E-ISSN: 2469-4339

*Management and Economics Research Journal, Vol. 6, Iss. 1, Pgs. 12, 2020*

# Original Research Article

## Analysis of Selectivity and Timing Skills of Fund Managers

Agarwal *et al.*

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# Analysis of Selectivity and Timing Skills of Fund Managers

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**Received: May 7, 2019; Accepted: Jan 14, 2020**



**Citation:** Agarwal A, Bansal S, Dhillon LK. 2020. Analysis of selectivity and timing skills of fund managers. Management and Economics Research Journal, 6(1): 870688. https://doi.org/10.18639/MERJ.2020.870688

**Abstract:**
There have been massive research works done on the concept of market timing and selectivity skills that are applied by the fund managers to optimize the returns to the fundholders/investors/clientele. The fact that still remains unidentified/studied is the factor(s) that are influential enough for the maximization of returns. There is a general perception that investors will only look upon the returns but the very factor that may influence that return is yet to be analyzed. This study focuses on gaining an insight into whether there is any correlation that exists between the fund manager's selection or/and market timing abilities that, in turn, can be useful to the investors also in finding out which fund and fund manager to be trusted for investment.

**Keywords:** Selectivity Skills; Market timing; Fund managers; Henriksson-Merton; Treynor-Mazuy.

## 1. INTRODUCTION

The mutual fund industry has seen a lot of changes in the past few years with multinational companies coming into the country, bringing in their professional expertise in managing funds worldwide. In the past few months, there has been a consolidation phase going on in the mutual fund industry in India. Now, investors have a wide range of schemes to choose from depending on their individual profiles. Investors do not possess knowledge about the stock market and are often lacking the information and skill enough to judge that investments can fetch better returns. Mutual funds come as a respite in such situations where the fund managers play a very critical role in advising the investors on various performance measures for optimum returns.

## 2. LITERATURE REVIEW

A large number of studies on the growth and financial performance of mutual funds have been carried out during the past, in the developed and developing countries. Brief reviews of the following research works reveal the wealth of contributions toward the performance evaluation of mutual fund, market timing, and stock selection abilities of fund managers.

- **Treynor and Mazuy** (1966) assessed the performance of 57 fund managers w.r.t their market timing abilities and established that the fund managers were not capable of analyzing the market trends. The analysis revealed that investors had to be dependent on fluctuations in the capital market. The returns whether positive or negative were merely not due to the fund managers' ability to identify the funds with securities that are underpriced, in fact, the returns were merely driven by the market. The study espoused Treynor's (1965) methodology for the assessment of the performance of mutual funds.
- **Bird *et al*.** (1983) examined the investment performance of Australian superannuation funds and their managers over a period of 10 years from 1970 to 1980. They examined the Sharpe, Treynor,

and Jensen indicators as the prospective yardsticks. They concluded that all the abovementioned measures have clearly revealed that the returns on the funds were not due to the analysis and skills shown by the fund managers.

- **Fletcher** (1997) investigated 101 UK unit trusts with the objective of finding out if managers possess the ability to out prove the market returns. He considered five portfolios that were based on a ranking of 5-year risk-adjusted performance. He then repeated this via examination of a 2-year performance metric and here also he observed that the fund managers were not in a position to out beat the market and the market timing skills of the managers under study could not prove to be of worth.
- **Ferson and Schadt** (1996) stated that customary measures of performance designated to detect security selectivity and market timing ability are subject to a lot of errors and misconceptions. Most of the historic work deals via traditional performance measures that incorporate unconditional expected returns as a baseline; whereas, when the expected returns and risks fluctuate over time, this unconditional approach is not enviable. The normal time disparities in returns and risk premia will be mystified with average performance.
- **Daniel *et al.*** (1997) has concluded that the "persistence in mutual funds performance" is due to the use of simple momentum strategies by the fund managers rather than due to certain fund managers having "hot hand" that allows them to pick winning stocks. Results show that particularly aggressive growth funds exhibit some "selectivity" ability but no "timing ability."
- **Schmidt *et al.*** (2004) analyzed private equity cash flows and proved that in case of "later-stayed buyout" funds, the feat is not dogged by market timing even though it is largely related to the practice and skills of the manager.
- **Christensen** (2013) opined that Danish funds are no exception to the rule that there is an existence of market timing ability skills being propounded and exhibited by the fund managers. He also observed that the performance of these funds remained neutral and that returns were not continual. He was also of the opinion that there was no stock-picking ability based on any type of single-index model or any multifactor model, respectively. He examined the persistence of returns by applying parametric and nonparametric techniques.
- **Chen and Liang** (2007) analyzed the market timing ability based on the models developed by Treynor-Mazuy, Henriksson-Merton and Busse (1999). They build up a novel model that permitted to investigate jointly the timing of returns as well as volatility. This new model creates a bridge between fund returns to the Sharpe ratio. A strong relationship was observed between returns and volatility timing. The sample comprises hedge funds.

## 3. OBJECTIVE OF STUDY

This study embarks on the following objective:

- To evaluate the overall risk-adjusted performance and separate the fund performance into selectivity and market timing components.

## 4. THE ESTIMATION

The total risk of investing in a portfolio has been measured by the standard deviation of the monthly returns of the portfolio and the systematic risk (beta) of the portfolio is measured by the following CAPM version of the market model:

$Rpt = \alpha + \beta Rmt$

Beta is calculated as given in Table 1.

Beta measures a fund's volatility compared to that of a benchmark. It tells you how much a fund's performance would swing compared to a benchmark. If Beta is high, sensitivity is also high.

**Table 1. Beta of Funds under Study.**

| NAME OF THE FUNDS | BETA |
|---|---|
| Axis Triple Advantage Fund | 0.9811321 |
| ICICI Prudential Blended Plan B—Option II | 0.9794116 |
| ICICI Prudential Blended Plan B—Option I | 0.9793639 |
| Birla Sun Life International Equity Plan A | 0.9786937 |
| Principal Global Opportunities Fund | 0.9843043 |
| Reliance Arbitrage Advantage Fund | 0.9830274 |
| JM Arbitrage Advantage Fund | 0.9830301 |
| Axis Midcap Fund | 0.9828575 |
| BNP Paribas Tax Advantage Plan | 0.9814718 |
| Reliance Equity Linked Saving Fund—Series 1 | 0.9808927 |
| ICICI Prudential R.I.G.H.T Fund | 0.9785872 |
| ICICI Prudential FMCG Fund—Growth | 0.9802342 |
| Birla Sun Life MNC Fund—Growth | 0.9799126 |
| Motilal Oswal Most Shares NASDAQ 100 ETF | 0.9798522 |
| Goldman Sachs Hang Seng Exchange Traded Scheme | 1.0024537 |
| Canara Robeco Balance | 1.0087189 |
| Canara Robeco Balance | 1.0066992 |
| LIC Nomura MF Balanced Fund | 1.0172229 |
| UTI Wealth Builder Fund—Series II | 1.0171048 |
| SBI Magnum Sector Funds—Umbrella Emerging Business | 1.0117803 |
| UTI Spread Fund | 1.0117803 |
| SBI Arbitrage Opportunities Fund | 1.01157 |
| Canara Robeco F.O.R.C.E Fund—Institutional Plan | 1.0124636 |
| Canara Robeco Equity Tax Saver | 1.0062593 |
| SBI Magnum Tax Gain Scheme 93 | 1.0043464 |
| UTI Long Term Advantage Fund—Series II | 1.0035339 |
| SBI Magnum Sector Funds—Umbrella FMCG | 1.0014112 |
| UTI Transportation and Logistics Fund | 1.0014112 |
| LIC Nomura MF Index Fund—Nifty Plan | 1.0014112 |
| SBI Magnum Index Fund | 1.0001887 |
| ICICI Prudential Blended Plan B—Option II | 1.0001887 |

*(Continued)*

**Table 1. Beta of Funds under Study (*Continued*)**

| NAME OF THE FUNDS | BETA |
|---|---|
| ICICI Prudential Blended Plan B—Option I | 1.0016133 |
| Birla Sun Life International Equity Plan A | 0.9865373 |
| Principal Global Opportunities Fund | 1.0278567 |
| IDFC Arbitrage Fund Plan B | 1.0237245 |
| Reliance Arbitrage Advantage Fund | 1.019248 |
| Axis Midcap Fund | 1.0224119 |
| Reliance Equity Linked Saving Fund Series 1 | 1.0173087 |
| ICICI Prudential R.I.G.H.T Fund | 1.0075488 |
| ICICI Prudential FMCG Fund—Dividend | 0.999996 |
| ICICI Prudential Technology Fund | 0.9853054 |
| Birla Sun Life MNC Fund—Dividend | 1.9699178 |
| IDFC Nifty Fund | 1.9686767 |
| ING Large Cap Equity Fund | 2.0597579 |
| Reliance Index Fund—Nifty Plan | 2.0593973 |
| Canara Robeco Balance | 2.1426614 |
| LIC Nomura MF Balanced Fund | 2.2645398 |
| UTI Spread Fund | 2.2241112 |
| Canara Robeco Large Cap + Fund | 2.3341604 |
| UTI India Lifestyle Fund | 2.3237805 |
| Canara Robeco Emerging Equities | 2.3365847 |
| SBI Blue Chip Fund | 2.9789801 |
| UTI Long Term Advantage Fund—Series II | 3.2046134 |
| SBI Tax Advantage Fund—Series II | 2.9341512 |
| UTI MNC Fund | 2.3765695 |
| SBI Magnum Sector Funds—Umbrella Pharma | 6.0547301 |
| UTI Transportation and Logistics Fund | 6.0547301 |
| LIC Nomura MF Index Fund—Nifty Plan | 6.0547301 |
| Canara Robeco Nifty Index | 5.9641838 |

## 5. SELECTIVITY SKILLS OF FUND MANAGERS

The selectivity skills of fund managers are calculated using Jensen's measure. Jensen was interested in finding out whether the mutual fund managers add value over the long term. Jensen's measure is calculated as follows:

$$Rpt\text{-}Rft = \alpha + \beta\,(Rmt\text{-}Rft) \quad (2)$$

where
pt = return of the fund "p" for period "t"
Rft = risk-free return for period "t"
Rmt = return on the benchmark (market) portfolio for period "t"
The Alpha as calculated is given in Table 2.

**Table 2. Alpha of Funds under Study.**

| NAME OF THE FUNDS | $\alpha$ = Rpt-Rft - $\beta$ (Rmt-Rft) |
|---|---|
| Axis Triple Advantage Fund | –19.20 |
| ICICI Prudential Blended Plan B—Option II | –9.73 |
| ICICI Prudential Blended Plan B—Option I | –12.47 |
| Birla Sun Life International Equity Plan A | 13.06 |
| Principal Global Opportunities Fund | –15.00 |
| Reliance Arbitrage Advantage Fund | –9.97 |
| JM Arbitrage Advantage Fund | –10.61 |
| Axis Midcap Fund | –14.97 |
| BNP Paribas Tax Advantage Plan | –11.89 |
| Reliance Equity Linked Saving Fund Series 1 | –17.77 |
| ICICI Prudential R.I.G.H.T Fund | –4.24 |
| ICICI Prudential FMCG Fund—Growth | –10.81 |
| Birla Sun Life MNC Fund—Growth | –9.94 |
| Motilal Oswal Most Shares NASDAQ 100 ETF | 31.19 |
| Goldman Sachs Hang Seng Exchange Traded Scheme | –1.43 |
| Canara Robeco Balance | –15.63 |
| Canara Robeco Balance | 2.13 |
| LIC Nomura MF Balanced Fund | –12.32 |
| UTI Wealth Builder Fund Series II | –22.20 |
| SBI Magnum Sector Funds—Umbrella Emerging Business | –19.68 |
| UTI Spread Fund | –12.17 |
| SBI Arbitrage Opportunities Fund | –10.63 |
| Canara Robeco F.O.R.C.E Fund—Institutional Plan | –22.09 |
| Canara Robeco Equity Tax Saver | –14.18 |
| SBI Magnum Tax Gain Scheme 93 | –12.55 |
| UTI Long Term Advantage Fund—Series II | –14.16 |
| SBI Magnum Sector Funds—Umbrella FMCG | –19.66 |

*(Continued)*

**Table 2. Alpha of Funds under Study (*Continued*)**

| NAME OF THE FUNDS | $\alpha$ = Rpt-Rft - $\beta$ (Rmt-Rft) |
|---|---|
| UTI Transportation and Logistics Fund | –19.66 |
| LIC Nomura MF Index Fund—Nifty Plan | –12.84 |
| SBI Magnum Index Fund | –19.66 |
| ICICI Prudential Blended Plan B—Option II | –9.75 |
| ICICI Prudential Blended Plan B—Option I | –31.89 |
| Birla Sun Life International Equity Plan A | 13.09 |
| Principal Global Opportunities Fund | –15.08 |
| IDFC Arbitrage Fund Plan B | –15.06 |
| Reliance Arbitrage Advantage Fund | –10.04 |
| Axis Midcap Fund | –15.12 |
| Reliance Equity Linked Saving Fund Series 1 | –17.83 |
| ICICI Prudential R.I.G.H.T Fund | –15.74 |
| ICICI Prudential FMCG Fund—Dividend | –19.37 |
| ICICI Prudential Technology Fund | 27.96 |
| Birla Sun Life MNC Fund—Dividend | –20.91 |
| IDFC Nifty Fund | –13.61 |
| ING Large Cap Equity Fund | –21.16 |
| Reliance Index Fund—Nifty Plan | –14.19 |
| Canara Robeco Balance | –23.24 |
| LIC Nomura MF Balanced Fund | –16.98 |
| UTI Spread Fund | –14.39 |
| Canara Robeco Large Cap + Fund | –16.36 |
| UTI India Lifestyle Fund | –15.98 |
| Canara Robeco Emerging Equities | –25.11 |
| SBI Blue Chip Fund | –15.56 |
| UTI Long Term Advantage Fund—Series II | –18.18 |
| SBI Tax Advantage Fund—Series II | –18.78 |
| UTI MNC Fund | –11.17 |
| SBI Magnum Sector Funds—Umbrella Pharma | –28.91 |
| UTI Transportation and Logistics Fund | –28.91 |
| LIC Nomura MF Index Fund—Nifty Plan | –22.09 |
| Canara Robeco Nifty Index | –27.16 |
| SBI Magnum Index Fund | –8.00 |

Jensen's research also suggests that some funds only have positive alpha and most of the funds have negative alpha indicating in bold terms that the fund managers are not able to outperform the market.

## 6. MARKET TIMING

To measure the market timing ability, the beta coefficient is taken to measure the sensitivity of a security's returns w.r.t changes in the market return. The two methods undertaken in the study to know the market timing abilities are as follows:

- Treynor–Mazuy (1966) and
- Henriksson–Merton (1981).

### 6.1. Treynor-Mazuy Model

The performance measure is conducted using the Treynor-Mazuy Model. The model is specified as

$$\text{Rpt-Rft} = \alpha + \beta\,(\text{Rmt-Rft}) + \gamma\,(\text{Rmt-Rft})2 \quad (3)$$

The calculation of Gamma is given as per Table 3.

A high or positive gamma indicates the presence of marketability skills of fund managers in analyzing the fund returns.

### 6.2. Henriksson–Merton Model

The Henriksson–Merton Measure is an absolute measure of performance. It is given by the annualized return of the fund, deducted the yield of an investment without risk, minus the sum of returns on the market portfolio and on a portfolio containing index derivatives. It is given as follows:

$$\text{Rpt-Rft} = \alpha + \beta\,(\text{Rmt-Rft}) + \gamma\,[\text{D}\,(\text{Rmt-Rft})\,2 \quad (6)$$

where $D = 0$ if Rm> Rf = –1 otherwise

The calculation of $D$ is as per Table 4.

A positive gamma and $D$ indicate superior market timing ability but the calculation in the above table suggests that the fund managers were not able to outperform the market as per the Henriksson–Merton Model also.

**Table 3. Gamma of Funds under Study.**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/ (Rmt-Rft)2 |
|---|---|
| Axis Triple Advantage Fund | –4.44089E-16 |
| ICICI Prudential Blended Plan B—Option II | 6.66134E-16 |
| ICICI Prudential Blended Plan B—Option I | –2.22045E-16 |
| Birla Sun Life International Equity Plan A | –2.22045E-16 |
| Principal Global Opportunities Fund | –4.44089E-16 |
| Reliance Arbitrage Advantage Fund | –8.88178E-16 |
| JM Arbitrage Advantage Fund | 8.88178E-16 |

*(Continued)*

**Table 3. Gamma of Funds under Study. (*Continued*)**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/ (Rmt-Rft)2 |
|---|---|
| Axis Midcap Fund | –4.44089E-16 |
| BNP Paribas Tax Advantage Plan | 0 |
| Reliance Equity Linked Saving Fund Series 1 | 1.55431E-15 |
| ICICI Prudential R.I.G.H.T Fund | 2.22045E-16 |
| ICICI Prudential FMCG Fund—Growth | –8.88178E-16 |
| Birla Sun Life MNC Fund—Growth | 6.66134E-16 |
| Motilal Oswal Most Shares NASDAQ 100 ETF | 6.66134E-16 |
| Goldman Sachs Hang Seng Exchange Traded Scheme | 0 |
| Canara Robeco Balance | –2.22045E-16 |
| Canara Robeco Balance | 0 |
| LIC Nomura MF Balanced Fund | 0 |
| UTI Wealth Builder Fund Series II | –1.55431E-15 |
| SBI Magnum Sector Funds—Umbrella Emerging Business | 1.33227E-15 |
| UTI Spread Fund | –4.44089E-16 |
| SBI Arbitrage Opportunities Fund | –6.66134E-16 |
| Canara Robeco F.O.R.C.E Fund—Institutional Plan | 1.33227E-15 |
| Canara Robeco Equity Tax Saver | –8.88178E-16 |
| SBI Magnum Tax Gain Scheme 93 | 0 |
| UTI Long-Term Advantage Fund—Series II | –8.88178E-16 |
| SBI Magnum Sector Funds—Umbrella FMCG | 1.33227E-15 |
| UTI Transportation and Logistics Fund | 1.33227E-15 |
| LIC Nomura MF Index Fund—Nifty Plan | –4.44089E-16 |
| SBI Magnum Index Fund | 0 |
| ICICI Prudential Blended Plan B—Option II | 0 |
| ICICI Prudential Blended Plan B—Option I | –1.77636E-15 |
| Birla Sun Life International Equity Plan A | –2.22045E-16 |
| Principal Global Opportunities Fund | –4.44089E-16 |
| IDFC Arbitrage Fund Plan B | –6.66134E-16 |
| Reliance Arbitrage Advantage Fund | 2.22045E-16 |
| Axis Midcap Fund | 8.88178E-16 |

*(Continued)*

**Table 3. Gamma of Funds under Study. (*Continued*)**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/ (Rmt-Rft)2 |
|---|---|
| Reliance Equity Linked Saving Fund Series 1 | 8.88178E-16 |
| ICICI Prudential R.I.G.H.T Fund | 4.44089E-16 |
| ICICI Prudential FMCG Fund—Dividend | –1.55431E-15 |
| ICICI Prudential Technology Fund | –8.88178E-16 |
| Birla Sun Life MNC Fund—Dividend | 0 |
| IDFC Nifty Fund | 0 |
| ING Large Cap Equity Fund | 8.88178E-16 |
| Reliance Index Fund—Nifty Plan | 0 |
| Canara Robeco Balance | –8.88178E-16 |
| LIC Nomura MF Balanced Fund | –1.77636E-15 |
| UTI Spread Fund | 0 |
| Canara Robeco Large Cap + Fund | 8.88178E-16 |
| UTI India Lifestyle Fund | –8.88178E-16 |
| Canara Robeco Emerging Equities | 0 |
| SBI Blue Chip Fund | –8.88178E-16 |
| UTI Long Term Advantage Fund—Series II | –8.88178E-16 |
| SBI Tax Advantage Fund—Series II | –8.88178E-16 |
| UTI MNC Fund | –8.88178E-16 |
| SBI Magnum Sector Funds—Umbrella Pharma | 0 |
| UTI Transportation and Logistics Fund | 0 |
| LIC Nomura MF Index Fund—Nifty Plan | 1.77636E-15 |
| Canara Robeco Nifty Index | –1.77636E-15 |
| SBI Magnum Index Fund | 0 |

**Table 4. *D* of Funds under Study.**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/(Rmt-Rft)2 | D = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft) /$\gamma$* (Rmt-Rft)2 |
|---|---|---|
| Axis Triple Advantage Fund | –4.44089E-16 | 1.20727E+15 |
| ICICI Prudential Blended Plan B—Option II | 6.66134E-16 | –8.03439E+14 |
| ICICI Prudential Blended Plan B—Option I | –2.22045E-16 | 2.4102E+15 |

*(Continued)*

**Table 4. *D* of Funds under Study. (*Continued*)**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/(Rmt-Rft)2 | D = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft) /$\gamma$* (Rmt-Rft)2 |
|---|---|---|
| Birla Sun Life International Equity Plan A | –2.22045E-16 | 2.40855E+15 |
| Principal Global Opportunities Fund | –4.44089E-16 | 1.21118E+15 |
| Reliance Arbitrage Advantage Fund | –8.88178E-16 | 6.04804E+14 |
| JM Arbitrage Advantage Fund | 8.88178E-16 | –6.04805E+14 |
| Axis Midcap Fund | –4.44089E-16 | 1.2094E+15 |
| BNP Paribas Tax Advantage Plan | 0 | 0 |
| Reliance Equity Linked Saving Fund Series 1 | 1.55431E-15 | –3.44852E+14 |
| ICICI Prudential R.I.G.H.T Fund | 2.22045E-16 | –2.40829E+15 |
| ICICI Prudential FMCG Fund—Growth | –8.88178E-16 | 6.03085E+14 |
| Birla Sun Life MNC Fund—Growth | 6.66134E-16 | –8.0385E+14 |
| Motilal Oswal Most Shares NASDAQ 100 ETF | 6.66134E-16 | –8.038E+14 |
| Goldman Sachs Hang Seng Exchange Traded Scheme | 0 | 0 |
| Canara Robeco Balance | –2.22045E-16 | 2.48244E+15 |
| Canara Robeco Balance | 0 | 0 |
| LIC Nomura MF Balanced Fund | 0 | 0 |
| UTI Wealth Builder Fund—Series II | –1.55431E-15 | 3.57583E+14 |
| SBI Magnum Sector Funds—Umbrella Emerging Business | 1.33227E-15 | –4.14996E+14 |
| UTI Spread Fund | –4.44089E-16 | 1.24499E+15 |
| SBI Arbitrage Opportunities Fund | –6.66134E-16 | 8.29819E+14 |
| Canara Robeco F.O.R.C.E Fund—Institutional Plan | 1.33227E-15 | –4.15276E+14 |
| Canara Robeco Equity Tax Saver | –8.88178E-16 | 6.19097E+14 |
| SBI Magnum Tax Gain Scheme 93 | 0 | 0 |
| UTI Long Term Advantage Fund-Series II | –8.88178E-16 | 6.1742E+14 |
| SBI Magnum Sector Funds—Umbrella FMCG | 1.33227E-15 | –4.10743E+14 |
| UTI Transportation and Logistics Fund | 1.33227E-15 | –4.10743E+14 |
| LIC Nomura MF Index Fund—Nifty Plan | –4.44089E-16 | 1.23223E+15 |
| SBI Magnum Index Fund | 0 | 0 |

*(Continued)*

**Table 4. *D* of Funds under Study. (*Continued*)**

| NAME OF THE FUNDS | $\gamma$ = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft)/(Rmt-Rft)2 | D = (Rpt-Rft) - $\alpha$ - $\beta$ (Rmt-Rft) /$\gamma$* (Rmt-Rft)2 |
|---|---|---|
| ICICI Prudential Blended Plan B—Option II | 0 | 0 |
| ICICI Prudential Blended Plan B—Option I | –1.77636E-15 | 3.08119E+14 |
| Birla Sun Life International Equity Plan A | –2.22045E-16 | 2.42785E+15 |
| Principal Global Opportunities Fund | –4.44089E-16 | 1.26477E+15 |
| IDFC Arbitrage Fund Plan B | –6.66134E-16 | 8.3979E+14 |
| Reliance Arbitrage Advantage Fund | 2.22045E-16 | –2.50835E+15 |
| Axis Midcap Fund | 8.88178E-16 | –6.29035E+14 |
| Reliance Equity Linked Saving Fund Series | 8.88178E-16 | –6.25895E+14 |
| ICICI Prudential R.I.G.H.T Fund | 4.44089E-16 | –1.23978E+15 |
| ICICI Prudential FMCG Fund—Dividend | –1.55431E-15 | 3.51568E+14 |
| ICICI Prudential Technology Fund | –8.88178E-16 | 6.06205E+14 |
| Birla Sun Life MNC Fund—Dividend | 0 | 0 |
| IDFC Nifty Fund | 0 | 0 |
| ING Large Cap Equity Fund | 8.88178E-16 | –1.26726E+15 |
| Reliance Index Fund—Nifty Plan | 0 | 0 |
| Canara Robeco Balance | –8.88178E-16 | 1.31826E+15 |
| LIC Nomura MF Balanced Fund | –1.77636E-15 | 6.96624E+14 |
| UTI Spread Fund | 0 | 0 |
| Canara Robeco Large Cap + Fund | 8.88178E-16 | –1.43608E+15 |
| UTI India Lifestyle Fund | –8.88178E-16 | 1.4297E+15 |
| Canara Robeco Emerging Equities | 0 | 0 |
| SBI Blue Chip Fund | –8.88178E-16 | 1.83281E+15 |
| UTI Long Term Advantage Fund—Series II | –8.88178E-16 | 1.97163E+15 |
| SBI Tax Advantage Fund—Series II | –8.88178E-16 | 1.80522E+15 |
| UTI MNC Fund | –8.88178E-16 | 1.46217E+15 |
| SBI Magnum Sector Funds—Umbrella Pharma | 0 | 0 |
| UTI Transportation and Logistics Fund | 0 | 0 |
| LIC Nomura MF Index Fund—Nifty Plan | 1.77636E-15 | –1.86257E+15 |
| Canara Robeco Nifty Index | –1.77636E-15 | 1.83472E+15 |

## 7. CONCLUSION

The findings show that fund risk is negatively related to selectivity but positively related to timing returns, suggesting that managers whose activity specialization is stock selection are likely to show poor performance when managing funds with high exposures to broad market movements. In other words, funds with such attributes are better managed by market timer managers who are skillful at taking advantage on market-wide movements.

The findings are in congruence with the landmark study, and the research carried out by Jensen in 1967 reveal that few or negligible fund managers only possess the timing ability and are able to make changes in the fund to outperform the market. The findings of this study are useful to investors and provide potential policy implications to the fund management industry. As the investment actions of managers are not directly observable by investors, the findings on what fund characteristics affect managerial performance components provide useful insights to investors in making investment decisions.

The results from Henriksson–Merton model can be reaffirmed with the study done by Chang and Lewellen in 1984 where they found little fund timing ability among the fund managers and hence it can be easily interpreted that even though the fund managers are associated with the management of the fund for long but still they do not possess any fund timing ability to accrue the returns to the investors.

**Author Contributions**
All others contributed equally to this study.

**Conflict of Interest**
None.

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