Market Timing Ability of Fund Managers in India: An Analysis

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Abstract

The mutual fund industry in India consists of public sector, private sector and foreign funds. All the three sectors were studied to compare the selectivity and timing performance on the basis of sponsorship of funds. However, from these only active funds belongings to Growth, Income, Balanced and Tax-Saving Schemes were selected for the study.

The period of study is five years from April 2007 to 31st March 2011. The rationale for selecting the study period of 5-years from 1st April 2007 to 31st March 2011 stems from two reasons. Firstly, during this period, the stock market experienced higher volatility, as such chosen to find-out whether the funds have succeeded in surpassing the market performance even under depressed market conditions. Secondly, the five years were long enough to capture different market phases and to draw meaningful conclusions.

Regarding timing performance empirical results have indicated that the majority i.e. 85 percent of fund managers have shown superior timing performance. As such, it is evident that Indian fund managers during the reference period were more inclined towards timing performance and market timing was evidenced, suggesting that there is a trade –off between a fund managers stock selection and market timing performance. This is indicative of the evidence of activity specialization among fund managers, implying that no manager can excel in both the activities.

Introduction

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Since large number of schemes were in existence during the period of the study, as such due to time and other constraints, it was not possible to study all the schemes. It is in view of this fact, an adequate and representative sample was drawn from the universe using convenience sampling method. Initially, the study viewed 76 schemes out of 587 schemes existing as on 1st April 2007, however, the availability of consistent data during the study period (April 2007 to March 2011) was available for 40 schemes only, as such the final sample size for the present study was reduced to 40 schemes, accounting for around 7 percent of the total schemes. These schemes belonged to 19 fund houses consisting of all the three sectors viz. public sector, private sector foreign funds, Of the total sample size of 40 schemes, 33 schemes belonged to the private sector and 7 to the public sector including UTI. Further, 37 schemes are open-ended and 3 schemes are close-ended in nature. Aim wise, the sample consisted of 28 Growth Schemes, 3 Income Schemes, 3 Balanced Funds and 6 Tax-Saving Schemes.

Literature Review

Number of studies have been conducted world over to examine the investment performance of managed portfolio. From an academic perspective, the goal of identifying superior fund managers is interesting because it challenges the efficient market hypothesis. The ability of mutual fund managers to time the market, that is, to increase a fund's exposure to the market index prior to market advances and to decrease exposure prior to market declines has remained the subject matter for researchers. The other important aspect which attracted the attention of researcher's world-over is stock

selection skills of fund managers. Numbers of studies have been conducted on these two skills of fund managers. A critical review of the studies on these two aspects of mutual funds has been undertaken which becomes essential to know what the existing literature has to say about the market timing ability of fund managers.

Irwin, Brown, FE (1965) analyzed issues relating to investment policy, portfolio turnover rate, performance of mutual funds and its impact on the stock markets. The study has revealed that mutual funds had a significant impact on the price movement in the stock market. Also concludes that, on an average, funds did not perform better than the composite markets and there was no persistent relationship between portfolio turnover and fund performance.

Treynor (1965) used 'characteristic line' for relating expected rate of return of a fund to the rate of return of a suitable market average. He coined a fund performance measure taking investment risk into account. Further, to deal with a portfolio, 'portfolio-possibility line' was used to relate expected return to the portfolio owner's risk preference.

The most prominent study by Sharpe, William F (1966) developed a composite measure of return and risk. He evaluated 34 open-end mutual funds for the period 1944-63. The study has revealed that the reward to variability ratio for each scheme was significantly less than DJIA and ranged from 0.43 to 0.78. Further it reveals that expense ratio was inversely related with the fund performance, as correlation coefficient was 0.0505. The results depicted that good performance was associated with low expense ratio and not with the size. Sample schemes showed consistency in risk measure.

The performance of 57 fund managers was evaluated by Treynor and Mazuy (1966) in terms of their market timing abilities and have found that fund managers had not successfully outguessed the market. The results suggested that, investors were completely dependent on fluctuations in the market. Further found that the improvement in the rates of return was due to the fund managers' ability to identify under-priced industries and companies. The study adopted Treynor's (1965) methodology for reviewing the performance of mutual funds.

Jiang (2001) developed a non-parametric test for examining market timing ability and found an average negative parameter for actively managed Equity funds. The relation between market timing ability and fund characteristics was also studied and had found that market timing was fund specific and very difficult to predict by observable characteristics.

Gupta Ramesh (1989) evaluated fund performance in India comparing the returns earned by schemes of similar risk and similar constraints. An explicit risk-return relationship was developed to make comparison across funds with different risk levels. His study decomposed total return into return from investors risk, return from managers' risk and target risk. Mutual fund return due to selectivity was decomposed into return due to selection of securities and timing of investment in a particular class of securities.

The performance of various funds in terms of return and funds mobilized was appreciated by Batra and Bhatia (1992) evaluate which has revealed that UTI, LIC and SBI Mutual Fund are in the capital market for many years declaring dividends ranging from 11 percent to 16 percent. The performance of Canbank Mutual Fund, Indian Bank Mutual Fund and PNB Mutual Fund were highly commendable. The performance of many schemes was equally good compared to industrial securities.

Sanjay Kant Khare (2007) opined that investors could purchase stocks or bonds with much lower trading costs through mutual funds and enjoy the advantages of diversification and lower risk. The researcher identified that, with a higher savings rate of 23 percent, channeling savings into mutual funds sector has been growing rapidly as retail investors were gradually keeping out of the primary and secondary market. Mutual funds have to penetrate into rural areas with diversified products, better corporate governance and through introduction of financial planners.

In this paper market timing ability of sample fund managers were tested by using Jensen's Alpha and Fama's net selectivity measure. The present work is based on the review of tens of studies both foreign and Indian studies relating to mutual funds.

Objektivies of the Study

The study is aimed to achieve the following specific objectives:

1. To assess whether the Indian fund managers possess the market timing skills.
2. To study the consistency in the timing performance of fund managers.
3. To examine whether the timing performance varies with the fund characteristics.

Hypotheses

In line with the above stated objectives, the following hypotheses are laid in order to provide a direction to the study:

Market-Timing Ability

H1: There is no positive timing performance of Indian fund managers

H2: There does not exist persistence in the timing performance of Indian fund managers

H3: There doesn't exist a significant difference in the timing performance of Indian fund managers across different fund characteristic

Material and Methods

To test the above hypothesis, the data set used is secondary in nature which was collected from the database of AMFI for Net Asset Value (NAV), National Stock Exchange (NSE) for S&P CNX Nifty and RBI for risk free rate. Fund returns were calculated on the basis of daily NAVs rather than monthly NAVs for the reason that research has revealed that the high frequency data such as daily NAVs have more revealing power than less frequency data. Further, the daily returns so obtained were annualized using geometric averaging to obtain average annual fund return.

The yields on 91-day treasury bills issued by Reserve Bank of India (RBI) have been used as a proxy for risk-free return. Besides, S&P CNX Nifty is used as surrogate for the market portfolio/return as well as for bench-mark variability.

Scope and Reference Period of the Study

The mutual fund industry in India consists of public sector, private sector and foreign funds. All the three sectors were studied to compare the selectivity and timing performance on the basis of sponsorship of funds. However, from these only active funds belongings to growth, Income, Balanced and Tax-Saving Schemes were selected for the present study.

The period of study is five years from April 2007 to 31st March 2011. The rationale for selecting the study period of 5-years from 1st April 2007 to 31st March 2011 stems from two reasons. Firstly, during this period, the stock market experienced higher volatility, as such chosen to find-out whether the funds have succeeded in surpassing the market performance even under depressed market conditions. Secondly, the five years were long enough to capture different market phases and to draw meaningful conclusions.

Sample Design

Since large number of schemes were in existence during the period of the study, as such due to time and other constraints, it was not possible to study all the schemes. It is in view of this fact, an adequate and representative sample was drawn from the universe using convenience sampling method. Initially, the study viewed 76 schemes out of 587 schemes existing as on 1st April 2007, however, the availability of consistent data during the study period (April 2007 to March 2011) was available for 40 schemes only, as such the final sample size for the present study was reduced to 40 schemes, accounting for around 70

percent of the total schemes. These schemes belonged to 19 fund houses consisting of all the three sectors viz. public sector, private sector foreign funds, of the total sample size of 40 schemes, 33 schemes belonged to the private sector and 7 to the public sector including UTI. Further, 37 schemes are open-ended and 3 schemes are close-ended in nature. Aim wise, the sample consisted of 28 Growth Schemes, 3 Income Schemes, 3 Balanced Funds and 6 Tax-Saving Schemes.

Market Timing Performance Measurement Models

To test market timing performance of fund managers, Treynor and Mauzy (1966) hereafter referred as TM and Henriskson and Merton (1981) hereafter referred as HM developed two different measurement models. Market Timing refers to the dynamic allocation of capital between board assets classes based on market forecast. TM model is based on the premise that portfolio returns are a non-linear function of the market return. According to the model the market timers invest in high beta stocks when the market is expected to perform better (R_m› R_f) and divest from high beta securities and invest in low beta stocks when the market is expected to do poorly (R_m‹ R_f). Contrary to this, HM Model proposed different set of market timing skills viz. that the market timers allocates capital between risk-free assets and equities based on future market movements, However, of the two models, the study has utilized HM Model instead of TM Model. Firstly, the TM model is more appropriate to use under the conditions when the market has witnessed both upward and downward movements. But during the time period selected for the study, the market witnessed one side movement for most of the time period due to world-wide economic recession. Second, the use of TM Model requires dividing the market into two time periods viz. up-market and down market for which there is a need for a long time period. We are of the opinion that 5 year time period would have been insufficient time period for drawing valid conclusions using TM Model.

Henriskson and Merton (1981) developed a model that allows evaluation market timing and selectivity skill simultaneously. It removes the biases in Jensen's performance co-efficient which ignores market timing activities of fund managers. Hence, it is important to consider timing and selectivity performance simultaneously in fund performance evaluation which is the important feature of HM Model. According to HM model, the fund beta would take only two values, large value when the market is expected to do well (R_m› R_f) and a small value otherwise. This in other words means that the fund manager is expected to increase its exposure to equities when the market performs well, otherwise

reduce its exposure to equities when the market is expected to do poorly. The relationship is estimated by using a dummy variable in the regression equation which is given as under:

$$R_{pt}-R_{ft}= \alpha+ \beta\ (R_{mt}- R_{ft}) + \gamma\ [D_t(R_{mt}- R_{ft})\ ] + e_{pt}$$

Where:

R_{pt}= Mean annual daily return of the scheme

R_{ft}= Mean annual weekly risk-free rate of return

R_{mt} = Mean annual daily return of the market portfolio

D_t = Dummy variable that is taken equal to zero when $(R_m › R_f)$ and (-1) otherwise

e_{pt} = The random error term

Here, α, β, and γ are the parameters of the above stated regression equation. The 'α' which is called the intercept measures the stock selection skills of fund managers. A positive and statistically significant 'α' indicates a superior stock selection performance of fund managers and vice versa.

The above regression gives two betas (β), one for the up-market and the other for the down market, Therefore, 'γ' co-efficient, refers to the beta differentials in the above equation, Hence the intercept of the quadratic regression 'γ' co-efficient which is also referred to as Gamma, captures market timing performance of fund managers. A statistically significant positive 'γ' co-efficient implies superior marketing performance. While a statistically insignificant negative value of 'γ' co-efficient indicates failure on the part of fund managers to time market correctively. Conversely, a statistically significant negative 'γ' co-efficient implies that the fund manager has timed the market but in a wrong direction.

Hypotheses Testing

To provide a direction to the study, hypotheses were set which were tested by using relevant statistical tools. To test whether Henrickson and Merton's 'γ' co-efficient (Gamma) are statistically significant for each of the sample individual funds, paired two-tailed t-test has been used. For the sample as a whole, whose size was 40 schemes, Z-test has been used to test the statistical significance of HM's 'γ' co-efficient to know whether the sample fund managers possess market timing ability.

Market Timing Performance

Apart from the stock selection skills, the performance of fund managers also depends on the market timing skills. Timing the stock market correctively produces superior

performance of the equity mutual funds. In other words, the fund manager may be able to produce better performance by assessing the direction of the stock market correctively, i.e. bull or bear phases, and position their portfolios accordingly (N.Nathani; *et.al*, 2011). This requires forecasting the market movements to revise the portfolio either to drive the maximum from the booming market and to restrict losses in declining market. In case, fund manager apprehends bear phase in the market, it is expected of him to liquidate his position and retain either high proportion of his investable funds in cash or invest in risk-free assets till the sentiment in the market improves. Alternatively, replace high beta securities with the low beta securities so that the negative impact of the bear market on the portfolio is reduced. Conversely, when a rising market is forecasted, the fund manager tends to or should shift to high beta stocks or from cash /risk less assets to stocks so as to get maximum advantage of the rally in the stock market.

As already stated earlier that measurement methods viz. Henriksson and Morton Module (1981) is used to test the marketing timing performance of fund managers. Henrikson and Merton (HM) proposed a test of market timing skills. According to them, market timer allocates between risk-free assets and equities based on future market movements. To regress the excess return due to timing, the model uses quadratic equation. The intercept of the quadratic regression 'γ' (Gamma) captures the market timing skills of the fund managers. A statistically significant negative value of 'γ' (Gamma) reflects the inability of the fund manager to time the market well. To test market timing performance of sample schemes during the period under study, Henrikson and Merton's model has been used. Using this model Gamma (γ) for each fund has been calculated. Besides t-value for each sample fund was calculated to judge whether the gamma value (γ) are statistically significant at 5 percent level. The gamma value and their corresponding t-ratios of sample schemes have been detailed out in Table 4.9.

Table 4.9: Market Timing Performance of Sample Fund Managers

Scheme	HM Gama (γ)	SD	T-Stat	P-Value	Ranking
Principal Index Fund	0.5536	0.3237	3.4203	0.0268	1
LIC Nomura Mf Equity Fund	0.5422	0.3267	3.3189	0.0294	2
L&T Growth Fund	0.5396	0.3256	3.3149	0.0295	3
Sundaram Growth Fund	0.5309	0.2945	3.6053	0.0227	4
Sundaram Select Focus	0.5166	0.2967	3.4819	0.0253	5
Kotak 50 Growth	0.5166	0.3081	3.3543	0.0285	6
Baroda Pioneer Growth	0.5150	0.2915	3.5335	0.0242	7
ING Core Equity Fund –Growth	0.5020	0.3088	3.2512	0.0313	8
LIC Nomura Mf India Vision Fund (D)	0.4979	0.2978	3.3433	0.0287	9
Principal Personal Tax Saver Fund	0.4938	0.2935	3.3655	0.0282	10
SBI One India Fund	0.4929	0.2690	3.6642	0.0215	11
Baroda Pioneer ELSS	0.4926	0.2544	3.8737	0.0179	12
HDFC Equity Fund	0.4906	0.2677	3.6652	0.0215	13
Birla Sun Life Frontline Equity	0.4870	0.2793	3.4864	0.0252	14
Morgan Stanley Growth Fund	0.4854	0.2833	3.4275	0.0266	15
Sahara Growth Fund	0.4756	0.2737	3.475	0.0255	16
Birla Sun Life Top 100 Fund – Growth	0.4736	0.2648	3.5773	0.0232	17
Franklin India Bluechip Fund	0.4725	0.2759	3.426	0.0266	18
Tata Pure Equity Fund	0.4633	0.2631	3.522	0.0244	19
HDFC Tax Saver Fund	0.4573	0.2530	3.6151	0.0225	20
Quantum Long-Term Equity Fund	0.4549	0.2393	3.8026	0.0191	21
ING Tax Savings Fund	0.4542	0.2789	3.2571	0.0312	22
Fidelity Equity Fund	0.4505	0.2601	3.4634	0.0257	23
HSBC Equity Fund	0.4469	0.2458	3.6356	0.0221	24
Reliance Growth Fund	0.4401	0.2335	3.7692	0.0196	25
SBI Magnum NRI Investment Fund-Flexi Asset (D) Balanced	0.4296	0.2899	2.9633	0.0414	26
Sahara Growth Fund – Div	0.4270	0.2113	4.0427	0.0156	27
ICICI Pru Tax Plan	0.4171	0.2299	3.6282	0.0222	28
Tata Tax Advantage Fund	0.4112	0.2347	3.5037	0.0248	29
UTI - Growth Retail	0.3988	0.2287	3.4871	0.0252	30

Scheme	HM Gama (γ)	SD	T-Stat	P-Value	Ranking
ICICI Prudential Discovery Fund – Growth	0.3951	0.2221	3.5581	0.0236	31
JM Balanced Fund - (D)	0.3946	0.2077	3.8001	0.0191	32
ING Balanced Fund (D)	0.3608	0.2135	3.38	0.0278	33
Reliance Regular Savings Fund	0.3570	0.2021	3.5346	0.0241	34
UTI - Opportunities Fund	0.2045	0.1946	2.1018	0.1034	35
Templeton India TMA	-0.0003	0.0004	1.964	0.121	36
Quantum Liquid Fund – Growth	-0.0004	0.0005	1.7097	0.1625	37
HSBC Cash Fund	-0.0008	0.0008	2.0603	0.1084	38
Kotak Equity Arbitrage Growth	-0.0112	0.0139	1.6111	0.1825	39
SBI Arbitrage Opportunities Fund	-0.0123	0.0156	1.5798	0.1893	40

Note:

HM: Henrikson & Merton

SD: Standard Deviation

Source: AMC reports, NSE historical data and RBI reports

Table 4.9.a: Z Value of HM-Gama

P value and statistical significance:
The two-tailed P value is less than 0.0001
By conventional criteria, this difference is considered to be extremely statistically significant.
Confidence interval:
The hypothetical mean is 0.000000
The actual mean is 0.400408
The difference between these two values is 0.400408
The 95 percent confidence interval of this difference:
From 0.346945 to 0.453870
Intermediate values used in calculations:
t = 15.1488
df = 39
standard error of difference = 0.026

Perusal of the data presented in Table 4.9 brings to fore that the timing parameters, 'γ' (Gamma) varied between the high of 0.5536 (Principal Index Fund) and lowest of -0.0123

(SBI Arbitrage Opportunities Fund) there by indicating large variations in timing abilities of the sample fund managers of different equity mutual funds.

The other fact that becomes clear from the above referred table is that majority of the fund schemes i.e. 35 schemes out of the total sample size of 40 schemes which account of 87.5 percent of the total schemes, have positive γ co-efficient (Gamma) in the range between 0.5536 to 0.2045. Only five schemes have negative γ co-efficient viz. Templeton India TM, Quantum Liquid Fund-Growth, HSBC Cash Fund, Kotak Equity Arbitrage-Growth, and SBI Arbitrage Opportunities Fund. It also becomes clear from the data presented in the table that there is not much difference in their γ co-efficient of the 25 schemes which have positive γ co-efficient ranged between 0.5536 to 0.4401.

Most of the top 16 funds namely Principal Index Fund, LIC Nomura Mf Equity Fund, L&T Growth Fund, Sundaram Growth Fund, Sundaram Select Focus, Kotak 50 Growth, Baroda Pioneer Growth, ING Core Equity Fund -Growth, LIC Nomura Mf India Vision Fund (D), Principal Personal Tax Saver Fund, SBI One India Fund, Baroda Pioneer ELSS, HDFC Equity Fund, Birla Sun Life Frontline Equity, Morgan Stanley Growth Fund, and Sahara Growth Fund in terms of Gama parameter have lower rates of return (See Table 4.1). It is indicative of the fact that the superior performance achieved by these funds in terms of timing abilities seems to have been offset by the inferior performance in terms of stock selection abilities of their fund managers. Conversely, funds namely ICICI Prudential Discovery Fund-Growth, UTI-Growth Retail, ICICI Prudential Tax Plan, Reliance Growth Fund, Reliance Regular Saving Fund, HDFC Tax Saver Fund and Franklin India Blue-chip Fund which ranked among the first top 8 funds on the basis rate of return (See Table 4.1) ranks almost at the bottom in terms of their γ co-efficient. This is reflective of the fact that the fund managers of these schemes have been able to use stock selection skills for better than the market timing abilities. This fact is substantiated by their Alpha's (α) which are given in table 4.3. It can be seen from the said table that the above named funds rank among the top first 10 funds on the basis of Jensen Alpha.

Overwhelming majority of sample funds (87.5 percent) have positive timing parameters (γ) which is indicative of their better timing performance. The superior timing performances are indicated by positive γ co-efficient. To conclude whether, the fund managers have timed the market well during the study period, t-test was performed the results of which have been presented in table 4.9. A closer introspection of the table revels that out of total sample of 40 schemes, 34 schemes accounting for 85 percent of total

sample, whose γ co-efficient are positive and their corresponding t-ratios are statistically significant at 5 percent significance level. There is only one scheme namely UTI-opportunities Fund for which γ co-efficient is positive but its t-ratio is insignificant at 5 percent level. Moreover, the five schemes namely Templeton India TMA, Quantum Liquid Fund - Growth, HSBC Cash Fund, Kotak Equity Arbitrage Growth, and SBI Arbitrage Opportunities Fund which have negative γ co-efficient but their corresponding t-ratio are not statistically significant at 5 percent level which in other words means that the managers of these schemes have failed to time the markets. All these five schemes have shown poor stock selection skills as well (see table 4.3) such a scenario is indicative of the fact that the managers of these schemes seem to lack investing skills which is also authenticated by their negative returns.

Z-test was also performed for the all the sample funds together to see whether in aggregate terms, the sample funds have timing performance. It can be seen from the table 4.10 that the two-tailed p-value is less than 0.0001 which by conventional criteria implies that γ co-efficient, of sample funds is extremely statistically significant even at 1 percent level. So, what emerges from the t-ratios of individual sample funds and z-value that the fund managers of sample schemes barring a few exceptions have shown timing performance i.e. they have been able to time the market well. No fund manager has been found to time the markets but in wrong direction. Since the results of stock selection of this study have revealed poor selection performance of the sample fund managers on individual basis, therefore it can be concluded that the superior abnormal returns earned by the majority of funds during the period under study can be largely attributed to the superior timing performance of the sample fund managers. Therefore, the hypothesis that the fund managers in India lack market timing skills is rejected. The finding of the existence of superior market timing skills by the present study concords with Chander (2006), Debetal (2007), Gupta & Sehgal (1998), in relation to pervasive market timing. But goes contrary to the findings of Treynor/Mazzy (1966), Ken ad Jen (1979), Veite and Cheney (1982), Henrikson (1984), Chan and Lewellen (1984), Tripathay (2005), Gupta (2006) and Sarkar et al. (1994). Perhaps the sample fund managers were able to assess the severity of sub-prime crisis which ultimately caused deep financial crisis world over and significant decline in the equity markets world over including Indian market. Further, the financial crisis of 2007-08 was not abrupt rather has given time to think& act to the investors. It may also be due to this fact that sample fund managers were able to exit the

market before things turned really bad and finally took the opportunity of the deep cut in the market by picking up the stocks at the bottom.

Persistence in Timing Performance

Showing timing performance persistently is the real test for a fund manager. A fund manager is expected to time the market successfully every time. Only such managers would be able to deliver superior abnormal returns to unit holders, who perform consistently. A fund manager who comes out successful once, whether to maintain same standard is of prime concern to different stake holders. Therefore, if one has to comment on the timing ability of fund managers, one should see that whether the manager has been able to time the market successful, if not every time but at least most of the times. It is in view of this fact that an effort has been made to also study the persistence in the timing performance of sample fund managers by assessing the consistency in their timing abilities. Table 4.10 presents the 'γ' co-efficient of each sample fund on yearly basis. It becomes clear from the above referred table that 33 funds or 82.5 percent of the sample funds have shown positive 'γ co-efficient' for all the 5 years starting from (2007-11). Three funds namely LIC Nomura MF India Vision Fund (D), HDFC Equity Fund and SBI Magnum NRI Investment Fund- Flexi Asset (D) Balanced have reported positive ' γ' co-efficient in all the years except in 2010. During 2010, 'γ' co-efficient were very low for all the sample funds as compared to other years. This is perhaps that like other world equity markets, Indian equity market was in deep recession in the year 2010 due to global economic crisis. It can be seen that the performance of the sample funds was at its best in the year 2007 and 2008, which declined in 2009 and reached at its lowest level in 2010, however, shown marked improvement in 2011 across the board.

Table 4.10: Persistence in Market Timing Performance of Sample Fund Managers

HM MODEL					
Scheme	**2007**	**2008**	**2009**	**2010**	**2011**
Principal Index Fund	0.8087	0.9269	0.5915	0.0013	0.4395
LIC Nomura Mf Equity Fund	0.8950	0.8611	0.5468	0.0055	0.4025
L&T Growth Fund	0.8445	0.8872	0.5804	0.0003	0.3857
Sundaram Growth Fund	0.8556	0.7530	0.6149	0.0248	0.4059
Sundaram Select Focus	0.8749	0.6656	0.6498	0.0134	0.3795
Kotak 50 Growth	0.7859	0.7652	0.7104	0.0037	0.3179
Baroda Pioneer Growth	0.7346	0.8486	0.5505	0.0076	0.4337

HM MODEL					
Scheme	**2007**	**2008**	**2009**	**2010**	**2011**
ING Core Equity Fund –Growth	0.7961	0.8539	0.4778	0.0006	0.3816
LIC Nomura Mf India Vision Fund (D)	0.8554	0.7399	0.4615	-0.0041	0.4365
Principal Personal Tax Saver Fund	0.8592	0.7269	0.4862	0.0137	0.3832
SBI One India Fund	0.6491	0.7319	0.7118	0.0379	0.3336
Baroda Pioneer ELSS	0.6407	0.7780	0.5581	0.0295	0.4567
HDFC Equity Fund	0.6703	0.6913	0.6807	-0.0032	0.4141
Birla Sun Life Frontline Equity	0.7483	0.7686	0.5220	0.0053	0.3905
Morgan Stanley Growth Fund	0.7267	0.8138	0.5322	0.0306	0.3239
Sahara Growth Fund	0.8942	0.5748	0.5124	0.0670	0.3297
Birla Sun Life Top 100 Fund – Growth	0.7574	0.6908	0.5208	0.0119	0.3872
Franklin India Bluechip Fund	0.7062	0.7987	0.4698	0.0146	0.3735
Tata Pure Equity Fund	0.7535	0.6937	0.5111	0.0290	0.3294
HDFC Tax Saver Fund	0.6417	0.6886	0.6059	0.0151	0.3352
Quantum Long-Term Equity Fund	0.6068	0.7040	0.5600	0.0258	0.3779
ING Tax Savings Fund	0.6968	0.7797	0.4746	0.0011	0.3187
Fidelity Equity Fund	0.6923	0.7212	0.4790	0.0076	0.3523
HSBC Equity Fund	0.6931	0.6808	0.4573	0.0195	0.3835
Reliance Growth Fund	0.6885	0.6274	0.4688	0.0246	0.3911
SBI Magnum NRI Investment Fund- Flexi Asset (D) Balanced	0.5986	0.6891	0.6940	-0.0014	0.1675
Sahara Growth Fund – Div	0.6623	0.5591	0.5100	0.0569	0.3467
ICICI Pru Tax Plan	0.6073	0.6840	0.3901	0.0237	0.3802
Tata Tax Advantage Fund	0.6538	0.6047	0.4703	0.0007	0.3265
UTI - Growth Retail	0.6624	0.5851	0.4344	0.0178	0.2942
ICICI Prudential Discovery Fund – Growth	0.6367	0.6172	0.3351	0.0292	0.3573
JM Balanced Fund - (D)	0.5588	0.6133	0.4675	0.0407	0.2929
ING Balanced Fund (D)	0.5595	0.6022	0.3572	0.0106	0.2744
Reliance Regular Savings Fund	0.5415	0.5791	0.3603	0.0165	0.2879
UTI - Opportunities Fund	0.0778	0.0638	0.5284	0.0230	0.3295
Templeton India TMA	-0.0005	0.0000	0.0001	-0.0005	-0.0009
Quantum Liquid Fund – Growth	-0.0001	-0.0003	0.0002	-0.0006	-0.0011
HSBC Cash Fund	-0.0005	0.0001	-0.0007	-0.0007	-0.0023

HM MODEL					
Scheme	2007	2008	2009	2010	2011
Kotak Equity Arbitrage Growth	-0.0297	-0.0202	-0.0115	0.0118	-0.0066
SBI Arbitrage Opportunities Fund	-0.0314	-0.0198	-0.0184	0.0144	-0.0062
Mean	**0.6093**	**0.6082**	**0.4563**	**0.0156**	**0.3126**

Note:

HM: Henrikson & Merton

Source: AMC reports, NSE historical data and RBI reports

During the study all the sample funds recorded neither increasing nor decreasing trend in 'γ' co-efficient but a fluctuating trend. The other thing that can be observed from the above table is that five funds namely Templeton India TMA, Quantum Liquid Fund-Growth, HSBC cash Fund, Kotak Equity Arbitrage-Growth and SBI Arbitrage opportunities Fund have reported negative 'γ' co-efficient for all the five years of study period (2007-10). This in other words means that these funds have performed badly throughout the study period.

What emerges from the above is that majority of the sample funds have shown persistence in their superior performance during the entire period of study, compared to the consistent timing performance, the sample fund managers have failed to report consistency in their selectivity performance (see Table 4.3). It can be seen from Table 4.11 that the 'γ' co-efficient were positive and statistically significant even at 1 percent level for all the five years which reinforces the above finding of persistence in market timing performance of sample fund managers. Thus the hypothesis that the Indian Fund Managers lack persistence in market timing performance is rejected. The finding of persistence of market timing performance is in conformity with the findings of a study viz. Chance and Hemler (2001) but contrary to the study like Bollen and Busse (2001).

Market Timing and Fund Characteristics

The discussion so far has revealed that fund manager's lack in stock selection skills but have been found to have superior market timing performance for the period under study. The existence of superior market timing performance of sample fund managers give rise to a question that does timing performance exist across all fund characteristics? To answer this question becomes important in order to identify the type of funds having superior timing performance. Conversely, identify the type of funds which does not enjoy superior timing performance. Such an identification would help us to know the relationships between timing performance and the different fund characteristics and

accordingly enable to make valuable suggestions to different stake-holders of the mutual fund industry.

In order to assess the importance and impact of fund characteristics on the timing performance of sample funds, the funds have been classified on the basis of the following characteristics.

- Nature Funds
- Objective of the scheme
- Sponsorship
- Risk

On the basis of nature, the funds have been classified into two viz. open ended schemes and close-ended schemes. Based on objective, four type of funds viz. Growth, Income, Balanced and Tax-Saving were included in the sample and as such timing performance was studied in relation to these four objectives. Further, on the basis of sponsorship, the sample funds were grouped into Public Sector Funds and Private Sector Funds. Risk is measured using Beta, therefore, on the basis of beta sample funds have been classified into 3 groups viz. above Average Risk, Average Risk and Below Average Risk. But 87.5 percent sample funds have negative Beta of less than unity. The remaining 12.5 percent of the sample funds have positive beta but very low ranging between 0.00001 to 0.01229. Therefore, it was not possible to follow a universally accepted classification based on Beta. Given this unique situation, we have classified the sample funds into two groups viz. funds with negative Betas and the funds with positive Betas.

The data analysis with regard to timing performance and fund characteristic has been presented in Table 4.12. It is evident from the above table that 86 percent of sample-open ended schemes have been found to have timing performance. Compared to this only 66.67 percent of close -ended schemes have been found with timing performance, which in other words means that 33.33 percent of close-ended schemes lacked timing performance when only 14 percent of the open ended-schemes did not enjoy timing performance. As such it can be concluded that open- ended schemes on timing parameters whose mean 'γ' co-efficient was 0.4028, which is higher than the 'γ' co-efficient of 0.3712 of close ended schemes. But the sample size of these two types of schemes varies significantly as such this finding should be used with caveat and cautiously.

Table 4.12: Market Timing Performance and Fund Characteristics of Sample Funds

Funds	Total Funds	Mean (γ)	Standard Deviation	No. of funds with market timing performance	No. of funds without market timing performance
Nature of Funds					
Open Ended	37	0.4028	0.1701	32 (86.00)	5 (14.00)
Close Ended	3	0.3712	0.15071	2 (66.77)	1 (33.33)
Objective					
Growth Scheme	28	0.3873	0.19692	23 (82.15)	5 (17.85)
Balanced Scheme	3	0.3825	0.04082	3 (100)	0 (0)
Income Scheme	3	0.4398	0.05278	3 (100)	0 (0)
Tax Saving Scheme	6	0.4507	0.04081	6 (100)	0 (0)
Sponsorship					
Public	7	0.3648	0.1995	5 (71.42)	2 (28.58)
Private	33	0.408	0.16204	29 (87.88)	4 (12.12)
Risk					
Negative Beta	35	0.45832	0.06653	35 (100)	0 (0)
Positive Beta	5	0.00501	0.00617	0 (0)	5 (100)

Note: Figures in parenthesis are percentage to the total funds

Source: AMC reports, NSE historical data and RBI reports

While looking at Table 4.12, it can be found that 100 percent Income, Balanced and Tax saving schemes have reported timing performance with 'γ' co-efficient significant at 5 percent level. As compared to these schemes, only 78.57 percent Growth Schemes have been found to have reported superior timing performance. Given these findings, it can be concluded that the schemes with Growth objective were less successful on timing ability than the other four schemes whose timing performance was cent percent. But again given the significant variations in the sample size of Growth scheme and others schemes, this finding cannot be taken without further confirmation.

The difference in the timing performance between Public and Private sector funds was also found but the difference in the performance is not much, as can be seen from Table

4.12, 87.88 percent of private sector funds have shown superior timing performance with a mean 'γ' co-efficient of 0.4080 as compared to 71.42 percent timing performance of public sector funds. As such it becomes clear that private sector funds have better timing performance than the public sector funds whose mean 'γ' co-efficient of 0.3648 which was also less than the 'γ' co-efficient of private sector funds.

On the basis of risk, an important finding comes to light i.e. the funds with positive beta have been found without any timing performance, while as almost all the sample funds i.e. 97.14 percent of the funds with negative betas have reported superior timing performance. It can be seen from the table that the five funds having positive betas, all these funds have been found to lack timing performance. These five funds have also yielded returns even less than the risk free return. Their mean 'γ' co-efficient is least of all the combinations of funds at 0.0312. This findings goes against the belief that more the risk and more the return. The results in this regard support that the high returns may be attainable irrespective of the level of risk tolerance associated with the portfolio. The finding concurs with the work of Fama and French (1992) and Zabiulla (2014). The high return and low risk or low return and high risk of the sample funds may be due to the fact that for 3-years of the time period of the study i.e. 2008-10, the equity market was in turmoil and which has suffered a deep recessionary impact. The worst hit stocks were stocks with high betas. Besides it is not necessary that high risk means always high return. It may take a reverse situation if risk is not within the tolerable limits and more importantly not assessed and managed properly.

From the above discussion, it can be inferred that the timing performance varies with the fund characteristics, however not significantly Open-Ended Funds, Private Sector Funds and Schemes with Income, Balanced and Tax Saving Schemes have reported better timing performance than their respective counter parts. Thus, the Null hypothesis that there is no difference in the timing performance of the funds based on the characteristics of nature funds, objective and sponsorship is rejected. This finding is in conformity with the work of Joyjit Dhar (2005), and Soo-Wah Low (2012). With regard to the risk, the study revealed that the funds with positive beta's of less than unity lacked timing performance while as almost all the funds with negative betas have reported timing performance, implying thereby low risk means high return and high risk means low returns. Thus the Null Hypothesis set in this regard is rejected, which is in conformity with the work of Fama and French and Zaibiulla (2014).

Conclusion and Suggestions

Regarding timing performance empirical results have indicated that the majority i.e. 85 percent of fund managers have shown superior timing performance. As such, it is evident that Indian fund managers during the reference period were more inclined towards timing performance and market timing was evidenced, suggesting that there is a trade – off between a fund managers stock selection and market timing performance. This is indicative of the evidence of activity specialization among fund managers, implying that no manager can excel in both the activities.

The fund characteristics analysis showed that open ended, private and the schemes with income, balanced and tax saving schemes have posted better timing performance than their respective counter schemes namely closed ended, growth and public schemes. But the timing performance of these schemes was not found very poor but above average.

References

1. Abrevaya, J., Jiang, W., 2001. Pairwise-slopes statistics for testing curvature. Working paper, University of Chicago Graduate School of Business and Columbia Business School.

2. Angol, "Role of Self Regulatory Organisation in Mutual Fund Industry in India", Chartered Financial Analyst, Vol.7 (1), 1992, p11.

3. Ansari, "Mutual Funds in India: Emerging Trends", The Chartered Accountant, Vol. 42(2), (August 1993), pp.88-93.

4. Ansari, "Mutual Funds in India: Emerging Trends", The Chartered Accountant, Vol. 42(2), (August 1993), pp.88-93.

5. Arditti, "Another Look at Mutual Fund Performance", Journal of Financial and Quantitative Analysis, Vol. 3, (1971), pp. 909-912.

6. Bansal L K, "Challenges For Mutual Funds In India", Chartered Secretary, Vol. 21(10), (October 1991), pp. 825-26.

7. Batra and Bhatia, "Indian Mutual Funds: A study of Public sector" , paper presented, UTI Institute of Capital Market, Mumbai, (1992).

8. Baur, Sundaram and Smith, "Mutual Funds: The US Experience", Finance India, Vol. 9(4), (1995), pp.945-957.

9. Carlson, "Aggregate Performance Of Mutual Funds, 1948-1967", Journal of Financial and Quantitative Analysis, Vol. 5, (1970), pp.1-32.

10. Conrad S Ciccotello and C Terry Grant, "Information Pricing: The Evidence from Equity Mutual Funds", The Financial Review, Vol. 31(2), (1996), pp.365-380.

11. Dellva, Wilfred L.and Olson, Gerard T. "The Relationship Between Mutual Fund Fees And Expenses And Their Effects On Performance", The Financial Review, Vol. 33(1), (Feb 1998), pp.85-104.

12. Fama, "Components of Investment Performance", Journal of Finance, Vol. 27, (1972), pp.551-567

13. Fernando, Chitru S et.al., "Is Share Price Related To Marketability? Evidence from Mutual Fund Share Splits", Journal of The Financial Management Association, Vol. 28(3), Autumn (1999) pp.54-67.

14. Friend et.al, "A Study of Mutual Funds" U.S. Securities and Exchange Commission, USA, (1962).

15. Friend, Blume, Crockett, Mutual Funds and Other Institutional Investors - A new perspective, Mc Graw Hill Book Company, New York, (1970).

16. Gangadhar V, "The Changing Pattern of Mutual Funds in India", The Management Accountant, Vol. 27 (12), (December 1992), pp. 924-28.

17. Grubber, "The Persistence Of Risk-Adjusted Mutual Fund Performance", Journal of Business, Vol. 2, (1996), pp.133-157.

18. Gupta L C, Mutual Funds and Asset Preference, Society for Capital Market Research and Development, New Delhi, First Edition (1992).

19. Gupta, "The Mutual Fund Industry and Its Comparative Performance", Journal of Financial and Quantitative Analysis, Vol. 6, (1974), pp.894.

20. Gupta, Ramesh "Mutual Funds", The Management Accountant, Vol. 24(5), (May 1989), pp.320-322.

21. Ippolito R, "Efficiency with Costly Information: A Study of Mutual Fund Performance", Quarterly Journal of Economics, Vol. 104, (1989), pp.1-23.

22. Irissappane, Aravazhi, (2000), 'Paradigm Shifts in the Performance of Indian Mutual Funds: An Analysis with Reference to Close-Ended Funds of Selected Institutions', UTI Institute of Capital Markets, Mumbai

23. Irwin, Brown, FE, et al., "A Study of Mutual Funds: Investment Policy and Investment Company Performance" reprinted in Hsiu-kwangwer and Alan Jzakon (Ed.) Elements of Investments, New York: Holt, Renchart and Winston, (1965), pp.371-385.

24. Jensen Michael C, "The Performance Of Mutual Funds In The Period 1945-1964", Journal of Finance, Vol. 23, (1968), pp.389-416.

25. Jiang, W., 2001, A Non Parametric Test of Market Timing, Journal of Empirical Finance 10, 399-425.

26. Khorana, Ajay and Nelling, Edward "The Determinants And Predictive Ability Of Mutual Fund Ratings", Journal Of Investing, Vol. 7(3), Fall (1998), pp 61-66.

27. Klemosky, "How Consistently Do Managers Manage", Journal of Portfolio Management, Vol. 3, (1977), pp.11-15.

28. Klemosky, "The Bias in Composite Performance Measures", Journal of Financial and Quantitative Analysis, Vol. 8, (1973), pp.505-514.

29. Maria Do Ceu Cortez & Florinda Silva, "Conditioning Information on Portfolio Performance Evaluation: A Reexamination of Performance Persistence in the Portuguese Mutual Fund Market", Finance India, Vol. XVI (4), (December 2002), pp. 1393-1408.

30. McDonald and John, "Objectives And Performance Of Mutual Funds, 1960-69", Journal of Financial and Quantitative Analysis, Vol. 9, (1974), pp.311-333.

31. Meyer, "Further Applications of Stochastic Dominance to Mutual Fund Performance", Journal of Financial and Quantitative Analysis, Vol 12(1977) 917-924.

32. Rich Fortin, and Stuart Michelson, "Are load Mutual Funds Worth the Price?", Journal Of Investing, Vol. 4(3) , (Fall 1995), pp. 89-94.

33. Saha Asish and Rama Murthy Y Sree, "Managing Mutual Funds: Some Critical Issues", Journal of Social and Management Science, Vol. XXII (1), (1993-94), pp.25-35.

34. Sahu R K and Panda J, "The Role And Future Of Mutual Funds In India", Management Accountant, (February 1993) pp. 91-3.

35. Sanjay Kant Khare, (2007), 'Mutual Funds: A Refuge for Small Investors', Southern Economist, Vol.45(18)

36. Sarkar A K, "Mutual Funds in India - Emerging Trends", The Management Accountant, Vol. 26 (3), (March 1991), pp.171-174.

37. Shah Ajay and Thomas Susan, "Performance Evaluation of Professional Portfolio Management In India", paper presented, CMIE, (10 April 1994).

38. Sharpe, William F "Mutual Fund Performance", The Journal of Business, Vol. 39(1), (1966), pp.119-138.

39. Shashikant Uma, (1995), Mutual Funds in India: Challenges, opportunities and ... Performance over time", Journal Of Investing, Spring, Vol. 4(1), pp.8-17

40. Shashikant, Uma "Accounting Policy and Practices of Mutual Funds: The Need for Standardization", Prajan, Vol. XXIV (2), (1993), pp. 91-102.

41. Shome, "A Study Of Performance Of Indian Mutual Funds", unpublished thesis, Jhansi University, (1994).

42. Shukla and Singh , "Are CFA Charter Holders Better Equity Fund Managers", Chartered Financial Analysts, Vol. 2, (1994), pp.68-74.

43. Smith and Tito, "Risk-Return Measures of Post-Portfolio Performance" Journal of Financial and Quantitative Analysis, Vol. 4, (1969), pp.449-471.

44. Statman, Meir "Socially Responsible Mutual Funds", Journal Of Financial Analysts Vol. 56 (3) (May / June 2000), pp. 30-38.

45. Treynor and Mazuy , "Can Mutual Funds Outguess The Markets" Harvard Business Review, Vol. 44, (1966), pp.131-136.

46. Treynor Jack L, "How to Rate Management of Investment Funds", Harvard Business Review, Vol. 43(1), (1965), pp. 63-75.

47. Vaid, Seema, "Mutual Fund Operations In India", Rishi Publications, Varnasi, (1994)

48. Vidhyashankar S, "Mutual Funds: Emerging Trends In India", Chartered Secretary, Vol. 20(8), (August 1990), pp.639-640.

49. Williamson, "Measurement and Forecasting of Mutual Fund Performance: Choosing an Investment Strategy", Financial Analysts Journal, Vol. 28, (1972), pp.78-84.