-timing and stock-selection ability of a specific fund.

$$(R_p - R_f)_t = \alpha + \beta (R_m - R_f)_t + \gamma (R_m - R_f)_t^2 + e_{pt}$$

R_p is the Returns of fund, R_f is Risk Free rate, R_m is the Return on market, t is the time period, e_{pt} represents the random error, α , β , γ represents the stock selection, beta of market and market timing of fund manager.

Henriksson Merton (HM) Model

Henriksson and Merton designed the new model in 1981 to evaluate the market-timing and stock-selection ability of fund managers of mutual funds, these two are developed the new model based on existing TM model, The TM model is primarily focused on excess returns of fund, this model calculate the market-timing stock-selection ability based on market upward and downward movements. The below is the model developed by Henriksson and Merton to estimate the market-timing and stock-selection ability of fund manager.

$$(R_p - R_f)_t = \alpha + \beta (R_m - R_f)_t + \gamma [D *(R_m - R_f)_t] + e_{pt}$$

R_p , R_f , R_m represents the returns on fund, risk free rate and returns on market. D , t , e_{pt} represents the Dummy variable, time period and random error.

5. Literature Review

Literature Review is the primary data source to know about the findings and conclusions made by researcher in past. It helps to determine further findings in specific research topic. The below are the few important literature sources reviewed for present research paper.

Sharpe (1966) developed the new model to analyze the performance of mutual funds this theory is became primary source to evaluate the performance of fund managers based on fund performance for the specific period. Sharps model considered the returns on fund, returns on market and risk free rate of investment to evaluate the fund performance.

Jensen (1967) designed to new model to determine the stock selection ability of fund manager based on sensitivity of investment in market, in his theory he measured the fund performance by considered the volatility of investment during the market fluctuations and designed the jensen's model to forecast the fund performance based on the risk adjustment of investment.

Anand and Murugaiah (2008) examine the different components of mutual fund investments in Indian security markets to estimate the fund performance of Indian mutual funds. They examined the different portfolio investments related to mutual fund schemes and the determined the performance of funds in different market conditions and also estimated the market timing ability of fund managers of Indian fund managers using traditional market timing models.

Treynor & Mazuy (1966) introduced the new theory for elaborating the market timing and stock selection ability of fund managers of mutual fund schemes, in their model they emphasized more on market returns, excess returns of fund and risk characteristics of concern fund according to market fluctuations later on this model become one of the important model to evaluate the market timing and stock selection abilities of fund managers.

Henriksson & Merton (1981) further extended the Treynor and Mazuy model to examine and estimate the market timing and stock selection ability of fund managers more accurately. In their developed theory they explain the importance of excess returns of fund over market returns, changes in market returns over a specific period and beta coefficient of investment fund.

Merton (1981) developed the another new model to determine the fund performance based on by considering the equilibrium of fund investment under different market conditions, risk characteristics, prevailing bond rates and volatility of stocks, this theory is helpful to

determine the market timing and stock selection skills of fund managers according to the prevailing market price movements of stocks.

6. Objectives

The present analysis is carried out based on the objectives listed below to evaluate the performance of fund manager market timing and stock selection abilities of select open ended equity Mutual Funds (MF's).

1. To study the performance of select open ended equity MF's
2. To examine the market timing & stock selection ability of fund managers of select funds
3. To compare the market timing and stock selection abilities fund managers of select funds

7. Data Analysis

The present data analysis is carried out to estimate and compare the market-timing of stock-selection abilities of fund managers ten select open ended mutual fund schemes from the ten different mutual fund companies i.e., AMC (Asset Management Companies). The market timing and stock selection ability of fund managers are determined using two different methods i.e., Treynor's and Mazuy and Henriksson and Merton Models. In present data analysis the average annual returns of 10 different Indian open ended mutual fund schemes are considered from the period 2012-13 to 2021-22.

Calculation of MT and SSA of select Open Ended Equity Funds

Table-1: Market Timing and Stock Selection ability under TM model

S.N	Name of MF Scheme	γ	β	α	R^2
1	Aditya-Birla SL Intl-Equity Fund	0.154	0.325	0.011	0.665
2	Canara Robeco Blue Chip Equity Fund	0.081	0.749	0.019	0.971
3	DSP Midcap Fund	-0.328	0.852	0.076	0.645
4	Franklin Asian Equity Fund	0.439	0.380	-0.032	0.695
5	HDFC Large and Mid Cap	0.067	1.004	-0.011	0.964
6	JM Flexi Cap Fund	-0.212	0.966	0.038	0.869
7	Kotak Infra& Eco Reform Standard Fund	-0.178	1.278	0.007	0.887
8	L&T Midcap Fund	-0.414	1.298	0.066	0.828
9	LIC MF Flexi Cap Fund	-0.172	0.739	-0.004	0.899
10	Quant Active Fund	0.446	1.255	0.036	0.964
Average		-0.012	0.884	0.021	0.839

The table above demonstrates the market timing (γ), beta factor (β), stock selection (α) ability of select fund manager and R^2 i.e., variance in select open ended funds under Treynor's and Mazuy model, it is clearly evident from the table values the total of 5 fund managers is positive and remaining 5 fund managers market timing is negative. The highest Beta factor i.e., 1.298 is connecting to L&T Mid Cap Fund and the minima beta value i.e., 0.325 is associated to aditya birla sun-life intl – equity fund. The total of 3 fund managers stock selection ability is found negative and remaining 7 schemes fund managers is positive. It is noticed from the table the number of negative is found highest for market timing this signs select fund managers stock selection ability is better than the market timing under TM model. The highest variance of 0.971 i.e., 97.10% is attained by canara robeco blue-chip equity fund. The minimal variance of 0.645 i.e., 64.50% is connecting to DSP mid cap fund. The average market timing, beta, stock selection and R^2 is attained the numeric values -0.012, 0.884, 0.021 and 0.839 during the study period starting from the financial year 2012-13 to 2021-22.

Table-2: Market Timing and Stock Selection ability under HM model

S.N	Name of MF Scheme	γ	β	α	R^2
1	Aditya-Birla SL Intl-Equity Fund	0.038	0.397	0.013	0.649
2	Canara Robeco Blue Chip Equity Fund	0.140	0.819	0.011	0.972
3	DSP Midcap Fund	0.088	0.745	0.058	0.626

4	Franklin Asian Equity Fund	0.443	0.673	-0.049	0.669
5	HDFC Large and Mid Cap	-0.068	1.012	-0.003	0.964
6	JM Flexi Cap Fund	0.033	0.891	0.028	0.862
7	Kotak Infra& Eco Reform Standard Fund	0.255	1.275	-0.018	0.888
8	L&T Midcap Fund	-0.047	1.120	0.055	0.811
9	LIC MF Flexi Cap Fund	-0.118	0.638	-0.001	0.892
10	Quant Active Fund	0.798	1.646	-0.007	0.976
Average		0.156	0.922	0.009	0.831

The table above illustrating the market timing, stock selection, beta and R^2 values of the select 10 open ended equity mutual funds under HM model, it is found from the table values the total of 7 mutual fund schemes is positive and remaining 3 fund schemes is negative, the highest beta factor i.e., 1.275 is linking to Kotak Infra & Eco reform standard fund and the lower beta i.e., 0.397 is attained by aditya-birla sun life Intl-Equity Fund. The total of 5 fund managers stock selection ability if found positive and remaining 5 funds is found negative. The highest variance 0.971 i.e., 97.10% variance is attained by canara robeco blue chip equity fund and the minimal variance 0.645 i.e., 64.50% is associated to DSP mid cap fund. The number of positive market timers is more than number of positive selectors under HM model this specifies the select fund managers are better market timers compare to their stock selection abilities. The average market timing of select funds is achieved the numeric value 0.156, beta co-efficient factor is 0.922, stock selection ability coefficient is 0.009 and the R^2 i.e., the variance of select funds is achieved the numeric value 0.831 i.e., 83.10% during the time period considered in present study.

Analysis on Ranking of Market Timing of select schemes

Table-3: Performance and Ranking of select schemes based on market timing of fund manager under TM model

Name of MF Scheme	Market Timing (γ)	Rank
Quant Active Fund	0.446	1
Franklin Asian Equity Fund	0.439	2
Aditya-Birla SL Intl-Equity Fund	0.154	3
Canara Robeco Blue Chip Equity Fund	0.081	4

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HDFC Large and Mid Cap	0.067	5
LIC MF Flexi Cap Fund	-0.172	6
Kotak Infra& Eco Reform Standard Fund	-0.178	7
JM Flexi Cap Fund	-0.212	8
DSP Midcap Fund	-0.328	9
L&T Midcap Fund	-0.414	10

Table above demonstrates the market timing coefficients of select funds ten funds and ranks are given according to market timing ' γ ' coefficient value the highest coefficient is assigned rank one and followed by the other funds based higher coefficient value, it is clearly observed from the above numeric-values the total of five coefficients which are assigned by rank one to five achieved the positive values and the remaining five fund managers are achieved the negative coefficients are assigned rank six to ten. The market timing coefficients of select 10 funds varied between the numerics 0.446 and -0.414. The coefficients of Quant active, Franklin Asian equity, ABSL (Aditya Birla Sun Life) Intl-equity, Canara Robeco Blue Chip and HDFC large and mid-cap funds is attained positive values. The remaining five funds i.e., LIC MF flexi cap, Kotak Infra & Eco Reform standard, JM flexi cap, DSP mid cap and L&T mid cap funds attained negative coefficient values under Treynor Mazuy model. The highest market-timing coefficient of 0.446 is linking to Quant active fund and the lower coefficient - 0.414 is achieved by the L&T mid cap fund during the period 2012-13 to 2021-22.

Table-4: Performance and Ranking of select schemes based on market timing of fund manager under HM model

Name of MF Scheme	Market Timing (γ)	Rank
Quant Active Fund	0.798	1
Franklin Asian Equity Fund	0.443	2
Kotak Infra& Eco Reform Standard Fund	0.255	3
Canara Robeco Blue Chip Equity Fund	0.140	4
DSP Midcap Fund	0.088	5
Aditya-Birla SL Intl-Equity Fund	0.038	6
JM Flexi Cap Fund	0.033	7
L&T Midcap Fund	-0.047	8

HDFC Large and Mid Cap	-0.068	9
LIC MF Flexi Cap Fund	-0.118	10

The table above illustrates the market timing coefficients of select 10 funds from higher to lower under Henriksson and Merton (HM) model. The total of 7 fund managers market timing is found positive and remaining three fund managers is negative. The coefficient values are varied between numerics 0.798 and -0.118. It is noticed from the table the number of positive coefficients in HM model is found higher than TM model and the values of coefficients under Treynor's Mazuy model are lower than Henriksson and Merton model. The highest coefficient of 0.798 is attained by Quant Active Fund and the lower coefficient equal to the numeric value -0.118 is linking to LIC MF Flexi Cap Fund.

Table-5: Performance and Ranking of select schemes based on stock selection ability of fund manager under TM model

Name of MF Scheme	Stock Selection Ability (α)	Rank
DSP Midcap Fund	0.076	1
L&T Midcap Fund	0.066	2
JM Flexi Cap Fund	0.038	3
Quant Active Fund	0.036	4
Canara Robeco Blue Chip Equity Fund	0.019	5
Aditya-Birla SL Intl-Equity Fund	0.011	6
Kotak Infra& Eco Reform Standard Fund	0.007	7
LIC MF Flexi Cap Fund	-0.004	8
HDFC Large and Mid Cap	-0.011	9
Franklin Asian Equity Fund	-0.032	10

The numerics presented in above table demonstrates the stock selection ability (α) coefficients of fund managers of 10 selected schemes under Treynor and Mazuy model, it is noticed from the above numerics out of 10 mutual fund schemes the total of 7 fund managers

is positive and the remaining 3 fund managers is negative, the coefficients are varied between 0.076 to -0.032. the highest coefficient of stock selection ability of fund managers is attained by DSP mid cap fund with numeric equivalent to 0.076 and the lower stock selection coefficient among 10 funds i.e., -0.032 is associated to franklin asian fund. It is determined from the above table values the total of seven fund managers are successful stock selectors and remaining three fund managers are unsuccessful stock selectors.

Analysis on Ranking of Stock Selection Ability of select schemes

Table-6: Performance and Ranking of select schemes based on stock selection ability of fund manager under HM model

Name of MF Scheme	Stock Selection Ability (α)	Rank
DSP Midcap Fund	0.058	1
L&T Midcap Fund	0.055	2
JM Flexi Cap Fund	0.028	3
Aditya-Birla SL Intl-Equity Fund	0.013	4
Canara Robeco Blue Chip Equity Fund	0.011	5
LIC MF Flexi Cap Fund	-0.001	6
HDFC Large and Mid Cap	-0.003	7
Quant Active Fund	-0.007	8
Kotak Infra& Eco Reform Standard Fund	-0.018	9
Franklin Asian Equity Fund	-0.049	10

The table above encapsulates the coefficients of stock selection ability of fund managers of 10 selected schemes during the 10-year study period under Henriksson and Merton model. It is noticed from the table values the total of 5 fund managers stock selection ability is positive and remaining 5 fund managers are attained the negative. The coefficient values are attained between the numerics 0.058 and -0.049 the highest coefficient of 0.058 is associated to DSP mid cap fund and lower coefficient -0.049 is attained by Franklin Asian equity fund. It is noticed from present analysis the successful stock selectors are found higher in Treynor Mazuy model as compared to Henriksson and Merton model.

8. Conclusion

The present paper analyzed the performances of fund managers based on their market timing and stock selection skills for the ten-year period using two important model Treynor and Mazuy and Henriksson and Merton models for the 10 selected open-ended equity MF's. It is noticed from the experiment resulted under above said two models the market timing and stock selection ability of fund manager is vital in attracting investors to invest their savings in mutual fund schemes. The investors are looking into the abilities of fund managers before making their investment decision. It is also drawn from the present analysis the investments in open ended equity funds is riskier compare to other type of mutual fund investments. The study draws the conclusion the market timing and stock selection ability of fund managers is moderately good and it is also determined from the experiments all successful market timers are not successful stock selectors. It is found from the present analysis the select fund managers are more successful stock selector as compare to their market timing abilities. The study further recommended to investors of open ended mutual fund schemes examine and analyzed the market timing and stock selection abilities before making the investment decision.

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