INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT

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INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   iv

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      INTRODUCTION

      REVIEW OF LITERATURE

      NEED/IMPORTANCE OF THE STUDY

      STATEMENT OF THE PROBLEM

      OBJECTIVES

      HYPOTHESES

      RESEARCH METHODOLOGY

      RESULTS & DISCUSSION

      FINDINGS

      RECOMMENDATIONS/SUGGESTIONS

      CONCLUSIONS

      SCOPE FOR FURTHER RESEARCH

      ACKNOWLEDGMENTS

      REFERENCES

      APPENDIX/ANNEXURE

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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
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CONTRIBUTIONS TO BOOKS
- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES
- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS
- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES
- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES
- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

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- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

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EVALUATING THE STOCK SELECTION SKILLS AND MARKET TIMING ABILITIES OF INDIAN MUTUAL FUND MANAGERS

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ABSTRACT

Mutual funds are dynamic financial institutions, which play a key role in an economy by mobilizing savings and investing them in the capital markets. The present study proposes to examine the stock selection abilities and market timing abilities of Fund Managers in India by evaluating the performance of 23 growth mutual funds ranging over the period January 2007 to December 2011. The models used to judge stock selection skills are Jensen (Single Factor) and Carhart (4 Factor). Market timing ability is evaluated using the Augmented Treynor Mauzey Model. The study presents evidence that stock selection skills of the Indian mutual fund managers on an average are poor. Also they exhibit negative skills in timing the market. Majority of the sample mutual fund schemes' managers did not possess skills of stock selectivity and were not correct market timers. However, the study found that few sample schemes' managers performed with correct market timing skills. On comparison of the three models used in the study, it is inferred that the market return is the most important factor in explaining returns on the portfolios. It is determined that the Indian mutual fund managers must improve their skills relating to internal activities as well as external market related information so as to promote the confidence among small investors who prefer to invest their savings in mutual funds.

KEYWORDS
Market timing, Selectivity skills, Alpha, Managed portfolios, Net asset value.

JEL CLASSIFICATION CODES
G11, C12.

INTRODUCTION
Mutual funds are the dynamic financial institutions, which play a key role in an economy by mobilizing savings and investing them in the capital markets. Thus, the activities of Mutual funds have both short and long term impact on the savings, capital markets and national economy. They organize funds in the savings market and act as complementary to banking at the same time they also compete banks and other financial institutions. In this course, stock market activities are also significantly influenced by Mutual funds.

The Indian mutual fund industry is currently in its growth stage. MFs first arrived in India with the formation of the Unit Trust of India in 1963. Gradually, public and private sector funds also entered the industry with LIC, GIC, SBI, Templeton, Reliance etc. setting up or consolidating Mutual Funds. The Indian mutual fund industry is valued at Rs. 7 lakh crores as per the latest data available with the industry association, Association of Mutual Funds in India (AMFI). The top five fund houses own assets worth nearly Rs 4 lakh crore, about 55 per cent of the average AUM of all the fund houses put together. New players are entering the mutual fund field each year. Recently, capital market regulator SEBI gave its green signal to different financial houses to operate mutual fund business.

Total assets under management (AUM) of 41 fund houses in the country rose to Rs. 7,00,538 crore during 2011-2012, as per AMFI data. During end of March 2011, the AUM of the largest mutual fund in India, Reliance Mutual Fund stood at Rs. 1,01,576.60 crore. HDFC Mutual Fund, whose average assets under management were Rs. 86,282.24 crore, followed this. ICICI Prudential Mutual Fund followed with an AUM of Rs. 73,466.10 crore. Besides, UTI Mutual Fund's assets stood at Rs. 67,188.82 crore, followed by Birla Sun Life at Rs. 63,696.2 crore at the end of March 2011.

On an industry-wide basis, the AAUM during the July-September 2012 period grew by close to 8%, or from Rs. 54,500 crore, to approximately Rs 7.5 lakh crore from Rs 6.9 lakh crore at the end of June, as per the AMFI data. The recent change in the stock market after the change of guard at the finance ministry is one of the reasons for this smart rise in assets, some of the fund houses also indicated above average performance because of superior performance by the fund managers and also greater investor acceptance. The above statistics illustrate the impressive growth of Indian mutual funds which has attracted the attention of researchers, individuals and institutional investors.

NEED FOR THE STUDY
It is a known fact that Mutual Fund Institutions in India have grown significantly during the last decade. These institutions certainly play a crucial role in the Indian economy. The rapid growth of Mutual Funds has compelled us to take a deeper look into the performance of mutual funds. Taking in account the hope of investors, skill of fund managers and market timing of the portfolio managers. This would help investors to assess how much returns has been generated by Portfolio Managers and what risk level was assumed in generating such funds. The study on performance evaluation also provides a mechanism for identifying strengths and weaknesses of Fund Managers in the investment process in different market conditions, which help them to take corrective actions. Many studies have been conducted to analyse the performance of Mutual Funds using different models and variables. Only few studies have evaluated the performance of Mutual Funds by using more variables for the purpose of predicting accurate result. Hence the present study is an attempt to analyse performance analysis taking into consideration the market timing ability and stock selection ability of Managers of Mutual Fund.

SCOPE
Mutual Funds have provided investors with alternative opportunities with benefits of diversification and professional research. Once the objectives of the investment and associated constraints have been identified, mutual fund managers could select an efficient portfolio. Mutual fund managers must also consider the suitable market timing and develop an appropriate fund management style. The skill of mutual fund managers depends on the final performance of the funds. However, different factors like nature of portfolio, classes of assets, the timing of market entry and exit and portfolio switching also determine the performance of Mutual Funds. The present study proposes to assess the stock selection abilities and market timing abilities of Indian mutual fund managers by using variables like 91 days Treasury Bills Returns and 23 growth mutual fund schemes in India ranging over the period January 2007 to December 2011 are to be analysed.

REVIEW OF LITERATURE
A huge quantity of academic literature addresses the topic of mutual fund performance in India. The focus of the research is centered on examining the stock picking skills or market timing ability of the fund managers of mutual funds in India.

A series of experiential studies also deal with the market timing skills of mutual fund managers. Most of the previous work finds little evidence that fund managers possess market timing ability. Treynor and Mazuy (1966) developed a test of market timing and found significant timing ability in only one out of 67 funds in their sample. Henriksson (1984) uses the test of Henriksson and Merton (1981), finds that only 3 out of 116 funds exhibit significant positive timing ability.

However, Bollen and Busse (2001) point out that statistical tests used in previous studies were weak as they were based on monthly data. Using daily data, they found evidence of market timing ability in a significant number of funds in their sample. Chance and Hemler (2001) used daily data to track the allocation strategies of 30 fund market timers. They also found significant number of market timers.

Ferson and Schadt (1996) stated that the standard measures of performance designated to detect security selectivity and market timing ability suffered from a number of biases. Most previous works employed traditional performance measures that used unconditional expected returns as a baseline. If expected returns and risks vary over time such an unconditional approach is not desirable. Common time variations in returns and risk premia will be puzzled with average performance.

Previous studies show that returns and risk on stocks are predictable over time using different variables. Carhart (1997) developed a four-factor model, containing the market factor of Sharpe's (1964) CAPM, the size and book to market factors given by Fama and French (1993) and a momentum factor to explain for continuation patterns in stock returns analysed by Jegadeesh and Titman (1993). A developing body of empirical literature shows that the four-factor model captures the major irregularities of Sharpe's one-factor CAPM. The three extra risk factors may also capture a part of time-varying nature of returns and risk premia, as suggested by Ferson and Schadt.

Notwithstanding the use of high-frequency data as well as a more comprehensive benchmark, the performance results, especially those of market timing, may still suffer from bias provided the fund returns are more option like compared to the market returns. The correction mechanism involves comparing the timing measures of actual funds with those of synthetic funds where the second should have no explicit timing ability by construction.

"**Performance of Growth Oriented Mutual Funds: An Evaluation**" by **Mohinder N. Kaura and Jayadev.M (1995),**They have studied the mutual fund performance of five growth oriented mutual funds during the accounting period 1993 to 1994. This paper used the methodology, which was derived by Jensen, Treynor, Sharpe and Fama. The paper concluded that growth oriented Mutual Funds possibly outperformed the market with respect to systematic risk and exceptionally demonstrate the superior performance in terms of total risk.

"**The Performance of Actively Managed International Mutual Funds**", **Miranda Lam Detzler and James B. Wiggins (1997)**, this paper, examined the role of international funds in our country. Their study found that there was no evidence of security selectivity ability using a 12-country benchmark. However, those active international funds provided global diversification benefits.

According to a study by **Ramachandran.G (1997)**, "**Irrelevance of CAPM and Problems with Fund Performance Metrics**", the relationship between returns, and risk was inversed during the study period from 1994 to 1997. The study rejected CAPM results under predictive and non predictive forms during the study period.

Yuxing Yan (1999), in his article, discussed the ARCH effect on the Treynor – Mazuy Index (TM) which is used to overcome the shortcomings of other indices to measure the timing ability of Mutual Fund Managers. The article found that for majority of Mutual Funds, the assumption of constant variance was not correct in majority of cases. The article has directed the researchers to approximate the TM Index when the time dependent variances of Portfolio and the Market Index are estimated.

A paper entitled, **Market Timing Abilities of Indian Mutual Fund Manager: An Empirical Study**, by **Amitabh Gupta (2000)**, examined the market timing abilities of Indian Fund Managers in terms of two models, one proposed by Treynor and Mazuy and the other by Henriksson and Merton. The empirical results reported have not provided evidence to the market timing abilities of the Indian Fund Managers.

Ramesh Chander (2000), in his doctoral dissertation, "**Performance Appraisal of Mutual Funds in India**", studied the investment performance of selected Mutual Funds in terms of risk and returns across the fund characteristics. Besides, the study examined the portfolio management practices of mutual fund managers with respect to portfolio construction, portfolio management, portfolio evaluation, disclosure practices and investors services. The researcher concluded that in terms of average returns, majority of the sample mutual fund schemes have recorded superior performance compared to benchmark portfolio.

A joint paper entitled, **Performance Analysis of Mutual Funds in India**, by **Narasimhan.M.S and Vijayalakshmi.S (2001)**, evaluated the performance of the Mutual Funds in terms of achieving diversification benefit and fund manager's timing ability. The study found that there was a general shift in the investment strategy of holding a diversified portfolio and in optimizing the risk-returns of investments to invest in predictive winners of the period.

Maria Doceu Cortez and Florinda Silva (2002), in their study on Conditioning Information on **Portfolio Performance Evaluation: A Re-examination of Performance Persistence in the Portuguese Mutual Fund Market**, analysed the performance of sample of Portuguese stock funds using both unconditional and conditional measures. They found that the incorporation of public information variables were an important contribution to the process of evaluating fund performance. The authors concluded that time varying betas might allow for a better assessment of performance. However, they emphasized that further research was needed on conditional models.

"**Competitive Advantage for Players in Mutual Funds Industry: A Study Based on the Perceptions of Mutual Funds**", a paper by **Thenmozhi.M and Fareed Jama.J (2002)**, made an attempt to examine the competitive advantage for players in Mutual Funds based on the perception of Mutual Funds. The study analysed the key competitive advantage factors, namely, brand name, risk management ability, customer service, expertise in portfolio management and strong research base.

"**Market Timing and Stock Selection Ability of Mutual Funds in India: An Empirical Investigation**" by **Soumya Guha Deb, Ashok Banerjee,** and **Chakrabarti B.B (2007)**, examined the market timing and stock selection ability of the Indian Mutual Funds managers with a sample of 96 Indian equity Mutual Funds schemes. The study used unconditional and conditional measures. The results of the study indicated that the Indian mutual fund managers had a lack of market timing ability and presence of stock selection ability in both models during the study period.

A joint paper by **Sehgal. S and M. Jhanwar 2008**, "**On Stock Selection Skills and Market Timing Abilities of Mutual Fund Managers in India**" evaluated the stock selectivity and timing ability of 60 equity based growth mutual funds in India. On daily basis, about 28% of the sample funds exhibit significantly positive alpha (selectivity coefficient) based on Jenson's four factor versions, which controls for style characteristics such as size, value and momentum. The timing ability seemed to be multi-dimensional as about 10% of the fund managers timed the momentum factor besides the market factor.

STATEMENT OF PROBLEM

The Mutual Funds Industry is one of the fast growing sectors in India since the initiation of economic reforms in 1991. However, growth of Mutual Funds has posed difficulties to investors in making a selection of suitable schemes. The issues related to the choice of schemes among the public and private sector funds on the one hand and high risk associated schemes such as equity funds on the other, have become highly important for every investor. It is relevant that even a single wrong decision of Fund Manager may put the investors in financial crisis, sometimes leading to their bankruptcy. Therefore a proper performance evaluation measure is required as it will remove confusion and help the small investors in selecting suitable Mutual Funds Schemes for investment. The performance evaluation of Mutual Funds and the identification of successful Fund Managers are of great interest to investors, general public and academicians. Numeral of studies have been conducted across the world, including India, to find out the performance of Mutual Funds by using different performance measures. Researchers have tried different tools like Treynor, Sharpe and Jenson Models and Treynor and Mazuy (TM) and Henriksson and Merton (HM) under both conditional and unconditional Models. The present study has been made to analyse the market timing and stock selection ability.

OBJECTIVES OF THE STUDY

The study is undertaken with the following objectives:

1.   To outline the growth and development of Mutual Fund Industry in India,
2.   To evaluate the market timing abilities of Mutual Fund Managers by using   unconditional and conditional models,
3.   To appraise the stock selection abilities of Mutual Fund Managers by using   unconditional and conditional models,
4.   To summarize the findings and give suggestions on the study.

HYPOTHESIS

The present study is undertaken to test the following hypotheses:

HO: The Indian Mutual Fund Managers don't possess stock selection skills and are not successful market timers.

H1: The Indian Mutual Fund Managers possess stock selection skills and are successful market timers.

ASSUMPTIONS

Market Beta is constant.

RESEARCH METHODOLOGY

METHOD OF DATA COLLECTION

Data is to be collected from the following sources:

- Net Asset Values of Mutual fund schemes collected from *smartinvestor.business-standard.com*
- 91 day Treasury bill rate compiled from the *RBI website.*
- BSE 500 Index values and prices, market capitalisation, and Price to book ratios for BSE 500 securities collected from the CMIE maintained Database *"Prowess".*
- Software used: *E-views 7.*

SAMPLE SIZE

The sample size for the study is 23 Growth Mutual funds.

MODELS USED

FOR STOCK SELECTION SKILLS

A traditional approach to measure stock selectivity is by regressing the excess returns of a portfolio on the market factor. Assuming that market beta (or slope coefficient) is constant, the unconditional alpha (or intercept) is a measure of average performance, as in Jensen (1968).

- **SINGLE FACTOR MODEL (JENSEN'S MEASURE)**

$$R_{pt} - R_{ft} = \alpha + \beta_1 (R_{mt} - R_{ft}) + e_t$$

R_{pt} = Return on Portfolio

R_{ft} = Risk Free Return

R_{mt} = Market Return

$R_{pt}-R_{ft}$ = Excess return on the portfolio at time t

$R_{mt} -R_{ft}$ = Excess return on market Index at time t

α = intercept measuring the stock selectivity of the fund manager.

β = slope coefficient measuring the systematic risk of the portfolio.

e_t = an error term.

We can also measure stock selectivity using the Carhart (1997) four-factor model.

- **4-FACTOR CARHART MODEL**

$$R_{pt} - R_{ft} = \alpha + \beta_1 (R_{mt} - R_{ft}) + \beta_2 (SMB_t) + \beta_3 (LMH_t) + \beta_4 (WML_t) + e_t$$

R_{pt} = Return on Portfolio

R_{ft} = Risk Free Return

R_{mt} = Market Return

$R_{pt}-R_{ft}$ = Excess return on the portfolio at time t

$R_{mt} -R_{ft}$ = Excess return on market Index at time t

α = intercept measuring the stock selectivity of the fund manager.

β = slope coefficient measuring the systematic risk of the portfolio.

e_t = an error term.

SMB_t = Mimicking portfolios for size factor in asset returns

LMH_t = Mimicking portfolios for price-to-book equity in asset returns.

WML_t =Mimicking portfolios for one-year momentum in stock returns.

Betas = Sensitivity coefficients

FOR MARKET TIMING ABILITY:

Market timing refers to the dynamic allocation of capital between broad asset classes by the fund manager.

- **AUGMENTED TREYNOR MAZUY MODEL**

$$R_{Pt} - R_{Ft} = \alpha + \sum_{K=1}^{4} \beta_k F_{Kt} + \sum_{K=1}^{4} r_{Kt} F^2_{Kt} + e_t$$

R_{pt} = Return on Portfolio

R_{ft} = Risk Free Return

R_{mt} = Market Return

α = intercept measuring the stock selectivity of the fund manager.

β = slope coefficient measuring the systematic risk of the portfolio.

e_t = an error term.

F_{Kt} = the returns of four factors, including the excess return of the market portfolio, the Fama and French (1993) size [Small cap stock returns Minus Big cap stock returns (SMB)] and market-to-book factors [Low Minus High (LMH)] and Carhart's momentum factor [Winners Minus Losers].

ESTIMATION PROCEDURE

- ❖ Firstly, Monthly percentage returns computed for constructing R_{pt} and R_{mt} series.
- ❖ Monthly versions of the size, value and momentum factors are constructed.

SIZE AND VALUE FACTOR

- Using the market capitalisation at the end of calendar year t-1, we sort the 405 sample stocks that form part of the BSE-500 index into three groups **Small or S** (bottom 33.3%) , **Medium or M** (between 33.3% - 66.6%) and **Big or B** (top 33.3%).
- Re-rank the stocks on the basis of Price to book (P/B) ratio observed in December t-1 and form three groups: **Low or L** (bottom 33.3%), **Medium or M** (between 33.3% - 66.6%) and **High or H** (above 66.6%).
- Combining the three size and three P/B groups, Nine portfolios, i.e.,
- ➢ S/L, S/M, S/H,
- ➢ M/L, M/M, M/H
- ➢ B/L, B/M and B/H.
- While S/L represents small cap and low P/B stocks, B/H comprises of big cap high P/B firms.
- The equally-weighted monthly returns are calculated on each of the nine portfolios for the year t. The portfolios are rebalanced at the end of t based on fresh information on company size and P/B for the sample stocks.

- The construction procedure ensures that the size factor is neutral of value effect. The value effect is free of size effect by construction.
- SMB: a difference between the average monthly returns on the small stock portfolios and the average returns on the big stock portfolios

= (S/L+S/M+S/H)-(B/L+B/M+B/H)
          3

- LMH: the monthly difference in the average returns on low P/B portfolios and the average returns on high P/B portfolios

= (S/L+M/L+B/L)-(S/H+M/H+B/H)
          3

MOMENTUM FACTOR

- Select Stocks on the basis of returns over the past *J* months and hold them for *K* months (J-month/K-month strategy).
- Used 6/6 strategies to construct momentum factor.
- The securities are ranked in ascending order on the basis of the average returns of past six months.
- Based on these rankings, five portfolios were constructed for the Test or Holding period, Subsequent 6 months.
- WML: The bottom 20% based on past six months returns are referred to as loser's portfolio, while top 20% past performers form the winner's portfolio constructed. Momentum factor is defined as the difference between the returns on equally-weighted winners and losers portfolios
- WML = Winners (P5) – Losers (P1)
- The process is repeated till we reach the end of our study period.

RESULTS
SINGLE FACTOR JENSEN'S MEASURE

S. No.	Mutual Fund Scheme	Alpha	P-Value	Significant/Non Significant	
1	AIG	-2.454147	0.0319	Significant	Negative
2	Axis	-2.978542	0.0004	Significant	Negative
3	BNP Paribas Equity Fund (G)	-0.312503	0.2808	Non Significant	
4	Baroda Pioneer Growth (G)	-1.151645	0.0012	Significant	Negative
5	Bharti AXA	-0.395244	0.0998	Non Significant	
6	Birla sun life	-3.963922	0.0019	Significant	Negative
7	Canara Robeco Equity Diversified	0.107244	0.7075	Non Significant	
8	DSP BR Equity Fund	-0.430735	0.1503	Non Significant	
9	Daiwa	-3.397324	0.0001	Significant	Negative
10	DWS	-1.044951	0.0005	Significant	Negative
11	Edelwiess	-3.281341	0	Significant	Negative
12	Escorts Growth Plan	-0.502097	0.5427	Non Significant	
13	Fidelity	-0.796	0.0001	Significant	Negative
14	Franklin India Bluechip Fund	-0.713321	0.0009	Significant	Negative
15	Goldman Sachs S&P CNX 500 Fund	-2.325344	0.0538	Non Significant	
c16	HDFC Equity Fund	0.051829	0.8595	Non Significant	
17	HSBC	-4.997908	0.0001	Significant	Negative
18	ICICI	-4.338163	0.0006	Significant	Negative
19	IDBI	-2.149686	0.0105	Significant	Negative
20	IDFC	-0.562229	0.1595	Non Significant	
21	ING	-0.646575	0.004	Significant	Negative
22	JM Equity Fund	-0.530569	0.0852	Non Significant	
23	JPMorgan India Equity Fund	-0.665001	0.0023	Significant	Negative
		1.629485826			

4 FACTOR CARHART MODEL

S. No	Mutual Fund Scheme	Alpha	P-Value	Significant/Non Significant	
1	AIG	-2.381925	0.055	Non Significant	
2	Axis	-2.571842	0.0025	Significant	Negative
3	BNP Paribas Equity Fund (G)	-0.998745	0.0013	Significant	Negative
4	Baroda Pioneer Growth (G)	-0.31035	0.335	Non Significant	
5	Bharti AXA	-3.943719	0.0041	Significant	Negative
6	Birla Sun Life	-0.650412	0.011	Significant	Negative
7	Canara Robeco Equity Diversified	0.027817	0.93	Non Significant	
8	DSP BR Equity Fund	-0.806461	0.0096	Significant	Negative
9	Daiwa	-2.982463	0.0012	Significant	Negative
10	DWS	-0.810888	0.0014	Significant	Negative
11	Edelwiess	-3.083767	0	Significant	Negative
12	Escorts Growth Plan	-1.80066	0.0266	Significant	Negative
13	Fidelity	-0.799657	0.0005	Significant	Negative
14	Franklin India Bluechip Fund	-0.523075	0.0203	Significant	Negative
15	Goldman Sachs S&P CNX 500 Fund	-1.805141	0.1431	Non Significant	
16	HDFC Equity Fund	-0.036771	0.9074	Non Significant	
17	HSBC	-4.697668	0.0007	Significant	Negative
18	ICICI	-4.001452	0.0028	Significant	Negative
19	IDBI	-2.470891	0.0053	Significant	Negative
20	IDFC	-0.071753	0.8594	Non Significant	
21	ING	-0.499433	0.0145	Significant	Negative
22	JM Equity Fund	-0.560542	0.0866	Non Significant	
23	JPMorgan India Equity Fund	-0.391479	0.0339	Significant	Negative
		1.572664217			

AUGMENTED TREYNOR MAZUY MODEL

S. No.	Mutual Fund Scheme	Coefficient	P-Value	Significant/Non Significant	
1	AIG	0.008624	0.4302	Non Significant	
		0.018345	0.6543	Non Significant	
		0.056382	0.2435	Non Significant	
		-0.032999	0.1063	Non Significant	
2	Axis	-0.013516	0.0436	Significant	Negative
		0.009251	0.7067	Non Significant	
		0.043543	0.1661	Non Significant	
		-0.00528	0.671	Non Significant	
3	BNP Paribas Equity Fund (G)	0.000889	0.744	Non Significant	
		0.009035	0.3786	Non Significant	
		-0.001289	0.9206	Non Significant	
		-0.000343	0.947	Non Significant	
4	Baroda Pioneer Growth (G)	0.001882	0.5203	Non Significant	
		0.000592	0.957	Non Significant	
		-0.01264	0.3648	Non Significant	
		0.000286	0.9589	Non Significant	
5	Bharti AXA	0.00241	0.8318	Non Significant	
		0.080212	0.0648	Non Significant	
		0.110858	0.0446	Significant	Positive
		-0.029837	0.1704	Non Significant	
6	Birla Sun Life	0.001511	0.503	Non Significant	
		0.004704	0.5783	Non Significant	
		0.004944	0.6443	Non Significant	
		-0.000781	0.855	Non Significant	
7	Canara Robeco Equity Diversified	-0.002369	0.3615	Non Significant	
		0.002846	0.7693	Non Significant	
		-0.033161	0.0094	Significant	Negative
		0.01413	0.0058	Significant	Positive
8	DSP BR Equity Fund	-0.001192	0.6621	Non Significant	
		0.010028	0.3297	Non Significant	
		0.011134	0.392	Non Significant	
		-0.002397	0.6434	Non Significant	
9	Daiwa	-0.023401	0.0013	Significant	Negative
		-0.030959	0.2317	Non Significant	
		0.01878	0.5642	Non Significant	
		0.015923	0.2238	Non Significant	
10	DWS	-0.001082	0.6051	Non Significant	
		-0.004672	0.5523	Non Significant	
		-0.019067	0.06	Non Significant	
		0.003158	0.4276	Non Significant	
11	Edelwiess	-0.011601	0.0246	Significant	Negative
		-0.007085	0.7069	Non Significant	
		-0.022157	0.3548	Non Significant	
		0.016227	0.0934	Non Significant	
12	Escorts Growth Plan	-0.009154	0.1722	Non Significant	
		0.000346	0.9889	Non Significant	
		0.008551	0.7863	Non Significant	
		0.020367	0.1109	Non Significant	
13	Fidelity	-0.00034	0.8612	Non Significant	
		-0.00216	0.7676	Non Significant	
		0.003705	0.689	Non Significant	
		-0.002189	0.5542	Non Significant	
14	Franklin India Bluechip Fund	-0.000604	0.7653	Non Significant	
		-0.00371	0.6256	Non Significant	
		-0.004863	0.6134	Non Significant	
		0.000727	0.8499	Non Significant	
15	Goldman Sachs S&P CNX 500 Fund	-0.004604	0.6664	Non Significant	
		0.02319	0.5633	Non Significant	
		-0.019816	0.6962	Non Significant	
		0.025815	0.2065	Non Significant	
16	HDFC Equity Fund	-0.001114	0.7015	Non Significant	
		-0.000226	0.9835	Non Significant	
		-0.015896	0.2531	Non Significant	
		0.005301	0.3388	Non Significant	
17	HSBC	-0.001556	0.8953	Non Significant	
		0.06925	0.1238	Non Significant	
		0.009999	0.8588	Non Significant	
		-0.000971	0.9655	Non Significant	
18	ICICI	-0.003633	0.748	Non Significant	

No.	Mutual Fund Scheme				
		0.070987	0.0994	Non Significant	
		-0.008055	0.8808	Non Significant	
		-0.007012	0.7438	Non Significant	
19	IDBI	0.005173	0.513	Non Significant	
		-0.002508	0.9325	Non Significant	
		0.01643	0.6615	Non Significant	
		-0.007101	0.6357	Non Significant	
20	IDFC	-0.004558	0.1953	Non Significant	
		0.000198	0.9879	Non Significant	
		-0.034624	0.0413	Significant	Negative
		0.00827	0.2153	Non Significant	
21	ING	-0.001464	0.4153	Non Significant	
		-0.003798	0.5725	Non Significant	
		-0.010731	0.2112	Non Significant	
		0.002699	0.4286	Non Significant	
22	JM Equity Fund	-0.005648	0.0485	Significant	Negative
		0.012018	0.2563	Non Significant	
		-1.93E-05	0.9988	Non Significant	
		0.006501	0.225	Non Significant	
23	JPMorgan India Equity Fund	-0.002741	0.0859	Non Significant	
		-0.010325	0.0848	Non Significant	
		-0.012904	0.0887	Non Significant	
		0.005595	0.0654	Non Significant	

Mutual Fund Scheme	y1	y2	y3	y4
AIG	0.008624	0.018345	0.056382	-0.032999
Axis	-0.013516	0.009251	0.043543	-0.00528
BNP Paribas Equity Fund (G)	0.000889	0.009035	-0.001289	-0.000343
Baroda Pioneer Growth (G)	0.001882	0.000592	-0.01264	0.000286
Bharti AXA	0.00241	0.080212	0.110858	-0.029837
Birla sun life	0.001511	0.004704	0.004944	-0.000781
Canara Robeco Equity Diversified	-0.002369	0.002846	-0.033161	0.01413
DSP BR Equity Fund	-0.001192	0.010028	0.011134	-0.002397
Daiwa	-0.023401	-0.030959	0.01878	0.015923
DWS	-0.001082	-0.004672	-0.019067	0.003158
Edelwiess	-0.011601	-0.007085	-0.022157	0.016227
Escorts Growth Plan	-0.009154	0.000346	0.008551	0.020367
Fidelity	-0.00034	-0.00216	0.003705	-0.002189
Franklin India Bluechip Fund	-0.000604	-0.00371	-0.004863	0.000727
Goldman Sachs S&P CNX 500 Fund	-0.004604	0.02319	-0.019816	0.025815
HDFC Equity Fund	-0.001114	-0.000226	-0.015896	0.005301
HSBC	-0.001556	0.06925	0.009999	-0.000971
ICICI	-0.003633	0.070987	-0.008055	-0.007012
IDBI	0.005173	-0.002508	0.01643	-0.007101
IDFC	-0.004558	0.000198	-0.034624	0.00827
ING	-0.001464	-0.003798	-0.010731	0.002699
JM Equity Fund	-0.005648	0.012018	-0.0000193	0.006501
JPMorgan India Equity Fund	-0.002741	-0.010325	-0.012904	0.005595
	0.002960348	0.010676478	0.003874074	0.001569087

SUMMARY

Tests of stock selection skills based on Jensen Model	
Mean α	-1.629485826
No. of funds having +ve values	0
No. of funds having -ve values	14
Tests of stock selection skills based on Carhart Model	
Mean α	-1.572664217
No. of funds having +ve values	0
No. of funds having -ve values	16

Tests of market timing based on Augmented Treynor Mazuy Model				
	y1	y2	y3	y4
Mean (%)	-0.0029603	0.0106764	0.003874	0.001569
No. of funds having +ve values	0	0	1	1
No. of funds having -ve values	4	0	2	0

FINDINGS

STOCK SELECTION SKILLS

- Stock selection skills of the Indian mutual fund managers on an average are poor. (Mean Alpha being negative).
- As per Jensen Model, 61% of the sample fund schemes have shown significant negative alpha values. It is 70% as computed by Carhart Model.

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- The mean alpha decline marginally from -1.629% to -1.572 once one accounts for investment style characteristics by shifting from one-factor to four-factor model

MARKET TIMING ABILITY

- Indian Mutual fund managers exhibit negative skills in timing the market.
- Around 17% of the sample fund schemes have significant negative gamma 1 values stating that 4 out of 23 funds have negative ability to time the market factor.
- Only one fund has significant positive value for timing the Value and momentum factor.

On comparison of the three models used in the study, we infer that the market return is the most important factor in explaining returns on the portfolios.

- Momentum factor seems to be the additional factor, which explains the returns on the portfolios.
- Size and Value factor seem to be absent in the Indian Market.

CONCLUSION

Indian Mutual Funds have emerged as strong financial intermediaries and they play a significant role in bringing stability into the financial system and efficiency in resource allocation. The present study encompasses an analysis of the performance of selected growth mutual fund schemes, evaluating the stock selection skills and market timing ability of mutual fund managers in India. The techniques used by the Indian mutual fund managers exhibit negative stock selection and market timing when tested on the monthly percentage returns.

The present study presented empirical results pertaining to the market timing and stock selection abilities of Fund Managers under three models proposed by Jenson, Carhart and Augmented Treynor and Mazuy. Majority of the sample mutual fund schemes' managers did not possess skills of stock selectivity and were not correct market timers. However, the study found that few sample schemes' managers performed with correct market timing skills.

Since, most of the probability values of the mutual fund schemes' are less than 0.05, we accept the null hypothesis, and The Indian Mutual Fund Managers don't possess stock selection skills and are not successful market timers.

Hence, it is concluded that the Indian mutual fund managers must improve their skills relating to internal activities as well as external market related information so as to promote the confidence among small investors who prefer to invest their savings in mutual funds. The evolution of Indian mutual fund industry mainly depends on mutual fund managers whose skills in market timing and stock selection would improve the confidence of the investing public in mutual funds schemes.

SCOPE FOR FURTHER RESEARCH

- Sample size can be extended to more number of mutual fund schemes l - only 23 mutual fund schemes. (Only growth schemes)
- The study uses Monthly data. The work can be extended to daily data
- The study spans over 5 years: A larger duration can give more generalized results.

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