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**Article**

# Nexus amongst holding period, returns and risk for mutual funds

# Nexus amongst Holding Period, Returns and Risk for Mutual Funds. (A Case from India)

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**Abstract:** Every individual should have savings for the old age and the future uncertainties. However as all individuals come from different backgrounds and thus all of them cannot be expected to have knowledge of finance and investment concepts. In such a situation the best investment avenue available is the mutual fund. But, here also the investors because of their ignorance tend to rely heavily on financial advisors and follow the age old maxims without testing them by themselves. This paper aims to empirically test one of such maxim which states that stretching the investment time horizon would lead to better results in terms of increased returns and reduced risks. This work would be of interest not only to the academicians, students and researchers but also to the industry experts and anybody having general inclination to the subject of mutual fund. It is shown that the investment time period has some nexus with both the risk as well as the returns. The paper used Sharpe ratio to evaluate the performance of the funds at different time span.

**Keywords:** Mutual fund, investor, investment time horizon, Sharpe ratio

**JEL Classification** G11, G23

## 1. Introduction

In India the mutual fund industry originated with the coming into existence of the Unit Trust of India (UTI) and the enactment of the Unit Trust of India Act 1963. Since then UTI has been enjoying complete monopoly until recently when the industry started to acquire monopolistic traits with the entrance of certain banks, financial institutions and other private players. At present this industry is contributing around 7 % to the GDP (Gross Domestic Product) of the nation. Mutual funds have been the best investment vehicle for any small investor with petty savings. This is primarily because of two reasons-mutual funds provide the investor with a diversified portfolio at an affordable cost and at the same time help them with the required professional assistance in the form of financial advisors. In the Indian context, in addition to the above mentioned benefits the investor of mutual funds is also greeted with tax incentives by the government. This has been the main reason behind the day-by-day increase in the popularity of the mutual fund investments which is evidenced by the increasing AUM (Asset under Management) every quarter. However the small investors come from a plethora of fields and only a few of them are well versed with the concepts of finance and investments.

In such a situation the only way out for any investor is to rely on the advice and knowledge shared with them by their financial advisors. The financial advisors generally follow some maxims which

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they preach to the novice investors like for instance increasing the holding period reduces the occurrence of negative returns. Further the investor's dilemma continues as to which fund is performing as per his expectation and from which one he should withdraw his hard earned money. With such a situation in mind the present paper is an attempt to probe into and empirically test the age old maxim that gradually increasing the holding period of the investment will lead to better results in terms of rising returns and falling risk levels and at the same time gauging the performance of the funds under study. This paper will be of use not only to the academicians, the students, and the industry experts but also any person having general inclination towards the subject matter i.e., investments in mutual funds.

**Objectives of the study**

This paper is an honest attempt to empirically test the following-

1. Gauge the performance of some selected mutual funds of the Unit Trust of India using Sharpe ratio as the performance indicator.
2. Verify the effect of increase in time horizon on the returns and risk of the mutual funds and ultimately establishing a nexus amongst these variables.

**Scope of the study**

The present study pertains to a period of five years starting with 01st April 2010 and ending with 31st March 2015. The study is based on secondary data and is purely empirical in nature. Only open-ended funds were selected as the closing NAV of such funds is the value on their redemption.

**Literature Review**

Mishra and Singh (2016) for instance, gauged the performance of some index funds in the Indian perspective and found that SBI Nifty Index fund outperformed the rest of the funds under study. In still another work Mishra and Singh (2016) evaluated the performance of few mutual funds using five measures of performance indicators commonly accepted in the industry namely the Sharpe ratio, Treynor ratio, Jensen's alfa, Fama's measure and the Sortino ratio and concluded that these measures provide different outcomes for the same set of data.

Tomar and Khan (2015) evaluated the performance of mutual funds in India using five performance measures. Their work incorporates the performance of 46 open-ended schemes segregated as 23 from public sector and other 23 from the private sector. Their study showed a mixed performance of sample private and public sector funds which was satisfactory as compared to the investment objectives set by the funds.

Narend (2014) used the concept of tracking error to empirically study the performance of certain index funds and exchange traded funds (ETF). There are reports of similar works from different parts of the world.

Performance and progress of ETFs in Indian context starting from 1998 was analyzed by Athma and Mamatha (2013).

Kumar.(2011) evaluated the performance of open ended schemes and discovered the poor performance of the selected sample.

Chang *et al*(2010) worked on the domestic open ended fund's performance evaluation with the use of the Extended TOPSIS Method with the different distance approach but instead of discussing the fund's performance focused on the method that should be used for such measurements.

In their work related to gauging the performance of growth funds Chakraborty *et al* ( 2008) concluded that the selected funds have displayed satisfactory results.

Kothari and Warner(2001) studied the mutual fund performance using simulated funds whose characteristics mimic actual funds. They found that performance measures used in previous mutual fund research have little ability to detect economically large magnitudes.

Dahlquist *et al*(2000) studies the relation between fund performance and fund attributes in the Swedish market. They measured the performance as the alfa of the linear regression on fund returns on several benchmark assets. The study showed mixed results for different categories of funds.

Performance evaluation of some US based mutual funds was undertaken by Cumby and Glen (1990). They primarily used Treynor's measure and some other measures to gauge performance of the funds.

Bodie (1995) analyzed the effect of time horizon on the returns and risk of stocks. He tested familiar axiom that investing in common stocks is less risky the longer an investor plans to hold them. He however successfully displayed that the opposite holds true.

We found that most of the early researchers have either not addressed this issue or have done so on a superficial manner. Hence there is a research gap that needs to be addressed. Major work in this area revolves around evaluating the performance of some mutual funds during a fixed period.

## 2. Research Methodology

The required data has been retrieved from the official site of Unit Trust of India (www.utimf.com). The present work was designed to consider a sample size of about twenty mutual funds of UTI. During the course of work it was observed that complete data was available for only nineteen such funds during the period under study. So, nineteen schemes were picked up as a sample for study. The NAVs of the below listed funds formed the basis of our calculation.

**Table 1 List of Selected Funds**

| S No. | Name of the Mutual Fund | Scheme Type |
|---|---|---|
| 1. | UTI BANKING SECTOR FUND | Open-Ended Scheme |
| 2. | UTI ENERGY FUND | Open-Ended Scheme |
| 3. | UTI DIVIDEND YEILD SECTOR FUND | Open-Ended Scheme |
| 4. | UTI EQUITY FUND | Open-Ended Scheme |
| 5. | UTI INDIA LIFE STYLE FUND | Open-Ended Scheme |

| | | |
|---|---|---|
| 6. | UTI INFRASTRUCTURE FUND | Open-Ended Scheme |
| 7. | UTI LONG TERM ADVANTAGE FUND SERIES I | Open-Ended Scheme |
| 8. | UTI LONG TERM ADVANTAGE FUND SERIES II | Open-Ended Scheme |
| 9. | UTI MASTER EQUITY PLAN FUND | Open-Ended Scheme |
| 10. | UTI MASTER SHARE | Open-Ended Scheme |
| 11. | UTI MID CAP | Open-Ended Scheme |
| 12. | UTI MNC | Open-Ended Scheme |
| 13. | UTI NIFTY INDEX FUND | Open-Ended Scheme |
| 14. | UTI OPORTUNITY FUND | Open-Ended Scheme |
| 15. | UTI PHARMA & HEALTH CARE FUND | Open-Ended Scheme |
| 16. | UTI SPREAD FUND | Open-Ended Scheme |
| 17. | UTI TOP 100 FUND | Open-Ended Scheme |
| 18. | UTI TRANSPORT & LOGISTICS FUND | Open-Ended Scheme |
| 19. | UTI BLUECHIP FUND | Open-Ended Scheme |

There are two types of mutual funds namely open ended and closed ended funds. An open-end fund is a type of mutual fund which does not put any restrictions on the amount of units the fund will issue. If demand is sufficiently high, the asset management company or specifically the fund manager will continue to issue units no matter how many investors are there. (www.investopedia.com ). A closed end fund issues only a predetermined number of units during its tenure. Hence the closed end funds are redeemable only at the maturity; in contrast open end funds are redeemable at the will of the investor. This is the basic reason of selecting the open ended funds for this study.

From the NAVs (Net Asset Value) monthly returns of each of the funds were computed using the below mentioned equation-

$$\text{Returns } (R) = \frac{(NAV_t - NAV_{t-1}) X\ 100}{(NAV_{t-1})} \quad \text{……. Equation 1}$$

Where,

$NAV_t$ is the NAV of the mutual fund at time t

And $NAV_{t-1}$ is the NAV of the mutual fund at time t-1

Then the average monthly return for individual funds was calculated. At the same time the standard deviation (σ) was also determined as a measure of the risk involved in the investment.

$$\text{Risk } (\sigma) = \sqrt{(R-\bar{R'})^2/n-1} \quad \text{…… Equation 2}$$

Where

R is the monthly return of the mutual fund

And R' is the average monthly return of the mutual fund during study period.

The following table enunciates the values of the average monthly return and risk of the selected funds

**Table 2 Monthly Returns and Risk Values of Selected Funds**

| S No. | Name of the Mutual Fund | Returns (%) | Risk (%) |
|---|---|---|---|
| 1. | UTI BANKING SECTOR FUND | 1.36 | 8.33 |
| 2. | UTI ENERGY FUND | 0.30 | 5.86 |
| 3. | UTI DIVIDEND YEILD SECTOR FUND | 0.99 | 4.38 |
| 4. | UTI EQUITY FUND | 1.37 | 4.47 |
| 5. | UTI INDIA LIFE STYLE FUND | 1.26 | 4.34 |
| 6. | UTI INFRASTRUCTURE FUND | 0.58 | 6.90 |
| 7. | UTI LONG TERM ADVANTAGE FUND SERIES I | 0.89 | 4.74 |
| 8. | UTI LONG TERM ADVANTAGE FUND SERIES II | 1.07 | 4.57 |
| 9. | UTI MASTER EQUITY PLAN FUND | 1.13 | 6.35 |
| 10. | UTI MASTER SHARE | 1.16 | 4.47 |
| 11. | UTI MID CAP | 1.82 | 5.51 |
| 12. | UTI MNC | 1.93 | 4.37 |
| 13. | UTI NIFTY INDEX FUND | 0.92 | 4.98 |
| 14. | UTI OPORTUNITY FUND | 1.28 | 4.20 |
| 15. | UTI PHARMA & HEALTH CARE FUND | 1.87 | 4.18 |
| 16. | UTI SPREAD FUND | 0.63 | 0.18 |
| 17. | UTI TOP 100 FUND | 1.14 | 4.38 |
| 18. | UTI TRANSPORT & LOGISTICS FUND | 2.33 | 6.30 |
| 19. | UTI BLUECHIP FUND | 1.02 | 4.60 |

Note- Figures are rounded off to two decimal places.

In order to probe into the relationship amongst variables like holding period, returns and risk, quarterly risk and returns were calculated for all the funds under study. Next these were compared with the monthly returns and risk in order to judge the effect of increasing time horizon on variables like risk level and returns.

Similarly risk and returns values were calculated for incremental time span like half-yearly and annually. The following table displays the returns of different time horizon for analyzing its effect on the return generated by a mutual fund.

**Table 3 Returns from Mutual Fund at Different Time Intervals**

| S No. | Name of Mutual Fund | Return-Monthly (%) | Return-Quarterly (%) | Return-Biannually (%) | Return-Annually (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1. | UTI BANKING SECTOR FUND | 1.36 | 4.06 | 7.83 | 14.41 |
| 2. | UTI ENERGY FUND | 0.30 | 0.88 | 1.53 | 2.63 |
| 3. | UTI DIVIDEND YEILD SECTOR FUND | 0.99 | 2.96 | 6.00 | 12.04 |
| 4. | UTI EQUITY FUND | 1.37 | 4.12 | 8.42 | 17.40 |
| 5. | UTI INDIA LIFE STYLE FUND | 1.26 | 3.72 | 7.62 | 15.3 |
| 6. | UTI INFRASTRUCTURE FUND | 0.58 | 1.71 | 3.29 | 6.43 |
| 7. | UTI LONG TERM ADVANTAGE FUND SERIES I | 0.89 | 2.67 | 5.39 | 10.89 |
| 8. | UTI LONG TERM ADVANTAGE FUND SERIES II | 1.07 | 3.22 | 6.52 | 13.21 |
| 9. | UTI MASTER EQUITY PLAN FUND | 1.13 | 3.09 | 6.25 | 12.64 |
| 10. | UTI MASTER SHARE | 1.16 | 3.44 | 7.03 | 14.60 |
| 11. | UTI MID CAP | 1.82 | 5.73 | 12.06 | 25.30 |
| 12. | UTI MNC | 1.93 | 5.91 | 12.23 | 26.65 |
| 13. | UTI NIFTY INDEX FUND | 0.92 | 2.67 | 5.40 | 10.79 |
| 14. | UTI OPORTUNITY FUND | 1.28 | 3.84 | 7.82 | 15.93 |
| 15. | UTI PHARMA & HEALTH CARE FUND | 1.87 | 5.69 | 11.70 | 25.41 |
| 16. | UTI SPREAD FUND | 0.63 | 1.91 | 3.86 | 7.86 |
| 17. | UTI TOP 100 FUND | 1.14 | 3.38 | 6.93 | 14.42 |
| 18. | UTI TRANSPORT & LOGISTICS FUND | 2.33 | 7.22 | 15.48 | 32.74 |
| 19. | UTI BLUECHIP FUND | 1.02 | 3.03 | 6.17 | 12.56 |

Note- Figures are rounded off to two decimal places.

Similar calculations were also made for risk level to establish a relationship between increasing time span with the risk level that an investor normally bears. (Table-4)

**Table 4 Risk Level of Mutual Fund at Different Time Intervals**

| S No. | Name of the Mutual Fund | Risk-Monthly (%) | Risk-Quarterly (%) | Risk-Biannually (%) | Risk-Annually (%) |
|---|---|---|---|---|---|
| 1. | UTI BANKING SECTOR FUND | 8.33 | 14.51 | 18.82 | 19.82 |

| | | | | | |
|---|---|---|---|---|---|
| 2. | UTI ENERGY FUND | 5.86 | 10.30 | 12.74 | 15.80 |
| 3. | UTI DIVIDEND YEILD SECTOR FUND | 4.38 | 7.19 | 10.70 | 14.02 |
| 4. | UTI EQUITY FUND | 4.47 | 7.36 | 11.24 | 17.46 |
| 5. | UTI INDIA LIFE STYLE FUND | 4.34 | 6.23 | 10.00 | 10.75 |
| 6. | UTI INFRASTRUCTURE FUND | 6.90 | 12.05 | 16.54 | 25.11 |
| 7. | UTI LONG TERM ADVANTAGE FUND SERIES I | 4.74 | 8.28 | 12.00 | 18.04 |
| 8. | UTI LONG TERM ADVANTAGE FUND SERIES II | 4.57 | 7.87 | 11.63 | 16.69 |
| 9. | UTI MASTER EQUITY PLAN FUND | 6.35 | 7.07 | 10.31 | 14.17 |
| 10. | UTI MASTER SHARE | 4.47 | 6.84 | 12.70 | 17.86 |
| 11. | UTI MID CAP | 5.51 | 11.89 | 20.80 | 33.59 |
| 12. | UTI MNC | 4.37 | 8.03 | 13.13 | 27.84 |
| 13. | UTI NIFTY INDEX FUND | 4.98 | 7.15 | 10.42 | 13.69 |
| 14. | UTI OPORTUNITY FUND | 4.20 | 6.63 | 10.07 | 13.11 |
| 15. | UTI PHARMA & HEALTH CARE FUND | 4.18 | 7.47 | 11.82 | 25.11 |
| 16. | UTI SPREAD FUND | 0.18 | 0.37 | 0.71 | 1.21 |
| 17. | UTI TOP 100 FUND | 4.38 | 6.59 | 10.42 | 17.97 |
| 18. | UTI TRANSPORT & LOGISTICS FUND | 6.30 | 12.64 | 23.59 | 37.14 |
| 19. | UTI BLUECHIP FUND | 4.60 | 7.17 | 10.86 | 16.09 |

Note- Figures are rounded off to two decimal places.

As one of the objectives of this paper was to evaluate the performance of the select mutual funds the Sharpe index was used as an indicator. Sharpe index is computed using the following equation-

Sharpe Index $S = ( R' - R_f)/ \sigma$ Equation 3

Where R' is the average return from the mutual fund

$R_f$ is the risk-free return for the period under study

and $\sigma$ is the total risk involved in the fund.

Risk free return should be taken as the return on Treasury bills. However as these are not available for the general public the ongoing rate on term deposits of any nationalized bank can be taken as the close substitute for the risk-free return (Mishra & Singh,2015). During the study period this rate

varied between 5.50% to 7.25% p.a.(www.sbi.co.in). Further as this rate is also dependent on the holding period multiple rates were considered as shown in Table 5

**Table 5 Risk-Free Rate of Return (in % P.A.) for Different Time Horizon**

| Monthly | Quarterly | Semi-annually | Annually |
|---|---|---|---|
| 5.50 | 6.75 | 7.00 | 7.50 |

Note- Figures are rounded off to two decimal places.

## 3. Data Interpretation

A perusal of the above data gave the following outpust about the Sharpe indices calculations as is depicted in the following table.

**Table 6 Sharpe Index of Mutual Funds for Different Time Horizons**

| Name of fund | Monthly-Sharpe index | Rank | Quarterly-Sharpe index | Rank | Semi-annually-Sharpe index | Rank | Annually-Sharpe index | Rank |
|---|---|---|---|---|---|---|---|---|
| UTI BANKING SECTOR FUND | 0.11 | XIV | 0.16 | XV | 0.23 | XIV | 0.35 | XI |
| UTI ENERGY FUND | -0.03 | XIX | -0.08 | XIX | -0.15 | XIX | -0.31 | XIX |
| UTI DIVIDEND YEILD SECTOR FUND | 0.12 | XIII | 0.18 | XIV | 0.23 | XV | 0.32 | XIII |
| UTI EQUITY FUND | 0.20 | VI | 0.33 | VI | 0.44 | V | 0.57 | VI |
| UTI INDIA LIFE STYLE FUND | 0.18 | VIII | 0.33 | VII | 0.41 | VII | 0.73 | I |
| UTI INFRASTRUCTURE FUND | 0.02 | XVIII | 0.00 | XVIII | -0.01 | XVIII | -0.04 | XVIII |
| UTI LONG TERM ADVANTAGE FUND SERIES I | 0.09 | XVI | 0.12 | XVII | 0.16 | XVII | 0.19 | XVII |
| UTI LONG TERM ADVANTAGE FUND SERIES II | 0.13 | XI | 0.19 | XII | 0.26 | XII | 0.34 | XII |
| UTI MASTER EQUITY PLAN FUND | 0.11 | XVI | 0.20 | XI | 0.27 | XI | 0.36 | X |
| UTI MASTER | 0.16 | IX | 0.26 | IX | 0.33 | IX | 0.40 | VIII |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SHARE | | | | | | | | |
| UTI MID CAP | 0.25 | V | 0.34 | V | 0.41 | VIII | 0.53 | VII |
| UTI MNC | 0.34 | II | 0.53 | III | 0.67 | II | 0.69 | III |
| UTI NIFTY INDEX FUND | 0.09 | XVII | 0.14 | XVI | 0.18 | XVI | 0.24 | XVI |
| UTI OPORTUNITY FUND | 0.20 | VII | 0.32 | VIII | 0.43 | VI | 0.64 | V |
| UTI PHARMA & HEALTH CARE FUND | 0.33 | III | 0.54 | II | 0.69 | I | 0.71 | II |
| UTI SPREAD FUND | 0.97 | I | 0.60 | I | 0.50 | IV | 0.30 | XV |
| UTI TOP 100 FUND | 0.16 | X | 0.26 | X | 0.33 | X | 0.39 | IX |
| UTI TRANSPORT & LOGISTICS FUND | 0.30 | IV | 0.44 | IV | 0.51 | III | 0.68 | IV |
| UTI BLUECHIP FUND | 0.12 | XII | 0.19 | XIII | 0.25 | XIII | 0.31 | XIV |

Note- Figures are rounded off to two decimal places.

A critical analysis of the above table throws light on the fact that increasing the time horizon does not always lead to better performance of the fund. UTI India Life Style fund exhibited a flop show in the short run and ranked seventh or eighth up to Bi-annual periods but suddenly topped the list for annual time horizon.

On the contrast UTI Spread Fund ranked first in the short time period up to Quarterly periods however it rolled down to fifteenth during the period of complete one year that is the entire financial year.

Table 3 and 4 depict that when the investment horizon is gradually increased there is improvement in the returns on one hand and the risk level mount up on the other. Tables 7 & 8 clarify this and show the rate by which risk and returns change along with time.

**Table 7 Effect of Time Horizons on Returns of Mutual Funds**

| Name of Fund | Quarterly (%) | Bi annually (%) | Annually (%) |
|---|---|---|---|
| UTI BANKING SECTOR FUND | 198.53 | 475.74 | 959.56 |
| UTI ENERGY FUND | 193.33 | 410.00 | 776.67 |
| UTI DIVIDEND YEILD SECTOR FUND | 198.99 | 506.06 | 1116.16 |
| UTI EQUITY FUND | 200.73 | 514.60 | 1170.07 |
| UTI INDIA LIFE STYLE FUND | 195.24 | 504.76 | 1114.29 |
| UTI INFRASTRUCTURE FUND | 194.83 | 467.24 | 1008.62 |
| UTI LONG TERM ADVANTAGE FUND | 200.00 | 505.62 | 1123.60 |

| | | | |
|---|---|---|---|
| SERIES I | | | |
| UTI LONG TERM ADVANTAGE FUND SERIES II | 200.93 | 509.35 | 1134.58 |
| UTI MASTER EQUITY PLAN FUND | 173.45 | 453.10 | 1018.58 |
| UTI MASTER SHARE | 196.55 | 506.03 | 1158.62 |
| UTI MID CAP | 214.84 | 462.63 | 1290.11 |
| UTI MNC | 206.22 | 533.68 | 1280.83 |
| UTI NIFTY INDEX FUND | 190.22 | 486.96 | 1072.83 |
| UTI OPORTUNITY FUND | 200.00 | 510.94 | 1144.53 |
| UTI PHARMA & HEALTH CARE FUND | 204.28 | 525.67 | 1258.83 |
| UTI SPREAD FUND | 203.17 | 512.70 | 1147.62 |
| UTI TOP 100 FUND | 196.49 | 507.89 | 1164.91 |
| UTI TRANSPORT & LOGISTICS FUND | 209.87 | 564.38 | 1305.15 |
| UTI BLUECHIP FUND | 197.06 | 504.90 | 1131.37 |

Note- Figures are rounded off to two decimal places.

**Table 8 Effect of Time Horizons on Risks of Mutual Funds**

| Name of Fund | Quarterly (%) | Bi annually (%) | Annually (%) |
|---|---|---|---|
| UTI BANKING SECTOR FUND | 74.19 | 125.93 | 137.94 |
| UTI ENERGY FUND | 75.77 | 117.41 | 169.62 |
| UTI DIVIDEND YEILD SECTOR FUND | 64.16 | 144.29 | 220.09 |
| UTI EQUITY FUND | 64.61 | 151.45 | 290.60 |
| UTI INDIA LIFE STYLE FUND | 43.55 | 130.41 | 147.70 |
| UTI INFRASTRUCTURE FUND | 74.63 | 139.71 | 263.91 |
| UTI LONG TERM ADVANTAGE FUND SERIES I | 74.68 | 153.16 | 280.59 |
| UTI LONG TERM ADVANTAGE FUND SERIES II | 72.21 | 154.49 | 265.21 |
| UTI MASTER EQUITY PLAN FUND | 11.34 | 62.36 | 123.15 |
| UTI MASTER SHARE | 53.02 | 184.12 | 299.56 |
| UTI MID CAP | 115.79 | 277.50 | 509.62 |
| UTI MNC | 83.75 | 200.46 | 537.07 |
| UTI NIFTY INDEX FUND | 43.57 | 109.24 | 174.90 |
| UTI OPORTUNITY | 57.86 | 139.76 | 272.14 |

| | | | |
|---|---|---|---|
| FUND | | | |
| UTI PHARMA & HEALTH CARE FUND | 78.71 | 182.78 | 500.72 |
| UTI SPREAD FUND | 105.56 | 294.44 | 572.22 |
| UTI TOP 100 FUND | 50.46 | 137.90 | 310.27 |
| UTI TRANSPORT & LOGISTICS FUND | 100.63 | 274.44 | 489.52 |
| UTI BLUECHIP FUND | 55.87 | 136.09 | 249.78 |

Note- Figures are rounded off to two decimal places.

A critical perusal of the above Table 7 reveals that when the investment period increased three times (monthly to quarterly) the returns on an average rise by three times. When the same is increased six times the returns rise by more than four times. Similarly when the time horizon is changed to a year, returns rise by almost ten times.

On the other hand Table 8 indicates that with the extension of the investment horizon there is gradual enhancement of the level of risk to be borne by the investor. With the increase of time horizon by three times there is almost 100 % increase in risk.

## 4. Conclusion

The above analysis clearly brings out the fact that period of investment has its effect both on the returns generated as well as the level of risk. Hence the investor must be cautious and must consider his risk appetite before simply expanding his investment horizon in search of better results. Both risk and return has a tendency of upward revision with increasing time horizon.

As per the paper's second objective of gauging the performance of select mutual funds it can be concluded that UTI India Life Style fund outperformed all the others in the long-run whereas the champion in the short tenure is the UTI Spread Fund.

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