

A Study on Performance Evaluation of Diversified Mutual Funds

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A STUDY ON: PERFORMANCE EVALUATION OF INDIAN MUTUAL FUNDS

ABSTRACT

Mutual Fund is professionally managed trust that pools the cash of varied investors and further contributes them, into various securities like offers, security and transient protections like certificate of deposit, cash equivalent and so on and products like valuable metals. In India the starting point of Mutual Funds industry is followed, since the establishment of UTI (Union Trust of India) Act, 1963. The Mutual Funds industry developed effectively and made considerable returns for the financial investors and Public sector. Shared assets give chances to modest investors, to partake inside the capital market without expecting a dreadfully high level of hazard. A significant rule of venture in capital market is that don't place all the investments tied up on one place, for example diversification. A small investor can't have an expanded portfolio essentially because of scarcity of assets. Be that as it may, a venture trust pools together the reserve funds of such small investors and puts the indistinguishable in capital market and passes the advantages to investors. In this manner, investors can in a roundabout way take an interest in capital market by buying in to the units of mutual funds. Mutual Funds utilize proficient store supervisors to deal with the speculation exercises. In this way, investors likewise get advantages of expert ability of those directors. NAV of varied schemes are acclimated figure return on yearly premise from 2015-2020. Nifty Index is utilized for market portfolio. The main aim of this paper is, to measure the presentation of Indian diversified mutual funds. An auxiliary point is to analyse the connection among risk and return of those assets, supported total risk and systematic risk.

Introduction

As per Association of Mutual Funds in India (AMFI), " A fund could be a trust that pools the savings of variety of investors who share common financial goal. Anybody with an investible surplus of as little as some thousand rupees can invest in mutual funds. These investors buy units of a selected fund scheme that contains a defined investment objective and strategy".

A Mutual fund could be a trust that pools cash from investors by selling shares of the fund like each other kind of organization that offers stock to the public.

The fund-raised is utilized in a few securities like stocks, bonds, money markets and products and so on. Each fund has regular budgetary objective and consequently the money is put invested in accordance with the objective. Periodically checking a record how the reserve is getting along is significant, and there are a lot of measures that the investors can use to play out the checking. A funds track record might be the absolute most significant factor that an investor checks before picking a mutual fund scheme. Thus, assessing funds is significant before contributing. Presently it's getting progressively significant for investors to require note of different parameters as well, while choosing mutual funds. Obviously, the investors need to gauge the reserve funds on cost against the performance record before picking a fund. In India the starting point of Mutual Funds industry is followed since the establishment of UTI (Unit Trust of India) Act, 1963. Due to different noteworthy reasons the unit trust of India has enjoyed monopoly in mutual funds industry, despite everything it keeps up its prominent position. Mutual funds industry in India has grown up quickly since its progression in 1993. Before the year 1993 the significant control was with the public sector banks and the insurance agencies. In India Mutual Funds have varying sorts of fund schemes like, open-ended, close ended, interval (based on the structure), development, income, balanced and securities industry plans (in light of speculation goals). Likewise, there are different schemes like tax saving schemes, special schemes that give the prerequisites of Financial position, risk tolerance and return expectations. This paper assesses the performance of 18 equity diversified mutual funds inside the Indian marketplace for the last 5 years i.e. (2015-2020).

Objectives of study

1. To study the performance of Selected Diversified Mutual Funds in India
2. To compare the Performance of Selected Equity Diversified Mutual Funds in India by using Regression Analysis, and thereafter analysing Multiple-R, R-Square and Standard Error

LITERATURE REVIEW

The present study deals with the review of literature on “Performance Evaluation of Indian Mutual Funds”. Review of some of the studies is presented in the following discussion.

Jensen Michael (1968): built up a composite portfolio assessment method concerning risk adjusted returns. He assessed the adaptability of 115 fund managers in choosing securities during the period 1945-66. Examination of net returns demonstrated that, 39 funds had better than expected returns, while 76 funds yielded strangely poor returns. Utilizing gross returns, 48 funds appeared better than expected outcomes and 67 funds below average results. Jensen inferred that, there was practically zero proof that assets had the option to perform essentially better than anticipated as fund managers weren't able to forecast securities price movements.

Nalini Parva Tripathy (1996): inferred that, the Indian capital market has been expanding immensely during most recent couple of years. With the changes of economy, changes of business arrangement, changes of public sector and reforms in financial sector, the economy has been unfurled and loads of improvements are going down inside the Indian securities industry and capital market.

M. Vijay Anand (2000): concentrated on the schemes of Birla Sun life and therefore the contender's plans, accessible inside the market. Author examined the analysis of Performance of Equity funds for 3 years and SWOT Analysis of Birla Sun life by Literature review and Delphi procedure. After Intensive financial audit the creator recognizes among the chosen equity funds that gains more significant returns than benchmark and contenders and inferred that Birla Sun life performs very much contrasted with the benchmarks and contenders.

Gupta and Agarwal (2009): found little research on the advancement of best fund portfolio. Their goal of the research was to develop the most straightforward portfolio utilizing cluster technique, accepting industry fixation as a variable and comparing the performance of two sorts of portfolios with selected benchmarks. Results are seen as empowering, undoubtedly. The results expected to help in the development of best portfolio of mutual fund.

Kale and Panchapagesan (2012): reviews the purposes behind the poor penetration of mutual funds industry and point out that absence of weak governing environment and administration is the first explanation, for the poor performance, is the explanation behind the poor growth and performance of mutual funds.

Prajapati and Patel (2012): in their study assessed the performance of assorted diversified equity mutual funds in India, from the period 2007 to 2011 and found that, general open-end funds has given positive returns and hence the best performer are HDFC and Reliance mutual fund.

Rajput and Singh (2014): made an endeavour to pass judgment on the investment performance of major funds, in terms of risk and return and to review the effect of securities market fluctuations, during April 2012 to March 2013. The sample comprises of 120 diverse open-ended reserve plans from public area financial institutions, banks, private part associations and unit investment trust of India. 100 share-based BSE national index has been utilized as proxy to look out the performance of the schemes in showcase. The examination uncovered that tax saving finances performed well in markets with high variations in risk and return. Deliberate risk and variability were higher in tax saving and equity plans though chance was moderate under adjusted and low income plans. Tax saving funds had outperformed in examination with market benchmark followed by balanced fund and equity fund.

Pala and Chandnib (2014): in their study the performance of the few income and debt investment firm plan, on the possibility of their everyday NAVs from the period Oct 2007 to Oct 2012. The examination finds that, the simplest scheme were HDFC Mid Cap Opportunity, Birla Sun Life MNC Fund and Quantum Long-Term Equity.

Dr. Shriprakashsoni, Dr. Deepalibankapue, Dr. Maheshbhatada (2015): comparative examination of investment organization schemes, available at Kotak and HDFC Mutual Fund Schemes. The study concludes that, Kotak investment organization plans are progressively damaging in Large Cap Equity plans and HDFC Mutual Fund plans are increasingly destructive in Mid Cap Equity plans, though both the organization's plans are greatly overseen paying off debtors' market. Kotak Select Focus is that the best plan in Large Cap Equity, HDFC.

Research Methodology

Scope of Study

The period of the study is for 5 years (1st April 2015 – 31st March 2020). The study uses a sample of 18 **Mutual** schemes comprising of all Equity Diversified Mutual funds.

Sources of Data

To gain an overview of the performance trends of the Indian Mutual Funds industry, secondary data have been used and picked up from the very fact sheets, newspapers, journals, books and periodicals. The info was also collected from various websites of AMCs, AMFI, moneycontrol.com etc. The NAVs of the sample investment company schemes are collected on weekly basis over a period of 5 years.

For analysis of data, we have considered the period from 1st April, 2015 to 31st March, 2020. And collected weekly Nav (Net asset Value) of 18 firms. The website used to collect the data is "**Advisorkhoj.com**" (This site helps investors to gain knowledge about efficient investing into mutual funds and also, helps researchers by providing them evident data). Total number of observations is for 60 months.

Regression Analysis

We have used Regression analysis tool in excel to analyse the data using log value of nav and time series, where we found standard deviation and p-values of the mutual funds respectively.

Summary of regression Analysis Includes

- Multiple R: It is the Correlation Coefficient that measures the strength of the linear relationship between two variables. It can be of any value between -1 and 1, and its absolute value indicates the relationship strength. The larger the absolute value the stronger the relationship is:
 - 1 means a strong positive relationship
 - -1 means a strong negative relationship
 - 0 means no relationship at all

- R Square : Which is used as an indicator of the goodness of fit. It shows how many points fall on R square value is calculated from the total sum of squares, more precisely, it is the sum of the squared deviations of the original data from the mean.
- Adjusted r square : it is the R square adjusted for the number independent variable in the model. You will want to use this value instead of R square for multiple Regression analysis.
- Standard Error : It is another goodness-of-fit measure that shows the precision of your regression analysis – the smaller the number, the more certain you can be about your regression equation. While R square represents the percentage of the dependent variables variance that is explained by the model, Standard error is an absolute measure that shows the average distance that the data points fall from the regression line.

Functional Equation : $\text{Ln}(\text{Nav}) = \alpha + \text{Time Period}$

Mutual Fund Analysis

A full analysis of all the selected mutual funds is given below. 18 diversified Mutual Fund Schemes are analysed in total. At first data is collected from Advisor Khoj, Money control and different Asset Management Companies. The Data collected is from 2015 1st April to 31st march, 2020. The data collected is very recent and is acquired on weekly basis. Growth rate of the funds is measured with respect to the given time period by analysing with regression analysis. In below analysis the history of different mutual funds is explained in brief. The Objectives are clearly stated. Furthermore, details about most recent NAV, Fund managers, Minimum Investment, Type, Class and category are also mentioned. Fund summary is provided to break down the fund elements and further elaborate the objectives. Also, which type of investors should invest in a particular scheme is explained with growth and fund stability. A Riskometer is also provided which measures risk involved when one invests in a given mutual fund. At last there is an output table which provides us with various index measures to interpret our results about each of the scheme. In this case we have taken into account Multiple-R, R-Square, and Standard Error, to measure stability and growth of any of the scheme. An interpretation about each of the index is given below the output table of every mutual fund scheme. This will help the investors to get an overview and decide whether to invest in a scheme or not

Aditya Birla Sun Life Equity Hybrid '95 Fund

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.863159252 | | | | |
| R Square | 0.745043894 | | | | |
| Adjusted R Square | 0.744836444 | | | | |
| Standard Error | 0.069401203 | | | | |
| Observations | 1231 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 17.29825629 | 17.29826 | 3591.437594 | 0 |
| Residual | 1229 | 5.919511735 | 0.004817 | | |
| Total | 1230 | 23.21776803 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 6.352845529 | 0.003958518 | 1604.855 | 0 | 6.345079328 |
| X Variable 1 | 0.000333584 | 5.56635E-06 | 59.9286 | 0 | 0.000322663 |

Multiple R we have a positive value of 0.863 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 74.5%, which indicates that an increment of approx. (75%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0694, which is less than 2.5. Therefore, it proves that our data is very precise.

Canara Robeco Mutual Fund

| SUMMARY OUTPUT | | | | | |
|------------------------------|-----------|-------------|-----------|----------|-----------------------|
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.955114 | | | | |
| R Square | 0.912243 | | | | |
| Adjusted R Square | 0.912172 | | | | |
| Standard Error | 0.048071 | | | | |
| Observations | 1230 | | | | |
| <i>ANOVA</i> | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 29.49817312 | 29.49817 | 12765.22 | 0 |
| Residual | 1228 | 2.837690577 | 0.002311 | | |
| Total | 1229 | 32.3358637 | | | |
| <i>Coefficients</i> | | | | | |
| Intercept | 4.671149 | 0.002742999 | 1702.935 | 0 | 4.665767166 |
| X Variable | 0.000436 | 3.86026E-06 | 112.9833 | 0 | 0.000428571 |

Multiple R we have a positive value of 0.955 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 91.22%, which indicates that an increment of approx. (91%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0480, which is less than 2.5. Therefore, it proves that our data is very precise.

DSP Equity Fund

| SUMMARY OUTPUT | | | | | |
|------------------------------|-------------|-------------|-----------|----------|-----------------------|
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.93235033 | | | | |
| R Square | 0.869277138 | | | | |
| Adjusted R Square | 0.869170946 | | | | |
| Standard Error | 0.057230707 | | | | |
| Observations | 1233 | | | | |
| <i>ANOVA</i> | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 26.81161603 | 26.81162 | 8185.869 | 0 |
| Residual | 1231 | 4.0319606 | 0.003275 | | |
| Total | 1232 | 30.84357663 | | | |
| <i>Coefficients</i> | | | | | |
| Intercept | 4.668316735 | 0.003261683 | 1431.26 | 0 | 4.661917662 |
| X Variable | 0.000414293 | 4.57905E-06 | 90.47579 | 0 | 0.000405309 |

Multiple R we have a positive value of 0.9323 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 86.92%, which indicates that an increment of approx. (87%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0572, which is less than 2.5. Therefore, it proves that our data is very precise.

Franklin India Life Sage Fund

Category: Aggressive Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|-------------|-------------|-----------|----------|-----------------------|
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.855653287 | | | | |
| R Square | 0.732142547 | | | | |
| Adjusted R Square | 0.731920259 | | | | |
| Standard Error | 0.063850057 | | | | |
| Observations | 1207 | | | | |
| <i>ANOVA</i> | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 13.42769716 | 13.4277 | 3293.661 | 0 |
| Residual | 1205 | 4.912579889 | 0.004077 | | |
| Total | 1206 | 18.34027705 | | | |
| <i>Coefficients</i> | | | | | |
| Intercept | 4.132911759 | 0.003677965 | 1123.695 | 0 | 4.125695833 |
| X Variable | 0.000302713 | 5.27462E-06 | 57.39043 | 0 | 0.000292364 |

Multiple R we have a positive value of 0.855 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 73.21%, which indicates that an increment of approx. (73%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0638, which is less than 2.5. Therefore, it proves that our data is very precise.

HDFC Hybrid Equity Fund

Category: Aggressive Hybrid Fund

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.921928532 | | | | |
| R Square | 0.849952218 | | | | |
| Adjusted R Square | 0.849858672 | | | | |
| Standard Error | 0.057142987 | | | | |
| Observations | 1606 | | | | |
| <i>ANOVA</i> | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 29.66847158 | 29.668472 | 9085.928 | 0 |
| Residual | 1604 | 5.237574832 | 0.0032653 | | |
| Total | 1605 | 34.90604641 | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 3.57860475 | 0.00285314 | 1254.2691 | 0 | 3.573008477 |
| X Variable 1 | 0.00029317 | 3.07564E-06 | 95.320135 | 0 | 0.000287138 |

Multiple R we have a positive value of 0.921 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 84.99%, which indicates that an increment of approx. (85%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0571, which is less than 2.5. Therefore, it proves that our data is very precise.

HDFC Retirement Savings Fund - Hybrid - Equity Plan

Category: Solution Oriented retirement fund

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.895287613 | | | | |
| R Square | 0.801539909 | | | | |
| Adjusted R Square | 0.80134224 | | | | |
| Standard Error | 0.066023639 | | | | |
| Observations | 1006 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 17.67602456 | 17.67602456 | 4054.952 | 0 |
| Residual | 1004 | 4.376557415 | 0.004359121 | | |
| Total | 1005 | 22.05258197 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 2.500115792 | 0.004166336 | 600.0753685 | 0 | 2.491940066 |
| X Variable 1 | 0.000456443 | 7.16792E-06 | 63.67850216 | 0 | 0.000442377 |

Multiple R we have a positive value of 0.895 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 80.15%, which indicates that an increment of approx. (80%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0660, which is less than 2.5. Therefore, it proves that our data is very precise.

ICICI Prudential Equity & Debt Fund- Direct Plan- Growth

SUMMARY OUTPUT

| <i>Regression Statistics</i> | |
|------------------------------|-------------|
| Multiple R | 0.921549365 |
| R Square | 0.849253232 |
| Adjusted R Square | 0.849130574 |
| Standard Error | 0.066326139 |
| Observations | 1231 |

| <i>ANOVA</i> | | | | | |
|--------------|-----------|-------------|-------------|------------|-----------------------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 30.45864063 | 30.45864063 | 6923.74526 | 0 |
| Residual | 1229 | 5.406563635 | 0.004399157 | | |
| Total | 1230 | 35.86520427 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
|--------------|---------------------|-----------------------|---------------|----------------|------------------|
| Intercept | 4.512639949 | 0.003783122 | 1192.834919 | 0 | 4.505217857 |
| X Variable 1 | 0.000442648 | 5.31972E-06 | 83.20904554 | 0 | 0.000432212 |

Category: Hybrid

Multiple R we have a positive value of 0.921 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 84.92%, which indicates that an increment of approx. (85%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0663, which is less than 2.5. Therefore, it proves that our data is very precise.

Kotak Equity Hybrid - Growth – Direct

Category: Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.907309711 | | | | |
| R Square | 0.823210912 | | | | |
| Adjusted R Square | 0.823066947 | | | | |
| Standard Error | 0.062112402 | | | | |
| Observations | 1230 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 22.06026292 | 22.06026292 | 5718.13 | 0 |
| Residual | 1228 | 4.737563235 | 0.003857951 | | |
| Total | 1229 | 26.79782615 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 2.915430292 | 0.00354422 | 822.5873525 | 0 | 2.908476895 |
| X Variable 1 | 0.000377171 | 4.98783E-06 | 75.61831845 | 0 | 0.000367386 |

Multiple R we have a positive value of 0.9073 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 82.32%, which indicates that an increment of approx. (82%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0621, which is less than 2.5. Therefore, it proves that our data is very precise.

L&T Hybrid Equity Fund - Direct Plan-Growth

Category: Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.8943805 | | | | |
| R Square | 0.799916478 | | | | |
| Adjusted R Square | 0.799753411 | | | | |
| Standard Error | 0.063996596 | | | | |
| Observations | 1229 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 20.09054099 | 20.09054 | 4905.43903 | 0 |
| Residual | 1227 | 5.025257401 | 0.004096 | | |
| Total | 1228 | 25.11579839 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 2.974581095 | 0.003653222 | 814.2351 | 0 | 2.967413842 |
| X Variable 1 | 0.000360378 | 5.14541E-06 | 70.03884 | 0 | 0.000350284 |

Multiple R we have a positive value of 0.894 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 79.99%, which indicates that an increment of approx. (80%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0639, which is less than 2.5. Therefore, it proves that our data is very precise.

ICICI Prudential All Seasons Bond Fund - Direct Plan – Growth

Category: Debt

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.983210186 | | | | |
| R Square | 0.96670227 | | | | |
| Adjusted R Square | 0.96667466 | | | | |
| Standard Error | 0.024221059 | | | | |
| Observations | 1208 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 20.54053162 | 20.54053162 | 35012.68565 | 0 |
| Residual | 1206 | 0.707511597 | 0.00058666 | | |
| Total | 1207 | 21.24804322 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 2.825024315 | 0.001394631 | 2025.642693 | 0 | 2.822288142 |
| X Variable 1 | 0.000373935 | 1.9984E-06 | 187.1167701 | 0 | 0.000370014 |

Multiple R we have a positive value of 0.983 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 96.67%, which indicates that an increment of approx. (97%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0242, which is less than 2.5. Therefore, it proves that our data is very precise.

Nippon India Equity Hybrid Fund

Category: Hybrid

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.822367882 | | | | |
| R Square | 0.676288934 | | | | |
| Adjusted R Square | 0.67602554 | | | | |
| Standard Error | 0.085790781 | | | | |
| Observations | 1231 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 18.89765246 | 18.89765246 | 2567.595569 | 2.7143E-303 |
| Residual | 1229 | 9.045511356 | 0.007360058 | | |
| Total | 1230 | 27.94316382 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 3.703060786 | 0.00489335 | 756.7537808 | 0 | 3.693460543 |
| X Variable 1 | 0.000348664 | 6.88089E-06 | 50.67144727 | 2.7143E-303 | 0.000335165 |

Multiple R we have a positive value of 0.822 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 67.62%, which indicates that an increment of approx. (91%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0857, which is less than 2.5. Therefore, it proves that our data is very precise.

PGIM India Hybrid Equity Fund

Category: Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.879526604 | | | | |
| R Square | 0.773567047 | | | | |
| Adjusted R Square | 0.773382955 | | | | |
| Standard Error | 0.051424778 | | | | |
| Observations | 1232 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 11.11241103 | 11.11241103 | 4202.071533 | 0 |
| Residual | 1230 | 3.252744618 | 0.002644508 | | |
| Total | 1231 | 14.36515565 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 4.023047533 | 0.002931983 | 1372.124936 | 0 | 4.017295291 |
| X Variable 1 | 0.000267042 | 4.11952E-06 | 64.82338724 | 0 | 0.000258959 |

Multiple R we have a positive value of 0.879 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 77.35%, which indicates that an increment of approx. (77%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0514, which is less than 2.5. Therefore, it proves that our data is very precise.

Principal Hybrid Equity Fund

Category: Hybrid

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.908791605 | | | | |
| R Square | 0.825902181 | | | | |
| Adjusted R Square | 0.825760407 | | | | |
| Standard Error | 0.080430071 | | | | |
| Observations | 1230 | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 37.68517661 | 37.68517661 | 5825.505923 | 0 |
| Residual | 1228 | 7.94392753 | 0.006468996 | | |
| Total | 1229 | 45.62910414 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 3.906011367 | 0.004589451 | 851.0846189 | 0 | 3.897007333 |
| X Variable 1 | 0.000492968 | 6.4588E-06 | 76.32500195 | 0 | 0.000480296 |

Multiple R we have a positive value of 0.9558 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 82.59%, which indicates that an increment of approx. (83%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0804, which is less than 2.5. Therefore, it proves that our data is very precise.

Quant Absolute Fund

Category: Hybrid

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.92343443 | | | | |
| R Square | 0.85273114 | | | | |
| Adjusted R Square | 0.85261122 | | | | |
| Standard Error | 0.04887313 | | | | |
| Observations | 1230 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 16.98399753 | 16.98399753 | 7110.490799 | 0 |
| Residual | 1228 | 2.933179939 | 0.002388583 | | |
| Total | 1229 | 19.91717747 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 4.58571536 | 0.002788769 | 1644.351341 | 0 | 4.58024408 |
| X Variable 1 | 0.00033094 | 3.92467E-06 | 84.32372619 | 0 | 0.000323243 |

Multiple R we have a positive value of 0.923 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 85.27%, which indicates that an increment of approx. (85%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0488, which is less than 2.5. Therefore, it proves that our data is very precise.

SBI EQUITY HYBRID FUND

Category: Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.961854795 | | | | |
| R Square | 0.925164648 | | | | |
| Adjusted R Square | 0.925103756 | | | | |
| Standard Error | 0.043594269 | | | | |
| Observations | 1231 | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 28.87506038 | 28.87506038 | 15193.71949 | 0 |
| Residual | 1229 | 2.335665683 | 0.00190046 | | |
| Total | 1230 | 31.21072606 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 4.522899761 | 0.002486538 | 1818.954949 | 0 | 4.518021433 |
| X Variable 1 | 0.000430988 | 3.4965E-06 | 123.2628066 | 0 | 0.000424128 |

Multiple R we have a positive value of 0.961 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 92.51%, which indicates that an increment of approx. (93%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0435, which is less than 2.5. Therefore, it proves that our data is very precise.

Tata Hybrid Equity Fund

Category: Hybrid

| SUMMARY OUTPUT | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.898259026 | | | | |
| R Square | 0.806869278 | | | | |
| Adjusted R Square | 0.806712005 | | | | |
| Standard Error | 0.04959751 | | | | |
| Observations | 1230 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 12.62030731 | 12.62030731 | 5130.387655 | 0 |
| Residual | 1228 | 3.020773169 | 0.002459913 | | |
| Total | 1229 | 15.64108048 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 5.116002894 | 0.002830103 | 1807.709331 | 0 | 5.110450522 |
| X Variable 1 | 0.000285278 | 3.98284E-06 | 71.62672445 | 0 | 0.000277464 |

Multiple R we have a positive value of 0.898 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 80.68%, which indicates that an increment of approx. (81%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0495, which is less than 2.5. Therefore, it proves that our data is very precise.

Tata Retirement Savings Fund Moderate

Category: Retirement Fund(Hybrid)

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.917487227 | | | | |
| R Square | 0.841782811 | | | | |
| Adjusted R Square | 0.84165397 | | | | |
| Standard Error | 0.073842212 | | | | |
| Observations | 1230 | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 35.62494096 | 35.62494096 | 6533.4829 | 0 |
| Residual | 1228 | 6.695881563 | 0.005452672 | | |
| Total | 1229 | 42.32082252 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 3.011180535 | 0.004213539 | 714.6440607 | 0 | 3.002914003 |
| X Variable 1 | 0.000479303 | 5.92977E-06 | 80.8299627 | 0 | 0.000467669 |

Multiple R we have a positive value of 0.917 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 84.17%, which indicates that an increment of approx. (84%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0738, which is less than 2.5. Therefore, it proves that our data is very precise.

UTI - Hybrid Equity Fund -Direct Plan

Category: Hybrid

| | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|
| SUMMARY OUTPUT | | | | | |
| | | | | | |
| <i>Regression Statistics</i> | | | | | |
| Multiple R | 0.835112972 | | | | |
| R Square | 0.697413676 | | | | |
| Adjusted R Square | 0.69716727 | | | | |
| Standard Error | 0.072614111 | | | | |
| Observations | 1230 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 14.92387438 | 14.92387438 | 2830.346011 | 0 |
| Residual | 1228 | 6.475009649 | 0.005272809 | | |
| Total | 1229 | 21.39888402 | | | |
| | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> |
| Intercept | 4.841493711 | 0.004143462 | 1168.465887 | 0 | 4.833364663 |
| X Variable 1 | 0.000310223 | 5.83115E-06 | 53.20099634 | 0 | 0.000298783 |

Multiple R we have a positive value of 0.835 which is less than one but greater than 0.5, this indicates that independent variable is positively related with the dependent variable, here, dependent variable is Net Value of assets and Independent variable is Time period (which is given weekly).

R-Square: Here the R Square represents the percentage of variation in Net Assets value, when time period is taken into consideration. Moreover, R Square here is 69.74%, which indicates that an increment of approx. (70%) is seen with respect to time period during a period of 5 years.

Standard Error: As we have tested our data at 95% prediction level, standard error must be lower than 2.5 to prove that our data is efficient and precise. Here, Standard Error is 0.0726, which is less than 2.5. Therefore, it proves that our data is very precise.

INTERPRETAION OF RESULTS

| Mutual Funds | R-Square | Standard Error |
|----------------------------------------------------|-------------------|--------------------|
| Aditya Birla Sun Life Equity Hybrid '95 Fund | 0.74504389362278 | 0.069401203462816 |
| Canara Robeco Mutual Fund | 0.912243241638904 | 0.0480710198076722 |
| DSP Equity Fund | 0.869277138383087 | 0.0572307073031715 |
| Franklin India Life Stage Fund | 0.732142547447378 | 0.0638500570332548 |
| HDFC Hybrid Equity Fund | 0.84995221829555 | 0.0571429870379099 |
| HDFC Retirement Savings Funds-Hybrid – Equity Plan | 0.801539909465587 | 0.0660236391854195 |
| ICICI Prudential Equity and Debt Fund | 0.849253231786753 | 0.0663261391975717 |
| Kotak Equity Hybrid fund | 0.823210912422402 | 0.062112402278421 |
| ICICI Prudential All Seasons Bond | 0.966702270434777 | 0.0242210589979086 |
| Nippon India Hybrid equity fund | 0.676288933670347 | 0.0857907807395404 |
| PGIM India Hybrid Equity Fund | 0.773567046665429 | 0.0514247782653035 |
| Principal Hybrid Equity Fund | 0.825902180636632 | 0.0804300712408221 |
| Quant Absolute Fund | 0.852731144082656 | 0.0488731318005661 |
| SBI Equity Hybrid Fund | 0.9251646476094 | 0.0435942688817021 |
| Tata Hybrid Equity Fund | 0.806869277786661 | 0.0495975100595408 |
| Tata Retirement Savings Fund | 0.841782811295428 | 0.0738422120646548 |
| UTI Hybrid Equity Fund | 0.697413676252124 | 0.0726141113060688 |
| L&T Hybrid Equity Fund | 0.799916477943223 | 0.0639965960348144 |

The study has analysed the different equity diversified mutual. Outline of results is introduced in various tables. In India, innumerable mutual fund plans are accessible to general investors which generally confound them to select the best from them. This study gives a few insights on mutual fund performance in order to help the normal investors in taking the judicious investing choices for distributing their assets in correct mutual fund schemes. The information utilized in the study comprised of weekly NAVs for the open-ended schemes. The performance of sample mutual fund schemes has been evaluated with the help of Regression Analysis in which dependent variable was Weekly NAV and Independent Variable was Time period. With this tool we managed to calculate and analyse the results. More than 50 percent of the schemes analysed have shown more than 80 percent growth in a time period of 5 years. One can refer to each of the Mutual Funds table and can make the judicious decisions to invest in diversified schemes.

Limitations of Study

1. The study is limited to 18 mutual fund schemes and cannot assess whole market which consists of hundreds of mutual funds.
2. The study has used secondary data for the analysis, hence the findings of the study is based upon the accuracy and reliability of the data
3. Only time used as the factor which will result in growth or loss of an individual mutual fund scheme.
4. The study has taken into account different funds based upon lists of Money Control, Economic Times etc, as Mutual funds are not listed on any exchange

Conclusion

It can be concluded from the results of the regression models used in the study that time had great impact on the growth of mutual funds. We can say that some funds have less positive impact and some have more. We tested the reliability of our data by running regression and by standard error, it was found that data is reliable. Also, More than 50% of the Mutual Fund schemes had shown an immense growth rate of more than 80%, which is appreciable. The data was collected for over a period of 5 years. Canara Robeco, DSP, HDFC Hybrid Equity, ICICI Prudential Equity, Kotak Equity, ICICI Prudential all seasons bond, Principal Hybrid Equity, SBI Hybrid Equity and TATA Retirement Savings Fund are some of the Mutual Fund schemes that have shown a tremendous growth in past 5 years tenure i.e. more than Eighty Percent Growth rate. Other funds have also grown but their growth rates are less and more than 60%. Also Standard Error for all the data we collected was less than ($<$) 2.5, which explains that our data is very precise.

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