



Market Timing Abilities of Aggressive and Conservative Hybrid Fund Managers

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ABSTRACT

The paper analyses market timing skills of aggressive and conservative hybrid funds managers in India during April 2011 to March 2021. 13 schemes from each category of aggressive and conservative hybrid funds are selected for the present research. A total of 26 schemes which include both public and private are considered for study. Treynor-Mazuy model and Hendrickson - Merton model are applied for calculating timing skills of fund managers. Above 90% of fund managers were successful in achieving returns excess over market with timing skills in both the models. For analysis of hybrid mutual funds returns, risk, systematic risk (Beta), Sharpe ratio, Treynor ratio and market timing abilities of fund managers are calculated.

INTRODUCTION

The financial markets are helping economic growth of India. They are transferring pooled savings to industries. Thus, they are speeding up and distributing resources across all borrowers in the country. Due to liberalization of trade taxation rules and reforms in policies and foreign investments, all financial institutions have been strengthened. The mutual fund industry has growth tremendously over the last decades. Due to diversified portfolio, there is continuous growth of mutual fund industry. It plays a vital role in regular growth of economy by improving financial institutions which are vital in mobilising savings and investing in money and capital markets. As an intermediary, they are mobilising resources and act as complementary to financial institutions. When investing in mutual fund investor has to face risk along with returns. Here comes the importance of skills of fund managers. A study is needed on evaluation of performance of mutual funds. Therefore study is performed on the timing abilities of fund managers.

REVIEW OF LITERATURE

Performance evaluation of mutual funds is important to both investors as well as fund managers. The past researchers provided guidelines, direction and basis for the new research. It will be of immense help if researcher go through details of previous studies. In this chapter an attempt is made to present literature related to present topic.

1. Parmar (2010) evaluated mutual funds 2005-2009 and calculated returns, average, standard deviation, beta, R squared and Sharpe ratio by using secondary data. They found that changes in market had no effect on returns and also stock selecting ability of fund manager.
2. Kumar Gayatri and kartikha (2010) studied performance of mutual fund. Their study emphasises that it is the right time to investing in mutual funds.
3. Rude (2010) analysed open and closed ended schemes using different model. They concluded that during bull and bear, returns were great. They were of the opinion that fund size and market- book has more effect on closed ended compare to open ended schemes. They gave result only with CAPM Model which didn't match with other models. 41. Kumar (2011) concluded that only five funds had outperformed the bench mark index BSE 100 when monthly average returns and risk were analysed. Sharpe Treynor and Jensen models were applied to study the analysis
4. Bello and Deridder (2011) selected funds having variable size of Aum for the study during 1990 – 2010. Results were better compared to stock market (S&P 500 Index). They conclude that funds' performance was proportional to size of the fund.
5. Patel, Lodha and Vadher RN (2011) various mutual funds have been compared in terms of annual growth and arithmetic mean. Sharpe and Treynor ratio were applied for the analysis of mutual funds. Canera reboco balance growth fund are the best performer.
6. Bawa and Brar (2011) mutual funds using Nav's from 2000 -2010. Higher returns were given by private sector assets under management. Due to change of market condition public sector didn't give good returns.
7. Dhanalakshmi and Vimala (2011) evaluation tools are applied to study the performance of mutual funds. t- Test was used to know that HSBC equity gave greatest earning compare with all other funds.
8. 46. Muruganandan (2011) evaluation formula like average excess return, Sharpe Ratio and Jensen Alpha were used for the assessment of mutual funds. In bull market, Sharpe ratio shown reverse numbers. All evaluators of the funds shown no consistent significant result.
9. Paul (2012) concluded based on their study that investors expect more returns but they get less returns.

10. Sharma (2012) studied expectations of investors using primary data and analysed with the help of mean standard deviation and correlation. Their study included safety and monetary benefits of schemes. They concluded that investors need full related information with safety and monetary benefits.
11. Radhika and Sreeniasan (2012) studied performance of mutual funds based on primary data. Based on the results they insisted that factors chosen by investors were better portfolio management and previous year performance.
12. Vyas (2012) study was made on by using primary data. They concluded that respondents are unaware of monetary benefits of mutual funds. They usually go to bank and post office FD. Investors depend on agents for investment in mutual funds.
13. Agarwal and Jain (2013) studies mutual funds based on primary data of Mathura investors. Their study confirmed that many investors are investing in mutual funds though there are other investment avenues.
14. Lilly, J: and Anusuya, J. (2014) studied 49 open ended tax saving Elss's from 2008 to 2013. Tools like Sharpe Ratio, Treynor Ratio and Jensen's alpha are used to analyse the fund's performance.
15. Srivastava, N. (2014) timing abilities of fund managers of 31 fund schemes are studied from 1995 to 2004. The studies used Treynor and mazuy model and Hendrickson and Merton model. The results from the above study confirmed that fund managers were not successful in getting good returns though the fund investment.
16. Tan, o. (2015 - International) Studied South African equity funds between 2009and 2014.
17. Analysis on the performance of above funds has been done using Sharpe ratio Treynor Mazuy model and Hendrickson - Merton model using regression analysis.
18. Vijayalakshmi, T. et al (2016) studied opinion of customer about schemes of mutual funds i.e., type o schemes, plan of interest, reason behind choosing such funds, apart from other postal schemes such as MIS, Recurring Deposits and shares. The new type of investment came to opinion that people are not aware of new type of investment like mutual funds and are avoiding risk investment preferring safe investments like recurring deposits.
19. Gandhi, R.and Perumal, R. (2016) analysed performance of mutual fund schemes of SBI, Canara bank, ICICI Bank, HDFC bank using tools like Standard Deviation Beta, alpha and ratio analysis like Sharpe ratio Treynor ratio, Jensen alpha and information ratio. Based on their study and analysis they stated that Canara bank gave higher return.
20. Srivastava, S. (2017) studied performance of ELSS and compared with returns come other investment choices like PPF etc which come under income tax act.
21. Samani, R., and Sharma. (2017) studied various investment plans and management techniques for mutual fund schemes. They have chased stocks from Nifty Midcap index during the year 2014.
22. Reddy, KVR., and Sriram, A. (2020) studied performance of equity linked savings schemes (ELSS) from 2014 to 2019 with the help of tools like average return, Standard deviation, coefficient of variance, Beta, Sharpe ratio, Treynor Ratio and Jensen alpha. Their analysis arrived at a conclusion that all ELSS have performed well with respect to market index. Funds earn more return that have great risk.
23. Pratap, S. and Gouwtham, K. (2020) selected ELSS for study because it has tax exemption and give large return and are less risky. Their study focused on funds from 5 best mutual fund companies. Analysis measures like standard deviation, Beta, Sharpe ratio, Treynor ratio and Jensen alpha. Birla sun life Tax Relief fund 96 performance was good compare to other mutual funds under study.

NEED FOR THE STUDY

In recent years performance evaluation of mutual funds in India received attention from both practitioners and academicians. For such evaluation is vital for investors as well as portfolio managers to take further investment decisions. It is generally believed that professional fund managers are better equipped with information processing skills. In India ordinary investors may not be aware of tools to select schemes for investment to get good returns. Indian mutual fund industry has registered remarkable growth in recent decades and emerged as significant financial intermediary. In this back drop it is relevant to analyse Indian mutual fund schemes.

OBJECTIVES OF THE STUDY

1. To analyse the sample schemes in terms of risk and return and systematic risk (Beta)
2. To examine performance of sample schemes in terms of NIFTY
 - a. Based on risk and return
 - b. Sharpe ratio
 - c. Treynor ratio
3. To evaluate market timing abilities of fund managers by applying
 - i) Treynor and Mazuy Model
 - ii) Hendrickson -Merton Model

RESEARCH METHODOLOGY

a. Sample

In accordance with the objective framed for the research work, sample design is prepared on convenient sample technique. Schemes selected for study are continuously traded in market without time gap. Schemes selected for study are both from public and private sector funds which have been launched between 1995–2011. All funds selected come under Hybrid Mutual funds.

b. Population

Selection of sample based on open-ended, Regular and growth schemes from population of different fund houses.

c. Secondary data sources

- Annual reports of fund companies
- Offer documents of fund schemes
- Nav's of schemes published by fund companies

d. Websites

- www.amfi.com
- www.sebiindia.com
- www.bluechipinvestment.com
- www.navindia.com
- www.valueresearchonline.com
- www.funds bazar
- www.nse.com

e. Study period

Present study on Hybrid mutual fund is made during 2011-12 to 2020-2021.

f. Sample size

The sample size consists of 26 hybrid mutual funds both from public and private sector.

Table no.1 Hybrid mutual funds

TYPE-I	AGGRESSIVE HYBRID
1	ABSL equity hybrid 95
2	Canara Robeco Hybrid Equity
3	DSP equity and bond
4	Franklin Ind equity hybrid
5	Baroda hybrid equity regular
6	HDFC hybrid equity
7	ICICI PRU equity and debt fund
8	LIC ULIS regular contribution 10
9	Quantum absolute regular
10	SBI equity hybrid
11	Sundaram aggressive
12	UTI equity hybrid
13	Edel Weiss aggressive hybrid
TYPE-II	CONSERVATIVE HYBRID FUNDS
14	Axis regular saver
15	SBI conservative hybrid
16	Canara robeco conservative hybrid
17	UTI regular savings
18	HDFC conservative debt
19	HSBC regular savings
20	IDFC regular savings
21	L&T conservative regular
22	Sundaram debt oriented hybrid regular
23	LIC debt monthly income plan
24	LIC debt hybrid
25	Kotak debt hybrid
26	Baroda conservative hybrid

Research tools for analysis**Return of portfolio**

Return of mutual fund is calculated by taking NAVs of selected mutual fund. NAV's have been collected for the period April 2011 to march 2021. The return is calculated as follows

Absolute return = (Present NAV – initial NAV) / initial NAV × 100

The average return of the scheme is calculated with a formula

$$RP_t = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}}$$

Where:

RP_t = absolute return on the fund for time t

NAV_t = average NAV for time t

NAV_{t-1} = average NAV for time t-1

Risk

It is defined as degree of probability of variation in expected returns.

Mutual funds return involve risk because they depend on performance of stock market. Assessment of funds is done with risk included in it. Variability of return is measured in terms of standard deviation.

It is statistical measure of dispersion in returns. The smaller the deviation, the smaller is the spread in the deviation and as result risk is less. It is calculated by

$$SD = [\sqrt{\sum(R_p - AR_p)^2}]^{1/n}$$

$SD = \sigma_p$ = standard deviation = total risk

R_p = return of portfolio

AR_p = average return of portfolio

Systematic Risk (β):

Systematic risk is a part of total risk which changes due to changes in overall market. It indicates relationship between return of schemes and return of market, this is caused by external factors which are not under the control of fund manager and it should be borne by fund manager

$$R_p = \alpha + \beta R_m + e_p$$

$\beta < 0$: then there is inverse relation between schemes return and market return.

$\beta = 0$: return of scheme is independent of market return

$0 < \beta < 1$: return of scheme is positively associated with market return former is less volatile compared to later

$\beta = 1$: both R_m and R_p vary by same margin

$\beta > 1$: return of market is more volatile.

α -is constant term

e = error term

Performance evaluation of mutual funds

Performance of mutual funds are evaluated by applying Sharpe, Treynor, Treynor-Mazuy model and Hendrickson-Merton model.

Sharpe ratio

It is the ratio which indicates the relationship between portfolio's additional returns over the risk-free return and total risk of portfolio. It is also known as reward to variability ratio

For the purpose of analysis, the Sharpe's ratio is compared with bench mark ratio in which total risk of market is taken in denominator. If Sharpe ratio is higher than the bench mark ratio it implies less variability of portfolio compared to that of market.

$$\text{Sharpe ratio} = \frac{R_p - R_f}{\sigma_p}$$

R_p = return on port folio

R_f = risk free rate

σ_p = standard deviation of the portfolio's excess return

$$\text{Treynor ratio} = \frac{AR_p - AR_f}{\beta_p}$$

It is another measure of fund performance in terms of return and risk. It measures relationship between funds additional return over risk free return and funds volatility measured in terms of beta, it is also called reward to volatility, and measured as

AR_p = average return on portfolio

AR_f = average risk free rate

β_p = Beta value of portfolio

Market timing ability

Market timing ability- Treynor-Mazuy Model

Treynor and Mazuy model (1966) designed a model to analyse the timing ability of fund managers. In it there is quadratic relationship between fund return and market returns. The equation is

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + \gamma (R_m - R_f)^2 + e_p$$

α – constant term

R_p – Return of fund

R_m – Return of market portfolio

R_f – Risk free return

E_p – random error

β - selecting ability of fund manager

γ – timing ability of fund manager

Hendrickson – Merton derived a model to study timing abilities of fund managers to predict timing ability, they designed a formula

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + D\gamma (R_m - R_f) + e_p$$

D – dummy variables

When $R_m > R_f$ markets are said to take upturn, dummy variable takes '0' value. When $R_m < R_f$ markets are said to be take down turn, dummy variable takes value '-1'.

β – selecting ability of fund manager.

γ – timing ability of fund manager

Risk free rate

10 years interest bond rates by RBI considered as risk free rate for study

Results and analysis

Table No: 2 Distribution of all sample schemes related to average returns (Percentage)

Category of Funds	0 – 0.04	0.04 – 0.05	0.05 - 10	TOTAL
Aggressive Hybrid	4	5	4	13
Conservative Hybrid	12	NIL	1	13

Analysis of Average Returns of Portfolio

The study on average returns says that, out of 13 Aggressive hybrid schemes, 4 schemes (30.8%) gave returns in the range 0 - 0.04, 5 schemes(38.5%) gave returns in the range 0.04 – 0.05 and rest of 4 schemes (30.8%) gave returns in the range 0.05 – 10. All most all schemes in this category have return around 0.05%. This is clear from above that average return of aggressive scheme is less, it could be due to avoiding risk by fund managers. They might have invested in these schemes to avoid risk with less hope on return. Out of all aggressive schemes, ICICI PRU hybrid debt has high average return (0.56%) compared to all other schemes. All schemes of this category have return less than market return. Canara Robeco Equity hybrid, Quantum absolute regular and SBI equity hybrid generated returns close to ICICI PRU hybrid debt. Fund manager of these scheme have performed better compared to that of all other schemes of this category.

In conservative hybrid category, 13 schemes are considered for study. Out of 13 schemes, no scheme is in the range of 0.04 - 0.05 % return. Remaining 12 schemes out of 13 schemes have returns in the range 0 - 0.04 % returns, fund managers of these schemes might have concentrated on reducing or avoiding risk. As a result, less return could be due to less risk. In the range below 0.04 % almost all schemes have generated returns close to each other. Again, in this category (0.04 %) top most is Kotak debt hybrid, which generated returns of 0.037 %. In conservative category only one scheme had generated returns of 9 percent. It means all most all funds have returns percentage less than 0.05. There is large gap between returns percentage in this category. LIC Debt monthly income plan generated highest returns of percentage 9. With only top performer, we cannot say conservative hybrid category well performed compared to aggressive category.

Table No.3 Total risk (Percentage)

CATEGORY OF FUND	0 -0.5	0.5 – 1.5	TOTAL
AGGRESSIVE HYBRID FUNDS	NIL	13	13
CONSERVATIVE HYBRID FUNDS	13	NIL	13

In aggressive category 1 out of 13 mutual funds (0.76%) has high risk, compared to all funds of this category. HDFC Hybrid Equity has standard deviation of 1.05 percent. In aggressive category mix of public and private sector mutual funds have risk in the range of 0.5-1.0 percent. Risk of this category is in the middle range returns are also in the middle range. Fund managers might have balanced risk and return.13 schemes of conservative hybrid category fall in the range 0 -0.5. The managers of funds might have invested in government securities which are at low risk. In this category LIC Debt has less standard deviation of 0.22 percent. HDFC Conservative Debt has high standard deviation 0.352%. Compared to all other funds of this category LIC Debt is under public category having less risk compared to HDFC, because HDFC is a private which is prone to more risk.

Table No.4 Category wise Beta of sample schemes in relation to Nifty

CATEGORY OF FUND	Up to 0.00	0.001- 0.05	0.05 – 0.1	total
AGGRESSIVE HYBRID FUNDS	01	08	04	13
CONSERVATIVE HYBRID FUNDS	10	03	NIL	13

Beta values of all mutual funds are classified into three groups.

Out of all schemes of mutual funds under study 11 (42.2%) schemes had negative beta values giving conclusion that returns generated are not in line with return of market (benchmark). From 26 schemes 7(26.9%) belong to public sector where 19(73.1%) belong to private sector. Beta negative says that there is no relationship between market return and return generated from portfolio.

In 13 schemes of aggressive, 1 scheme (7.7%) have negative beta and remaining 12 schemes (92.3%) have positive beta. From these 12 schemes, UTI Equity hybrid has highest beta of 0.0777. Next comes place of Baroda Hybrid Equity regular with beta of

0.0698. This give an opinion that if beta value is high, schemes depend more on market. As a result systematic risk goes up by too much. There are no funds with zero beta values in this category of funds. Some of schemes have values of beta close to zero. In this category no scheme is having either 0 or 1. Nearly 50% values of beta lie between 0 and 1. The return of these sample schemes says that schemes are volatile; they are not riskier than market. 8 schemes fall in range 0.001-0.05 and 4 schemes fall in range 0.05 – 0.1. Conservative hybrid funds come under 2nd category with 13 funds. Out of 13 schemes of conservative category 10 schemes have negative beta whereas 3 schemes have positive value of beta. SBI conservative had highest beta of 0.0078. Canara Robeco has least value of beta. As beta of SBI conservative is high, its return depends more on market, as a result systematic risk increases. There are no funds with zero beta. It means performance of stock is uncorrelated with the market. Negative beta indicates that stock moves opposite to direction of market. Some of schemes have values close to zero. In this category no scheme is having beta neither zero or 1. This says that sample schemes are volatile. They are not riskier than market.

Table No.5 Sharpe Ratio of sample schemes in comparison to bench mark (Nifty)

CATEGORY OF FUND	Ranges		
	Below benchmark	Above bench mark	Total
AGGRESSIVE HYBRID	13	NIL	13
CONSERVATIVE HBRID	12	01	13

Out of all schemes under study, 13 schemes come under aggressive category. All schemes of this category are below benchmarks. These schemes underperform market. In aggressive category 5 schemes belong to public sector. Remaining 8 belong to private sector.

Out of 26 mutual funds under study, there are 13 conservative hybrid schemes. In all 13 schemes of this category, 6 schemes belong to public sector while remaining 7 belong to private sector category. In public sector category, 5 out of 6 are underperformers of benchmark only one LIC debt monthly income plan outperform the benchmark. In private sector category, all are under performers of benchmark. On the whole all schemes are not generating excess returns or excess returns generated by funds might have balanced by risk posed by market.

Table No 6 Treynor Ratio of sample schemes in comparison with bench mark(Nifty)

CATEGORY OF FUND	Below benchmark	Above bench mark	Total
AGGRESSIVE HYBRID	13	NIL	13
CONSERVATIVE HBRID	04	09	13

In all schemes selected for study aggressive hybrid comes with 13 schemes under category- All the schemes have Treynor's ratio less than the market (Nifty). They all underperformed the market. In this aggressive hybrid category 5 fund belong to public category whereas remaining 8 schemes belong to come under private category.

Conservative hybrid funds with 13 funds come under category-2. 9 schemes have Treynor ratio more than the market(nifty). They outperform the market (Nifty). Remaining 4 schemes have Treynor ratio less than the market (Nifty). They underperformed the market. Out of 9 good performers, 2 schemes belong to public sector and remaining 7 belong to private sector. Out of 4 underperformers 3 schemes belong to public category, remaining 1 belong to private category.

MARKET TIMING ABILITY INTERMS OF NIFTY

Table No.7 TREYNOR MAUZY MODEL

CATEGORY OF FUND	SIGNIFICANT	INSIGNIFICANT	TOTAL
AGGRESSIVE HYBRID	11	1	12
CONSERVATIVE HYBRID	13	NIL	13

Treynor and Mazuy model (1966) designed a model to analyse the timing ability of fund managers. In it there is quadratic relationship between fund return and market returns. The equation is

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + \gamma (R_m - R_f)^2 + \epsilon_p$$

α – constant term

R_p – Return of fund

R_m – Return of market portfolio

R_f – Risk free return

ϵ_p – random error

β - selecting ability of fund manager

γ – timing ability of fund manager

This equation is used in regression with $R_p - R_f$, $R_m - R_f$ and $(R_m - R_f)^2$.

When test for statistical significance, those $t\text{-}\gamma$ which are + ve, they have market timing skills whose $t\text{-}\gamma$ are negative and insignificant, they are do not enough market timing skills.

Market timing ability in terms of Nifty:

The γ values for all sample schemes are shown with their in-Appendix A – 11. The values of γ are classified category wise on whether they are significant or not. Table shows information of all 26 hybrid funds. In all 12 Aggressive Hybrid funds, 11 are

significant. The fund managers timing skills only one of Aggressive Hybrid category is negative, the fund manager does not have timing skills, instead may be responsible for negative returns. Out of all Aggressive Hybrid, fund manager of DSP equity and bond comparatively high market timing ability, able to generate high returns.

In conservative hybrid category, all have positive γ values. It says that all fund managers have enough market timing abilities. Out of all fund managers have enough market timing abilities. Out of all, fund manager of IDFC Regular Savings have relatively high γ and thus possesses high market timing abilities.

MARKET TIMING ABILITY INTERMS OF NIFTY

Table No 8 HENDRICKSON – MERTON MODEL

CATEGORY OF FUND	SIGNIFICANT	INSIGNIFICANT	TOTAL
AGGRESSIVE HYBRID	12	1	12
CONSERVATIVE HYBRID	13	NIL	13

ANALYSIS BASED ON HENDRICKSON – MERTON MODEL

Hendrickson – Merton derived a model to study timing abilities of fund managers to predict timing ability, they designed a formula

$$(R_p - R_f) = \alpha + \beta (R_m - R_f) + D\gamma (R_m - R_f) + e_p$$

D – dummy variables

When $R_m > R_f$ markets are said to take upturn, dummy variable takes '0' value. When $R_m < R_f$ markets are said to be take down turn, dummy variable takes value '-1'.

β – selecting ability of fund manager.

γ – timing ability of fund manager.

In Aggressive Hybrid category, all funds good timing skills. Out of all ICICI Pru Equity Debt have high γ value. It shows fund manager has relative high market timing skills.

In Conservative Hybrid category all funds have positive γ - value. All fund managers have good timing skills and of all, HSBC Regular Savings high γ - value. Relative high market timing by funds manager.

Summary and conclusions

The Average return of sample scheme indicates that as far as the income schemes are concerned all schemes generate less than 1%. In Aggressive hybrid category ICICI Pru hybrid debt regular has highest return. In conservative hybrid category, LIC debt monthly income plan highest returns. In aggressive category three funds, 1 out of 13 mutual funds (0.76%) has high risk. Compared to all funds of this category HDFC Hybrid Equity has standard deviation of 1.05 percent. In aggressive category mix of public and private sector mutual funds have risk in the range of 0.5-1.0 percent. Risk of this category is in the middle range returns are also in the middle range. Fund managers might have balanced risk and return. Out of all 26 mutual funds considered for study next 13 funds come under conservative hybrid category. 13 funds in this category fall in the second range 0.1-0.5. The managers of funds might have invested in government securities. All schemes in Aggressive hybrid are under performers compared to benchmark. In conservative hybrid, one scheme is above bench mark, under aggressive hybrid category underperform the benchmark. Conservative hybrid category 4 schemes outperform the market. Hybrid arbitrage only one UTI arbitrage underperform market and remaining 6 funds are above benchmark. In all 12 Aggressive Hybrid funds, 11 are significant. The fund managers timing skills only one of Aggressive Hybrid category is negative, the fund manager does not have timing skills, instead may be responsible for negative returns. Out of all Aggressive Hybrid, fund manager of DSP equity and bond comparatively high market timing ability, able to generate high returns, conservative possess high timing ability,

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Appendix

A – 1 ANALYSIS OF FUNDS USING HENRICSON AND MERTON MODEL

	NAME OF FUND	BETA	SE-BETA	t-BETA	GAMMA	SE-GAMMA	t-Gamma
	AGGRESSIVE HYBID FUND						
1	ABSL EQUITY HYB 95	0.463	0.078	5.865	0.084	0.078	1.082
2	CANARA ROBECO EQ HYB	0.466	0.077	6.045	0.081	0.076	1.058
3	DSP EQ AND BOND	0.463	0.081	5.725	0.079	0.080	0.993
4	FRANKLIN IND EQ HYB	0.470	0.077	6.126	0.095	0.076	1.256
5	BARODA EQ HYB REG	0.483	0.0811	6.002	0.073	0.080	0.912
6	HDFC HYB EQ FUND	0.456	0.096	4.758	0.056	0.095	0.589
7	ICICI PRU EQ & DEBT	0.471	0.079	5.935	0.097	0.078	1.233
8	LIC ULIS REG CON 10Y	0.411	0.082	5.022	0.054	0.081	0.670
9	QUANT ABS REG	0.439	0.084	5.230	0.048	0.083	0.574
10	SBI EQ HYB	0.397	0.077	5.190	0.035	0.076	0.458
11	SUNDARAM AGG	0.463	0.087	5.347	0.061	0.086	0.718
12	UTI EQ HYBRID	0.491	0.077	6.390	0.075	0.076	0.999
	CONSERVATIVE HYBRID						
13	AXIS REGULAR SAVER	0.378	0.055	6.834	0.035	0.055	0.634
14	ABSL REG SAVING CONS	0.337	0.056	6.069	0.043	0.055	0.779
15	SBI CONS HYBRID	0.386	0.054	7.140	0.031	0.053	0.598
16	CANARA ROBECO CON HYB	0.401	0.054	7.374	0.051	0.054	0.948
17	UTI REG SAVINGS	0.378	0.056	6.775	0.037	0.055	0.679

18	HDFC CONS DEBT	0.376	0.058	6.526	0.037	0.057	0.653
19	HSBC REG SAVINGS	0.389	0.056	6.978	0.048	0.055	0.878
20	IDFC REG SAVINGS-1	0.384	0.055	6.937	0.041	0.055	0.750
21	L&T CONS HYB	0.382	0.054	7.108	0.040	0.053	0.755
22	SUNDARAM DEBT ORI HYBR	0.375	0.057	6.585	0.038	0.056	0.666
23	LIC DEBT ORIENTATED	0.389	0.053	7.314	0.040	0.053	0.769
24	LIC DEBT <i>HYBRID</i>	0.389	0.053	7.314	0.040	0.053	0.769
25	KOTAK DEBT HYBRID	0.389	0.055	7.015	0.038	0.055	0.670
26	SUNDARAM DEBT HYB	0.379	0.057	6.650	0.037	0.056	0.660

A – 2 TREYNOR AND MAUZY MODEL

	NAME OF FUND	BETA	SE-BETA	t-BETA	GAMMA	SE-GAMMA	t-Gamma
	AGGRESSIVE HYBID FUND						
1	ABSL EQUITY HYB 95	0.7066	0.0645	10.9305	2.1940	0.4223	5.1950
2	CANARA ROBECO EQ HYB	0.6940	0.0630	11.0131	2.0720	0.4122	5.0259
3	DSP EQ AND BOND	0.8677	0.0656	13.2273	3.2529	0.4293	5.5760
4	FRANKLIN IND EQ HYB	0.7287	0.0624	11.6615	2.3782	0.4092	5.8115
5	BARODA EQ HYB REG	0.7275	0.0658	11.0537	2.1260	0.4307	4.9353
6	HDFC HYB EQ FUND	0.7686	0.0783	9.8102	2.4730	0.5129	4.8211
7	ICICI PRU EQ &DEBT	0.7655	0.0647	11.8353	2.6265	0.4233	6.2047
8	LIC ULIS REG CON 10Y	0.7508	0.0669	11.2182	2.6409	0.4374	6.0373
9	QUANT ABS REG	0.6347	0.0687	9.2290	1.6351	0.4499	3.6942
10	SBI EQ HYB	0.7510	0.06243	12.0293	2.6351	0.4084	6.3846
11	SUNDARAM AGG	0.8403	0.0703	11.9531	2.9514	0.4606	6.4076
12	UTI EQ HYBRID	0.8820	0.0622	14.1693	3.1367	0.4078	7.6910
13	Edelweiss AGGR	-0.0069	0.0570	- 0.1220.	-0.3605	0.3734	-0.9656
	CONSERVATIVE HYBRID						
14	AXIS REGULAR SAVER	0.7289	0.04568	15.9555	2.5748	0.2968	8.6728
15	SBI CONS HYBRID	0.7329	0.04472	16.3864	2.5265	0.2907	8.6907
16	CANARA ROBECO CON HYB	0.7514	0.0448	16.7729	2.6809	0.2913	9.2030
17	UTI REG SAVINGS	0.7154	0.0462	15.4690	2.4985	0.3005	8.3147
18	HDFC CONS DEBT	0.7163	0.0478	14.9840	2.5152	0.3106	8.0980
19	HSBC REG SAVINGS	0.7148	0.0461	15.4755	2.4946	0.3000	8.3139
20	IDFC REG SAVINGS-1	0.7511	0.0457	16.4365	2.7229	0.2969	9,1696
21	L&T CONS HYB	0.0005	0.0164	0.0350	0.0255	0.1065	0.2402

22	SUNDARAM DEBT ORI HYBR	0.7159	0.04724	15.1224	2.5184	0.3071	8.2000
23	LIC DEBT ORIENTATED	0.7265	0.0438	16.5568	2.5239	0.2853	8.8440
24	LIC DEBT <i>HYBRID</i>	0.0060	0.0148	0.4070	0.0387	0.0963	0.4023
25	KOTAK DEBT HYBRID	0.7297	0.0459	15.8969	2.5273	0.2983	8.4711
26	SUNDARAM DEBT HYB	0.7245	0.0472	15.3288	2.5495	0.3070	8.3027

