

Empirical Evidences on the Indian Fund Managers' Market Timing and Stock Selection Abilities

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Abstract

Market timing and stock selection are two vital activities in the investment process that significantly contribute in the return generating process. Market timing performance refers to the excess abnormal return on investment managers' macro forecasting of stock market movements. Investment performance on the stock selectivity pertains to managers' successful micro forecasting on the company specific events. In other words, investment in right stocks at right point in time is much more enriching and rewarding. This research paper has studied the ex-post investment performance of 52 equity portfolios in terms of Treynor & Mazuy (1965), Jensen (1968) for market timing, Fama (1972) and Henriksson & Merton (1981) models for stock selection to discern and document evidence on the subject. The results were not only consistent with prior studies but also robust at least in the sense that managers' superior stock selection performance bias could hardly be ignored. Performance inputs on market timing indicated absence of superior timing abilities. In comparison, managers were noted more successful in the stock selection. The study discovered instances of performance variability on market timing as well as stock selection across the measurement criteria. These findings have wider ramification for the capital market theory as well for the market participants.

Introduction

Numerous studies have been conducted across the globe to examine adequacy of fund managers' investment performance. These studies have generated research inputs to develop and verify alternative investment performance evaluation models. Risk return relationship has always been the pivot of all such studies and thus forms important basis of investment manager's performance evaluation. It is amply visible in the theoretical performance evaluation measure(s) propounded by Sharpe (1966) and Treynor (1965). However, these measures failed to take cognizance of the market timing and selectivity ability of investment managers. Timing and selectivity are the prime activities that contribute widely in the return generation process. Managers' performance on market timing refers to the excess abnormal return earned based on the macro forecasting skills of fund managers regarding stock market movements. On the other hand, investment performance on stock selection pertains to micro forecasting ability of investment managers on the

company specific events. It refers to the ability of fund managers to identify individual securities, which are relatively under or over valued, for investment decisions.

A study of market timing and selection abilities of investment manager is primarily needed as it enables the fund managers to understand how well they have fared in achieving desired return targets and how well risk has been controlled in the process. Second, it enables the investors to assess how well a particular investment manager has achieved these targets in comparison to other manager(s) or some benchmark index. Third, it enables to identify grey areas in the managers' return generating process and thus facilitates improvements in the investment decision-making. Fourth, instances of positive market timing and stock selection bias could invalidate the efficient market theory while the opposite jeopardize the investment advisory. These considerations may be considered enough justifications to verify theoretical constructs and to magnify practical

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ambience of the investment managers' stock selection and market timing abilities in the very complex jargon of investment decision-making.

Review of Literature

Treynor and Mazuy (1966) noted absence of statistical evidence that investment managers had successfully outguessed market. The study reported that an investor in mutual funds was completely dependent on fluctuations in the general market. These findings were not intended to communicate that a skilful fund management cannot provide investors with a higher return both in bad and good times than the one provided by market averages. But it did suggest that improvement in the rate of return was due to the fund manager's ability to identify under priced industries and companies and not because of their ability to outguess turns in the level of market as a whole.

Jensen (1968) developed a composite portfolio evaluation technique for evaluating the predictive ability of fund manager through successful prediction of security prices. A positive alpha (α) value in the model represents the average superior extra return earned on account of superior predictive ability while the negative value indicate inferior performance signifying that fund managers have failed to beat performance on the unmanaged portfolio of equal systematic risk. The study concluded that fund managers on the whole were not able to predict security prices well enough to outperform a buy the market and hold policy. It found a little evidence that any individual fund was able to do significantly better than that expected from a mere random chance.

Fama (1972) suggested alternative methods for evaluating investment performance with somewhat finer break downs. It devised mechanism for segregating part of an observed investment return due to managers' ability to pick up the best securities at a given level of risk (**selectivity**) from part that is due to the prediction of general market price movements (**timing**). It also suggested methods for measuring effects of foregone diversification in the event of an investment manager deciding to concentrate his holdings in what he considered as a few winners.

Henrikson & Merton (1981) developed another statistical framework of market timing ability of investment managers. It noted that when fund

manager's forecasts were observable, the parametric test suggested in the study could be used without further assumptions on distribution of security returns. If not, a non-parametric test under the assumption of either capital asset pricing model or multi-factor return structure could be used. These measures allow identification and separation of gains of market timing skills from that of the micro stock selection skills.

Kon (1983) developed a methodology for measuring the market-timing performance of an investment manager and generated empirical evidences for a sample of mutual funds. It noted at individual fund level some evidence of significant superior timing ability and performance. The multivariate tests used in the study produced results consistent with efficient market hypothesis.

Chang & Lewellen (1984) empirically evaluated investment performance of mutual funds by employing parametric statistical procedure developed by Henriksson and Merton (1981). This procedure and associated findings were compared with those of prior studies on the investment performance evaluation. The study concluded that fund managers were collectively unable to outperform a passive investment strategy, an endorsement of the market efficiency.

Henriksson (1984) empirically examined market timing ability of 116 open-end mutual funds for the period 1968-80. The results did not support the hypothesis that mutual fund managers were able to follow an investment strategy that successfully times the return on market portfolio. It found no evidence to support the view that fund managers were more successful in their market timing activity with respect to predicting large change in the value of market portfolio relative to smaller changes. The absolute magnitude of returns on the market portfolio did not found to have any influence on measures of performance evaluation.

Lee & Rahman (1990) empirically examined market timing and selectivity performance of mutual funds by using simple regression technique to separate stock selection from market timing ability. The results indicated some evidence of micro and macro forecasting ability of fund managers.

Graham & Harvey (1996) studied the market timing abilities and volatility implied in investment allocation recommendations. The study investigated over 1500

asset allocation recommendations for 1980-92 period and found little evidence that recommended equity weights increase/decrease before future positive/negative market returns. It also found little evidence that hot recommendations contained limited information regarding future market returns and some recommendations appeared to have short-run insight over the common level of predictability.

Becker, et. al. (1999) analyzed the market timing abilities of mutual funds using models that allow the utility function to depend on excess return. It differentiated timing performance based on the public information from that on the superior information. It suggested that US mutual fund behave alike highly risk averse investors and found little evidence that mutual funds had conditional market timing ability. The study performed additional tests using the mutual funds portfolio holdings to authenticate the validity of findings based on return of mutual funds. These additional tests also supported the earlier findings regarding the little evidence of conditional market timing abilities.

Chance & Hemler (2001) examined the performance of 30 professional market timers who were well known and their recommendations were widely executed in customer accounts. The study analyzed both unconditional and conditional timing ability on a daily basis and found evidence of significant ability across all tests and portfolios. It also documented evidence that when recommendations of successful timers were observed monthly instead of daily, significant ability generally disappeared.

Jiang (2001) developed a non-parametric test for examining fund manager's market timing ability and applied it to a larger sample. The study found an average negative parameter for timing ability among actively managed equity funds. The relation between market timing ability and fund characteristics was considered very weak. It concluded with the observation that market timing was fund specific and found very difficult to predict by observable characteristics.

Lhabitant (2001) tested hypothesis regarding positive performance bias—the successful timing and selectivity skills of investment managers. The study concluded that over mutual funds life, there was neither skilful market timing nor clever security selection abilities evidenced by most investment fund returns. The more general conclusion was that there were no

forecasting abilities; in addition, it found that relative performance was better in very large size funds and in funds with high management fees.

Gupta (2002) conducted a comprehensive study to evaluate investment performance and market timing abilities of fund managers in India. It segregated performance of mutual funds contributed by the risk bearing, diversification and net selectivity. The result on the market timing abilities of fund managers did not supported the hypothesis that Indian fund managers were able to time the market correctly.

Irissappne et. al. (2003) also examined the market timing and stock selection abilities of fund managers in India. The empirical results revealed that only 8 out of 34 mutual funds outperformed the broader market portfolios in terms of Treynor and Mazuy (1966) model. The results on the market timing were failed to exhibit superior market timing abilities of Indian investment managers.

Chander (2001) studied portfolio performance attribution in relation to three fund characteristics nature, sponsorship and investment objectives using methodological framework developed by Fama (1972). It noted that fund managers failed to time the market correctly. The study generated evidence supporting superior investment performance of the private sector sponsored growth funds. Thus studies reviewed above, on the whole, points that investment managers were collectively unable to generate consistent excess abnormal return on their market timing and stock picking abilities. However, certain instances of isolated superior performance could not be ruled out.

Research Methodology

The study under consideration is based on the performance outcome of 52 growth oriented investment schemes. The sample constitute 20.63 percent in terms of number of schemes at the study commencement (January 1998) having Rs. 14943.94 crore worth of assets under management as on December 31, 2002. This study period (January 1998 through December 2002) is long enough to generalize on the market timing and the stock picking skills of fund managers during upswings and downswings of stock markets. It is recent enough to generalize on the current portfolio management practices in this regard. The study preferred NAV (net asset value) instead of market price, as the former is not

influenced by the double incidence of stock market volatility. The information on the monthly NAV, of sampled investment schemes were compiled from different issues of the Economics Times, Business Standard, Business line and the website www.indiaonline.com. While the same on the investment size, nature, sponsorship and the investment objectives were taken from the website www.mutualfundsindia.com. The NAVs have been adjusted in the manner given below for any dividend, bonus distributions in pursuit to obtain investment return:

$$\text{Investment Return} = \frac{(\text{NAV}_t - \text{NAV}_{t-1}) + D_t + C_t}{\text{NAV}_{t-1}}$$

- where NAV_t is per unit net asset value at end of period, t
 NAV_{t-1} is per unit NAV at end of previous period, $t - 1$
 D_t is cash or dividend disbursement in period, t
 C_t is capital gains disbursement in period, t

Monthly investment returns derived above is further annualized through geometric averaging (Spaulding, 1997) to obtain average annual investment return for the study period. The yield on the 91- treasury bills, Govt. of India has been used as surrogate for riskless return. The information in this regard compiled from www.rbi.org was also subjected to the same geometric linking for annualization. The study used BSE-100 as surrogate for the market portfolio for examination of market timing and stock selectivity skills of investment managers.

Thus, information inputs on the investment performance obtained as outlined above were examined through rigorous performance evaluation measures developed by Jensen (1968), Fama (1972), Treynor and Mazuy (1966) and Henriksson and Merton (1981) in order to examine the fund managers' timing and selectivity skills. In this regard, Jensen developed an absolute measure of performance to evaluate investment manager's predictive ability that is his/her ability to earn higher returns through successful prediction of security prices as given below:

$$R_p - R_f = \alpha + \beta_p (R_m - R_f) + e_p$$

where R_p is realized return on investment scheme

R_f is riskless return

R_m is return on market portfolio

β_p is systematic risk of the investment portfolio

e_p is error term signifying residual return

α is the return attributed to investment manager' stock picking style

In this model, a positive alpha (α) value represents the average extra abnormal return earned on a portfolio because of investment managers' superior predictive abilities. The α values were obtained by regressing excess investment return (ex-post) against excess return on market portfolio (independent variable). The outputs thus obtained on sample investment schemes were examined for significance at 1 percent and 5 percent levels for z variate. Taking this cue further, Fama (1972) developed performance evaluation model for segregating the part of an ex-post investment return due to investment managers' stock picking style at a given risk level (selectivity) from the investment performance due to prediction of general market movements (timing). In this perspective, overall excess investment performance is attributed to the stock selectivity and the risk bearing activities. The performance attributed to the stock picking is further decomposed into net selectivity and diversification. Likewise, risk attributed investment performance is investigated deeper to found associated with managers' risk bearing as well as investors' risk bearing activities. Total timing, market conditions and investment manager's expectations essentially contribute manager's risk bearing performance. The performance difference between total timing and market condition is termed as managers' timing performance. To facilitate its better comprehension, Fama's theoretical framework is illustrated below:

$$R_p - R_f = \text{Overall performance}$$

$$R_p - R_f = [R_p - R_m(\beta_p)] + [R_m(\beta_p) - R_f]$$

Selectivity performance + Risk performance

$$[R_p - R_m(\beta_p)] = \text{Net selectivity} + [R_m(\delta_{R_p}^-) - R_m(\beta_p)]$$

Diversification performance

Performance on Net Selectivity

$$= [R_p - R_m(\beta_p)] - [R_m(\delta_{R_p}^-) - R_m(\beta_p)]$$

$$R_m(\beta_p) - R_f = [R_m(\beta_p) - R_m(\beta_t)] + [R_m(\beta_t) - R_f]$$

Manager's risk performance + Investor's risk performance

$$\begin{aligned}
R_m(\beta_p) - R_m(\beta_f) &= [R_m(\beta_p) - E(R_m(\beta_p))] \\
&\quad \text{Total timing performance} \\
&\quad - [R_m(\beta_f) - E(R_m(\beta_f))] \\
&\quad - \text{Performance on market conditions} \\
&\quad + [E(R_m(\beta_p)) - E(R_m(\beta_f))] \\
&\quad \text{Performance on managers' expected risk}
\end{aligned}$$

Investment performance on diversification activity is always non-negative. Therefore, performance on the net selectivity is always less than or equal to that on the selectivity. Fama points market timing performance as a by-product of the investment managers' risk performance. Treynor and Mazuy (1966) developed a more prudent and exclusive model to measure investment managers' market timing abilities. This formulation is obtained by adding squared extra return in the excess return version of the Capital Asset Pricing Model (CAPM) as given below:

$$(R_p - R_f) = \alpha_p + \beta_p(R_m - R_f) + \gamma_p(R_m - R_f)^2 + e_p$$

This model involves running a regression with excess investment return as dependent variable and the excess market return and squared excess market return as independent variables. The value of coefficient of squared excess market return (γ_p) acts as a measure of market timing abilities that has been tested for significance using t-test. Significant and positive γ_p values provide evidence in support of the investment managers' successful market timing abilities. Taking this cue further, Henriksson and Merton (1981) derived another statistical framework for measuring the market timing performance. It employs a parametric test for the purpose under CAPM assumptions when investment managers' forecasts were observable. It suggests that beta coefficient of an investment portfolio takes two values. A large beta value (as indicated by subscript 1) for the bull market and a small beta value (denoted by subscript 2) when market is expected to move downward as:

$$(R_{1p} - R_{1f}) = \alpha_{1p} + \beta_{1p}(R_{1m} - R_{1f}) + e_{1p}$$

$$(R_{2p} - R_{2f}) = \alpha_{2p} + \beta_{2p}(R_{2m} - R_{2f}) + e_{2p}$$

The term e in the above formulations defined as the differential beta coefficient ($\beta_{1p} - \beta_{2p}$) is the sole indicator of investment managers' market timing abilities. A significant positive e value implies superior market timing. The performance inputs obtaining in relation to 52 sample investment schemes in the Treynor and Mazuy (1966), Jensen (1968), Fama (1972), Henriksson

and Merton (1981) above explained methodological perspectives with regard to the investment managers' stock selection skills and market timing abilities are discussed in the following section.

Results and Discussion

The study results are discussed in two parts; Part A discusses stock selectivity performance results while those on the market timing are presented in Part B below:

(a) **Stock selection performance** As pointed out earlier, stock selection is the pivotal activity in the investment decision-making process. A particular stock is identified for investment after detailed analysis of its potential cash flows, earnings and profitability. Fama (1972) had rightly attributed selectivity performance to the fund managers' micro forecasting skills. Jensen (1968) identified positive alpha (α) values supporting superior stock selection abilities of investment managers. Superior selectivity performance endorses managers' successful micro forecasting abilities with regard to stock specific variables in the investment decision-making process. Prior studies indicate positive performance bias in this regard. Theoretical measures developed by Jensen (a criterion) and Fama (selectivity and net selectivity criteria) were used to measure investment managers' market timing performance in the study under consideration. The results obtaining for the sample in this context are reported in Table 1.

It can be had from the information inputs reported in the above cited table that four investment schemes viz, Alliance Capital Tax Relief 1996, Franklin Templeton Prima Fund (Growth), Franklin Templeton Prima Plus (Growth) and First India Taxgain 1997 have yielded significant superior stock selectivity performance visualized in terms of Jensen's alpha (α) criterion. Fund Managers of 36 (69.23 per cent) investment schemes have demonstrated superior stock selection skills. Thus, performance inputs under reference (Jensen's α criterion) points to the investment managers' superior stock selection abilities in India. These performance inputs when examined in terms of Fama's (1972) selectivity measure reveals that First India Taxgain 1997 and Alliance Capital Tax Relief 1996 investment schemes have outperformed in the peer group comparison. Alike Jensen criterion 18 (34.61 percent) investment schemes have generated negative returns in this regard too.

Table 1: Investment Managers' Stock Selectivity Performance

Sr. No.	Investment Scheme(s)	Jensen (α) Criterion	Fama Criteria	
			Selectivity Performance	Net Selectivity Performance
1.	Alliance Capital Tax Relief 1996	2.889*	30.291*	23.869*
2.	Birla Advantage D	1.603	16.260	9.702
3.	Birla Taxplan 1998	1.953	23.482	16.900
4.	Bank of Baroda Elss 1995	-0.305	-1.759	-8.504
5.	Bank of Baroda ELss 1996	-0.153	-1.595	-8.239
6.	Bank of Baroda Elss 1997	-0.228	-0.843	-7.613
7.	Canexpo	0.820	10.086	3.391
8.	Canpep 94	0.044	-2.934	-9.523
9.	Canpep' 95	-0.351	-1.980	-8.790
10.	Chola. Freedom Tech. Cumulative	-0.239	-2.700	-9.368
11.	Dsp MI Equity Fund - (Growth)	0.402	3.013	-3.590
12.	1995 Franklin Tempelton Taxshield	2.097	22.601	16.056
13.	1996 Franklin Tempelton Taxshield	1.195	12.776	6.160
14.	1997 Franklin Tempelton Taxshield	1.479	17.483	10.866
15.	Franklin Tempelton Taxshield 1998	2.155	19.688	13.315
16.	Franklin Temp. Bluchip - (Growth)	1.291	9.911	3.367
17.	Franklin Tempelton Prima - (Growth)	2.134*	25.396	18.776
18.	Franklin Temp. Prima Plus - (Growth)	2.071*	26.260	19.645
19.	Franklin Temp. Growth - (Growth)	0.305	5.394	-1.332
20.	First India Taxgain 1997	2.893*	31.252*	24.752
21.	GIC Fortune 1994	-0.305	-1.354	-8.180
22.	GIC Growth Plus II	0.276	1.279	-5.376
23.	GIC Tax saver 1995	-0.566	-4.475	-11.381
24.	GIC Tax saver Growth	-0.572	-4.512	-11.48
25.	LIC Dhan 88 (1)	0.039	7.411	0.629
26.	LIC Dhan Tax saver 1995	-1.393	-8.226	-15.108
27.	LIC Dhan Tax saver 1996	0.577	15.277	8.434
28.	Morgan Stanley Growth Fund	0.550	7.523	0.877
29.	PNB EGF 1993	0.034	-1.365	-8.145
30.	PNB EGF 1995	-0.039	1.614	-5.265
31.	PNB EGF 1996	0.673	8.074	1.314
32.	Prudential ICICI Power - (Growth)	-0.0103	-2.441	0.044
33.	Prudential ICICI Premier - (Growth)	0.0013	1.478*	0.302
34.	Reliance Growth - (Growth)	-0.0122	-1.969	0.002
35.	Reliance Vision	-0.0203*	-1.049	0.044
36.	SBI Magnum Global	-0.0009	-3.817	-0.128
37.	SBI Magnum Multiplier Plus	-0.0074	-4.253	-0.098
38.	SBI Magnum Tax Profit 1994	-0.0055	-0.486	0.403
39.	Sundaram Growth - (Growth)	0.0082	-1.381	-0.215
40.	Sundaram Tax saver 97	-0.0202	-2.286	-0.366
41.	Tata Tax saving 96	-0.0224	-4.667*	-0.183
42.	UTI Grandmaster	-0.0176*	-2.248	-2.810
43.	UTI Master Growth	-0.0202*	-1.279	-0.302

(Contd...)

44.	UTI Master Plus 1991	-0.0049	-0.562	-0.079
45.	UTI Mastergain 1992	-0.0142*	-0.694	-0.132
46.	UTI Mastershare	-0.0049	-0.609	-0.134
47.	UTI Primary Equity Fund 1995	-0.0081	-0.542	0.115
48.	UTI unit Scheme 1992	-0.0128	-1.397	-0.200
49.	Zurich India Capital Builder (Growth)	-0.0036	-1.453*	0.282
50.	Zurich India Equity Fund (Growth)	0.0071	0.016	0.593*
51.	Zurich India Top 200 (Growth)	-0.0008	0.150	0.475
52.	Zurich India Tax saver Fund (Growth)	-0.0033	-0.949	0.301

* Significant *t*-values at 0.05 level.

In relation to Jensen (alpha) criterion, instances of superior stock selection ability were vividly demonstrated while such instances remained damp squib in relation to the Fama (net selectivity) criterion. These inputs when investigated deeper into detail for net selectivity performance reveals that the investment managers' diversification drive had failed to live up to its expectations. It can also be visualized that the diversification activity failed to yield expected benefits as the incidence of negative performance has increased to as many as 29 (55.77 per cent) investment schemes. It points two things, (i) that investment managers experienced inadequate diversification of investment portfolios, (ii) visualizing narrow market movements, investment managers deliberately concentrated a larger quantum of portfolio in the market favorite hot stocks in an apparent bid to yield superior return as a logical corollary to the (i) above. Their analysis in this regard appeared to have outlived its utility as evidenced by the higher incidence of negative returns. On the whole, performance inputs on stock selectivity performance reveals that a majority of investment managers were successful in the micro forecasting. These results are not only consistent with prior studies but also robust at least in the sense that investment managers' superior stock selection performance is documented by the study under consideration.

(b) **Market timing performance** Market timing is also another vital activity in the investment decision-making process alike stock selection ability. Stock prices moves ups and downs so frequently as 52-weeks high and low price differential is noted even wider than the prevailing price in many cases. Therefore, market entry/exit at right point of time becomes crucial to investment performance. When seen in this perspective, market-timing activity offers wider potential for return

magnification. Taking cognizance of this, managers time investment decisions accordingly in a quest to generate superior returns. At times managers' even fails to predict market movements with precision and accuracy and thus earn negative returns (make losses) in this pursuit. Evidence obtained in earlier studies provides credence to the proposition that investment managers are not good market timers. The study under consideration examined this proposition for investment managers in India and results obtained are presented in the Table 2.

Market timing performance inputs visualized in relation to the Treynor and Mazuy (1968) criterion reveals that only three investment schemes, i.e., Birla Tax Plan (1998), Alliance Capital Tax Relief (1996) and Zurich India Equity (Growth) have yielded positive performance. All other investment schemes have generated negative return in this context. On Fama criterion, the performance inputs under reference reveal managers' superior market timing ability only in the case of Prudential ICICI Premium (Growth) and Zurich India Cash Builder (Growth) investment schemes. Thus, a very large majority of investment managers' (96.15 per cent) were unable to time the market successfully to generate superior return. Very few investment managers (13.46 per cent) could generate even positive return in this regard. These scattered instances on investment performance could not be considered adequate enough to adjudicate managers' superior market timing abilities. Identical results were obtained managers market timing performance through Henriksson & Merton measure. In this regard, fund managers could generate significant positive market timing performance only in the case of UTI Unit Scheme 1992. Managers in as many as 26 (50 per cent) investment schemes have even experienced negative return on the market timing.

Table 2: Investment Managers' Market Timing Performance

Sr. No.	Investment Scheme(s)	Timing Performance Criteria		
		Treynor & Mazuy	Fama	Henriksson & Merton
1.	Alliance Capital Tax Relief 1996	-0.0082	-4.359	-0.020
2.	Birla Advantage D	0.0085	-2.989	0.459
3.	Birla Taxplan 1998	0.0090	-2.753	0.214
4.	Bank of Baroda Elss 1995	-0.0112*	-1.114	0.075
5.	Bank of Baroda Elss 1996	-0.0128**	-2.139	0.167
6.	Bank of Baroda Elss 1997	-0.0111	-0.862	0.098
7.	Canexpo	-0.0161*	-1.622	-0.306
8.	Canpep'94	-0.0124	-2.685	-0.270
9.	Canpep'95	-0.0097	-0.465	-0.140
10.	Cholam. Freedom Tech. - Cumulative	-0.0054	-1.893	-0.276
11.	DSPML Equity Fund - (Growth)	-0.0142	-2.544	-0.038
12.	Franklin Tempelton India Taxshield 1995	-0.0034	-3.126	0.107
13.	Franklin Tempelton India Taxshield 1996	-0.0081	-2.415	-0.003
14.	Franklin Tempelton India Taxshield 1997	-0.0061	-2.407	0.186
15.	Franklin Tempelton India Taxshield 1998	-0.0045	-4.851*	0.366
16.	Franklin Tempelton Bluchip - (Growth)	-0.0071	-3.134	0.463
17.	Franklin Tempelton Prima - (Growth)	-0.0103	-2.373	0.066
18.	Franklin Tem. Prima Plus - (Growth)	-0.0033	-2.426	0.190
19.	Franklin Templeton India Growth	-0.0070	-1.304	0.080
20.	First India Taxgain 1997	-0.0161	-3.576	-0.419
21.	GIC Fortune 1994	-0.0155*	-0.307	-0.359
22.	GIC Growth Plus II	-0.0212*	-2.028	-0.120
23.	GIC Tax saver 1995	-0.0074	0.502	-0.068
24.	GIC Tax saver Growth	-0.0094	0.798	-0.105
25.	LIC Dhan 88 (1)	-0.0069	-0.747	0.397
26.	LIC Dhan Tax saver 1995	-0.0175%	0.258	-0.021
27.	LIC Dhan Tax saver 1996	-0.0037	-0.141	0.298
28.	Morgan Stanley Growth Fund	-0.0073	-2.11	0.126
29.	PNB EGF 1993	-0.0023	-0.770	0.124
30.	PNB EGF 1995	-0.0101	0.228	-0.052
31.	PNG EGF 1996	-0.0057	-0.963	-0.152
32.	Prudential ICCI Power - (Growth)	-0.0103	-2.441	0.044
33.	Prudential ICIC Premier - (Growth)	0.0013	1.478*	0.302
34.	Reliance Growth - (Growth)	-0.0122	-1.969	0.002
35.	Reliance Vision	-0.0203*	-1.049	0.044
36.	SBI Magnum Global	-0.0009	-3.817	-0.128
37.	SBI Magnum Multiplier Plus	-0.0074	-4.253	-0.098
38.	SBI Magnum Tax Profit 1994	-0.0055	-0.486	0.403
39.	Sundaram Growth - (Growth)	-0.0082	-1.381	-0.215
40.	Sundram Tax saver 97	-0.0202	-2.286	-0.366
41.	Tata Tax saving 96	-0.0224	-4.667*	-0.183
42.	UTI Grandmaster	-0.0176*	-2.248	-2.810
43.	UTI Master Growth	-0.0202**	-1.279	-0.302

(Contd...)

44.	UTI Master Plus 1991	-0.0099	-0.562	-0.079
45.	UTI Mastergain 1992	-0.0142*	-0.694	-0.132
46.	UTI Mastershare	-0.0049	-0.609	-0.134
47.	UTI Mastershare	-0.0081	-0.542	-0.115
48.	UTI Unit Scheme 1992	-0.0128	-1.397	-0.200
49.	Zurich India Capital Builder (Growth)	-0.0036	1.453*	0.282
50.	Zurich India Equity Fund (Growth)	0.0071	0.016	0.593*
51.	Zurich India Top 200 (Growth)	0.0008	0.150	0.475
52.	Zurich India Tax saver Fund (Growth)	-0.0033	-0.949	0.301

*Significant *t*-values at 0.05 level,

**Significant *t*-values at 0.01 level

Thus, performance inputs generated by study under consideration indicate the absence of superior market timing abilities across a very large majority of sample investment schemes. In other words, study noted a few widely scattered instances of superior timing performance across all measurement criteria, Treynor & Mazuy (1968), Fama (1972) and Henriksson & Merton (1981). However, instances of performance variability were also discovered across these measurement criteria. These results were consistent with those obtained in the prior studies. It may be concluded that investment managers in India could not consistently time the market successfully. The managers were considered more successful in stock selection than in timing the market. The findings of the study have wider ramification for the capital market theory as well for the market participants. Instances of successful market timing and stock selection performance invalidate the efficient market theory while the opposite jeopardize the investment advisory.

Conclusion Performance outcomes reported in this study reveals that managers were quite successful in the micro forecasting of investment decision variables as revealed by their performance on the stock selection. However, the performance differential between alpha and net selectivity criteria points to the inadequate diversification of the investible portfolios. Managers

resort to such practices to generate superior yield over the equilibrium return to deliver on the offered return targets. These results were not only consistent with prior studies but also robust at least in the sense that investment managers' superior stock selection performance bias can hardly be ignored. As regard to the market timing, performance inputs indicate the absence of superior market timing abilities. It may be deduced from this that Indian market mechanism is informational efficient. However, a few widely scattered instances of superior timing performance were noted across all measurement criteria. Similar performance bias was seen in relation to the stock selection performance. As a comparison, managers were noted more efficient in the stock selection as compared to timing the market. From this cue, a significant inference can be derived that the Indian markets were undervalued during the study period. This proposition is amply revalidated with meteoric rise of stock indices in recent times. From this frame of mind, it can be deduced that market equilibrium needs to balance back and the investment advisory on excess abnormal return is expected to endanger in the foreseeable short period in time. On the whole, results reported in the study further revalidate theoretical constructs vis a vis prior studies on the subject. It obviously implies fading of noise and bubble trading from the market mechanism.

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