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PUBLIC SECTOR PENSION FUND PERFORMANCE IN INDIA: AN INVESTIGATION THROUGH UTI MUTUAL FUND'S LENS

Mr. Arvind Kumar Mishra
Research Scholar, Department of Business Administration
Sambalpur University
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Abstract
The present study endeavours to evaluate the performance of various schemes of pension funds sponsored by the UTI MF. UTI Mutual Fund is the first mutual fund player in India that introduced the pension fund namely, UTI Retirement Benefit Fund in 1994 with two variants i.e, (i) UTI Retirement Benefit Fund-Regular and (ii) UTI Retirement Benefit Fund- Direct. The study covers a period of 10 years from 2013-14 to 2022-23. The fund performance has been measured in terms of average return, standard deviation, and beta values. The Treynor index has also been calculated in this study to find out the risk-return associated with it. The returns of the schemes have also been compared with the benchmark index. The study revealed that, the UTI Retirement Benefit Fund- Direct scheme has performed better than the UTI Retirement Benefit Fund- Regular over the period. It was also found that the benchmark index performance was better than both the above two schemes.
Keywords: UTIMF; Treynor Ratio; Benchmark Index

Introduction

The investment in the pension fund acts as a perennial source of income for investors on retirement to meet future expenses, including abstaining from financial constraints for a lifetime and maintaining a sound life expectancy. Further, long-term investments in pension funds yield substantial gains, while collective investments facilitate short-term maximisation (Hinz, Rudolph, Antolin, Yermo, 2010). The UTI being the first mutual fund in the public domain brought measures in December 1994 through UTI Retirement Benefit Fund (https://www.utimf.com/mutual-fund-products/solution-based-funds/uti-retirement-benefitpension-fund/) for the pensioners and widened the scope to invest through two schemes such as, (i) UTI Retirement Benefit Fund-

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Regular and (ii) UTI Retirement Benefit Fund- Direct. The study concentrates on ten years of data associated with the two schemes of the UTI Retiremet Benefit Fund.

2. Review of Literature

Many prior studies evaluated the mutual fund performance and limited studies on pension funds were included. Exclusive discussions on the performance of pension funds are rare. This motivated the authors to prepare the article. Relevant literature relating to the performance evaluation of pension funds is discussed.

Jim-Suleiman and Adeyele (2023) in their study identified funding gaps as one of the problems causing the defined contribution (DC) pension scheme's insufficient retirement income. They also observed that irregular payment of investment returns against DC is one of the primary causes of the problems. Their studies are based on the elements of funding gaps and life expectancy. The results demonstrated that funding gaps are positively and significantly impacted by employer compliance, the function of Pension Fund Administrators (PFAs), and years of remittance defaults. In contrast, the Pension Commission's (PenCom) involvement has a detrimental impact on financing shortfalls. Further research found that 83.1% of total pension funds were significantly accounted for by financing gaps and life expectancy. They concluded that PenCom's active responsibilities have helped to close funding shortages in Federal Universities in Nigeria by recovering up to 62.5% of those shortfalls back to employees' RSAs. The study suggested for the constitution of regulatory bodies to closely monitor their actions for ensuring complete compliance, which will further close the current finding gaps, given the negative impact of PFAs' involvement on collected funds. Using transaction data and the prevalence of rebalancing techniques across three groups, `, weak, semi-strong, and strong, Broeders, Chen, Minderhoud, and Schudel (2021) studied the driving behaviour among Dutch pension funds. They concluded that weak drives develop when pension funds have comparable rebalancing procedures and semi-strong herding occurs when pension funds have similar responses. Further, the authors deduced that financial stability is a resultant effect of weak herding while, strong bearding encompasses risk for financial stability. Dopiera and Magdalena (2021) examined the herd behaviour of the new regulations in Polish Open Funds and found that the regulated funds outperformed the unregulated counterparts by a little margin. Additionally, their research on multi-factor market models for performance evaluation found that highly regulated funds marginally surmount passive benchmarks and their unregulated competitors. The analysis by Flores, Campani, and Roquete (2021) on the effect of alternative assets in Brazilian private pension funds in 2018 revealed that the Free Benefit Generating Plan (FBGP) and the Free Benefit Generating Life (FBGL) owned 94% of the assets in Brazilian pension funds. The authors also depicted the improved performance of the Brazilian FIEs of the FBGP and FBGL private pension plans, particularly the performance of the public utilities index and the hedge fund index. The performance of Slovakia's pension funds

was the main subject of Papik and Papikova's (2021) study. The authors concluded that Government action has a considerable impact on the performance of the pension funds and that each legislative action has caused a 0.01% to 0.03% decrease in the average daily yield.

Pati (2021) viewed that, a pension plan, often referred to as a benefit plan, is mainly focused on a strategy adopted after retirement in which the investments lead to senior people's financial security. The author concluded that the other forms and stages of pension funds include Deferred annuity, Certain annuity etc. The performance of Indian hedge funds was evaluated by Mahatol and Mohapatra (2020), who also contrasted it with that of hedge funds that were successful in Asia, the emerging market including Australia, China, and Japan. They discoursed how hedge funds interact with the Indian equities market. They examined the secondary data using a variety of metrics, including annualized return, standard deviation, Sharpe ratio, correlation, ANOVA, and regression analysis. The authors concluded that the performance of the chosen region's hedge fund is superior to that of the Indian hedge fund and that there is a favourable link between the Indian equities market and the Indian hedge funds. China achieved a gain of 16.65%, which is the biggest profit among all the seven regions under research, while India's profit in hedge funds was the lowest among the seven regions under examination at 2.01% in 2019. Siva Kumar and Haque (2019) compared the various social security schemes of Saudi Arabia and India. To identify the patterns and distinctions among the plans, they used descriptive statistics. The authors observed that even 60 years after their adoption, despite both governments' expenditures on numerous social security schemes, they were still unable to reach their intended goals. The writers criticized the government's subsidy program for easing the financial burden on the poor and suggested creating a workable plan within a time frame to reduce poverty by opening avenues for the poor classes to alleviate their living standards. According to Alonso-Garcia (2019), the pension system is supported by both public and private institutions to provide a better standard of life after retirement. The authors observed that Prefunding is dependent on the capital market, yet pay-as-you-go (PYAG) and pre-funding financing strategies have lower lifespan risk. But the advantages vary depending on the pension system. The author also observed that the defined benefit scheme provides guarantees in benefit distribution while the defined contribution scheme extends the guarantee to the retiree to a minimum level of finance and transfers the risk to the retired person. Tyagi and Aggarwal (2018) observed that the government regularly pays retired employees through pensions. As evidence, the authors noted that the National Social Security Fund was established in China in 2000, while the National Pension System was established in India in 2004 and is managed by the Pension Fund Regulatory and Development Authority. The authors looked at three factors to compare the pension plans of the two nations: the retirement age required to receive a pension, the allocation of assets through the pension fund, and tax benefits for pensioners. Analysis of the data revealed that the average age at which

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people in India and China retire is 65 years old for men and 65 years old for women. In China, men retire at 60 years old, while women retire at 60 years old after working 50 years in the blue-collar sector and 55 years in the white-collar sector. When the authors looked at data from 2016 on the Assets Allocation of Investment in India and China, they found that while 15% of Indians prefer to invest in banks and buy government bonds, 50% of pensioners invest in banks and government bonds, making them more secure than Indians. In addition, corporate bonds require an investment of 30% in India versus 10% in China. According to the author's analysis of the tax advantages offered by the two nations, pensioners in India receive greater tax benefits from making contributions to pension funds than they do in China. According to Rao and Mishra (2007), the Indian mutual fund business has been expanding at a healthy rate of 16.68% during the past eight years, and the trend is expected to continue. According to the report, 54% of respondents invest in security compared to 46% who spend on current expenses. Furthermore, 23% each favoured medium- and short-term investments, while 54% of respondents preferred long-term investments.

Research Gap

A brief description of the review of the literature revealed the presence of a research gap in the performance evaluation of the pension funds of UTI exclusively using the Treynor model. Therefore, the present study is an endeavour to fill up the gap with the following objectives:

3. Objectives of the Study

The broad objectives of the study are as follows:

(i) To find out the prevailing pension funds schemes of different public sector mutual funds in India.

(ii) To compare the performance between the two pension fund schemes of UTI Mutual Fund.

(iii) To access and compare the return of both the UTI Mutual Fund pension fund schemes with the benchmark index.

4. Hypotheses of the Study

The following hypotheses have been formulated in the study:

H_o1- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Average Return.

H_o2- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Standard Deviation.

H_o3- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Treynor Index Value.

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H_o4- There is no significant difference in the return of the pension funds of UTI Mutual Fund and Benchmark Index.

5. Research Methodology

The following methodology has been used in the study:

5.1 Data Source

The present study is based on secondary data that includes,

(i) The monthly Net Asset value (NAV) of the selected schemes that were collected from the AMFI website. (https://www.amfi.com).

(ii) The yield to maturity (YTM) of 91 days treasury bills has been taken as the riskfree rate of return which was collected from the Reserve Bank of India website (https://www.rbi.org.in/) weekly. The rate was converted into the monthly riskfree rate of return.

(iii) NSE Nifty 100 has been taken as the benchmark index and the data was collected from the NSE website. (www.nseindia.com)

5.2 Sample Size

The sample size for the present study constitutes 240, i.e., 2 schemes x12 months x 10 years=240. An outline of the total 2 pension schemes of UTI Mutual Fund is presented in **Table 1.**

Table i: Pension Schemes of UTI Mutual Fund

Sl No	Name of Mutual Fund	Name of Pension Fund	Inception Year of the Pension Fund	Name of Pension Scheme	
1	UTI Mutual Fund	UTI Retirement Benefit Fund	1994	i.	UTI Retirement Benefit Fund- Regular
				ii.	UTI Retirement Benefit Fund- Direct

Source: Compiled from https://www.amfiindia.com/

5.3 Periodicity

The study covers ten (10) years data from 1st April 2013 to 31st March 2023.

5.4 Tools and Techniques

The performance evaluation parameters used in the study are (i) Average Return, (ii) Standard Deviation, (iii) Beta and, (iv) Treynor index. MS-Excel 2016 and SPSS version 16 have been used for the calculation of data.

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5.5 Definition of Terms

The formula used for the respective evaluation parameter is described as under:

5.5.1 Average Return

The formula used to determine the return is,

$$R_p = \frac{NAV_{t} - NAV_{t-1}}{NAV_{t-1}} * 100$$

Where R_p= Daily return of the portfolio

NAV_t= Today's NAV

NAV_{t-1}= Yesterday's NAV

The average return of the mutual fund scheme is calculated as follows:

$$\bar{R}_p = \frac{\sum_{p=1}^{n} R_p}{n}$$

Where, $\bar{R}_p$ =average return of mutual fund scheme

n =number of observations

5.5.2 Standard Deviation (Risk)

The risk of the mutual fund schemes is measured by the standard deviation (σ). It is a tool that measures the variation in the returns of the mutual fund schemes from their expected rate of return for a certain period. A higher standard deviation signifies a higher risk as well as higher volatility of the schemes. The formula used to determine the standard deviations is,

$$\sigma_p = \sqrt{\frac{1}{n-1}\sum (R_{pt} - R_p)^2}$$

Where σ is the risk of the mutual fund schemes

5.5.3 Beta

Beta, also known as systematic risk measures the volatility of the returns of an investment. It is calculated by using the following formula.

$$\beta = \frac{r_p . \sigma_m . \sigma_p}{\sigma_{m2}}$$

Were,

$r_p = return\ of\ the\ portfolio$

σ_p=*Standard deviation of portfolio*

σ_m=*Standard deviation of the market*

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A scheme having a beta value of more than one suggests that the scheme is more volatile than the benchmark index and hence. it is an aggressive fund. If the beta value is less than one then, it indicates that the investment is less risky as compared to the market index. Such investment is said to be defensive. If the beta value is equal to one, it represents that the portfolio and the benchmark index are moving in the same direction. When it shows a negative value, it concludes that the stock and the market are in the opposite direction. When the beta value equals zero, it means that the fund has no relation to the market.

5.5.4 Treynor Performance Index

Jack Treynor, the economist conceived and developed the index to measure the risk-adjusted performance of an investment portfolio, and the same is known as Treynor Performance Index.

The primary motto of the index was to measure a portfolio's excess return per unit of risk using beta as the risk measure. According to him, the higher the number the greater the excess return (www.investopedia.com).

In 1965, Treynor developed a composite measure of the portfolio. The measurement of portfolio risk with the beta and calculation of the portfolio's market risk premium relative to its beta visualizes the following:

$$T_i = \frac{R_p - R_f}{\beta_p}$$

Were,

T_i=*Treynor Index*

R_f= *risk-free rate of return*

R_p=*Return of the portfolio*

β_p=*Beta of the portfolio*

Whenever $R_p > R_f$ and $\beta_p > 0$, a larger T value leads to a better portfolio for all investors regardless of their individual risk preferences. In two cases we may have a negative T value: when $R_p < R_f$or when $\beta_p < 0$. If T is negative because $R_p < R_f$, we judge the portfolio performance as very poor. However, if the negativity of T comes from a negative beta, the fund is performing very well. Finally, when R_p, R_f, and $\beta_p$are all are negative, T will be positive, but to qualify the fund's performance as good or bad we should see whether R_p is above or below the security market line about the analysis period.

6. Data Analysis

Data analysis of both pension funds for the period under study has been performed using three performance indicators.

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6.1 Average Return

The calculated average return of selected pension fund schemes, i.e., UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI-RBF-D) for the period under coverage is placed in **Table 2** and supplemented with **Figure 1** for clear understanding.

Table ii: Average Return of Selected Pension Fund Schemes (in Percentage)

Year	Name of Pension Fund Schemes	
	UTI Retirement Benefit Fund- Regular	**UTI Retirement Benefit Fund- Direct**
2013-14	-0.1452	0.2562
2014-15	0.9353	0.9765
2015-16	0.1688	0.2203
2016-17	1.3710	1.4262
2017-18	0.9646	0.7425
2018-19	0.2467	0.2892
2019-20	-1.2636	-1.2127
2020-21	2.4925	2.5035
2021-22	1.0732	1.1795
2022-23	0.3729	0.4313
Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23		

Analysis of the calculated average return of both the schemes, i.e., UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) for 10 years placed in **Table 2** deduced that the highest average return of UTI RBF-D is 2.5035 compared to UTI RBF- R with 2.4925 in the year 2020-21 followed by UTI RBF-D with 1.4262 and UTI RBF-R with 1.3710 in the year 2016-17. In the year 2021-22, the average return is 1.1795 for UTI RBF-D while for UTI RBF-R, it is 1.0732. The lowest average return is -1.2636 for UTI RBF-R and -1.2127 for UTI RBF-D in the year 2019-20. It is found from **Table 2** that, UTI RBF-D performed well compared to UTI RBF-R over the period under coverage.

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Figure 1: Average Return of Selected Pension Fund Schemes (in Percentage)

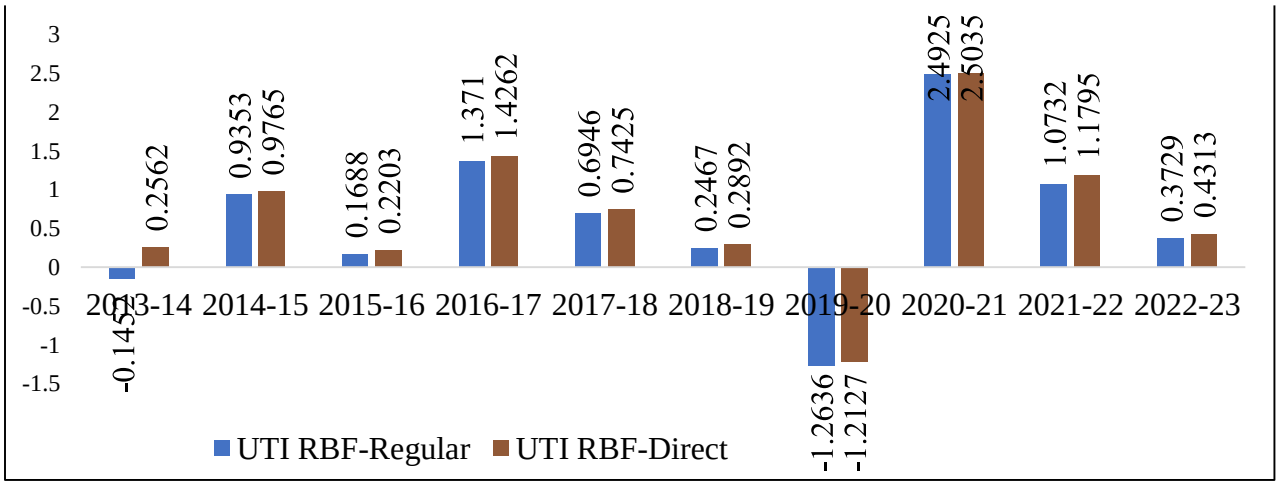

Figure 1 depicted that, both the schemes, i.e., UTI Retirement Benefit Fund- Regular and UTI Retirement Benefit Fund- Direct of the UTI Retirement Fund concerning average return are moving at par over the study period.

6.2 Standard Deviation

The calculated value of the standard deviation of both the schemes, i.e., UTI Retirement Benefit Fund- Regular and UTI Retirement Benefit Fund- Direct of the UTI Retirement Fund during the period under study is placed in **Table 3** along with **Figure 2** for clear visualization of the performance.

Table iii: Standard Deviation of Selected Pension Fund Schemes

Year	Name of Pension Fund Schemes	
	UTI Retirement Benefit Fund-Regular	**UTI Retirement Benefit Fund-Direct**
2013-14	3.4892	4.1906
2014-15	3.0856	3.0908
2015-16	2.4362	2.4328
2016-17	1.1500	1.1425
2017-18	1.2945	1.2912
2018-19	2.0713	2.0765

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2019-20	3.3217	3.3044
2020-21	2.0118	2.0291
2021-22	1.5469	1.5466
2022-23	1.7396	1.7372

Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23

The analysis of the calculated value of the standard deviation of UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) placed in **Table 3** revealed that the highest standard deviation is 4.1906 in respect of UTI RBF-D compared to 3.4892 in respect of UTI RBF-R in the year 2013-14. It is followed by 3.3044 for UTI RBF-D and 3.3217 for UTI RBF-R in the year 2019-20. The lowest standard deviation for UTI RBFD came to 1.1425 while for UTI RBF-R, it came to 1.1500. It could be inferred from **Table 3** that, UTI RBF-D is riskier as compared to UTI RBF-R.

Figure 2: Standard Deviation of Selected Pension Fund Schemes

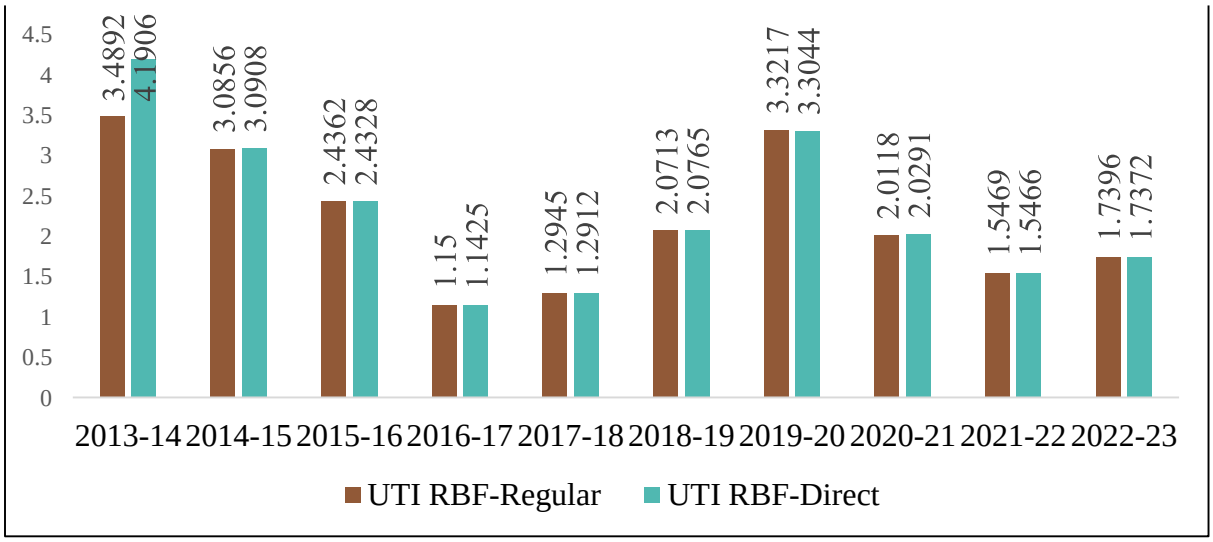

Figure 2 depicted that, both UTI RBF-R and UTI RBF-D are having parallel performance concerning standard deviation but, in 2013-14, UTI RBF-D is more risker than UTI RBF-R.

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6.3 Beta

The calculated beta value of both the pension fund schemes, i.e., UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) of UTI Retirement Benefit Fund for the period 2013-14 to 2022-23 (10 years) are placed in **Table 4** together with **Figure 3**.

Table iv: Beta Value of Selected Pension Fund Schemes

Year	Name of Pension Fund Schemes	
	UTI Retirement Benefit Fund-Regular	**UTI Retirement Benefit Fund-Direct**
2013-14	0.4647	0.5409
2014-15	0.5448	0.5475
2015-16	0.4818	0.4815
2016-17	0.3314	0.3269
2017-18	0.3411	0.3406
2018-19	0.4234	0.4241
2019-20	0.3798	0.3781
2020-21	0.3045	0.3075
2021-22	0.3618	0.3538
2022-23	0.3742	0.3739

Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23 Analysis of

Table 4 regarding the beta value of UTI RBF-R and UTI RBF-D found that the value constitutes less than 1 across the years. Thus, both schemes are defensive funds. It indicates that both schemes are less risky than the market.

Figure 3: Beta Value of Selected Pension Fund Schemes

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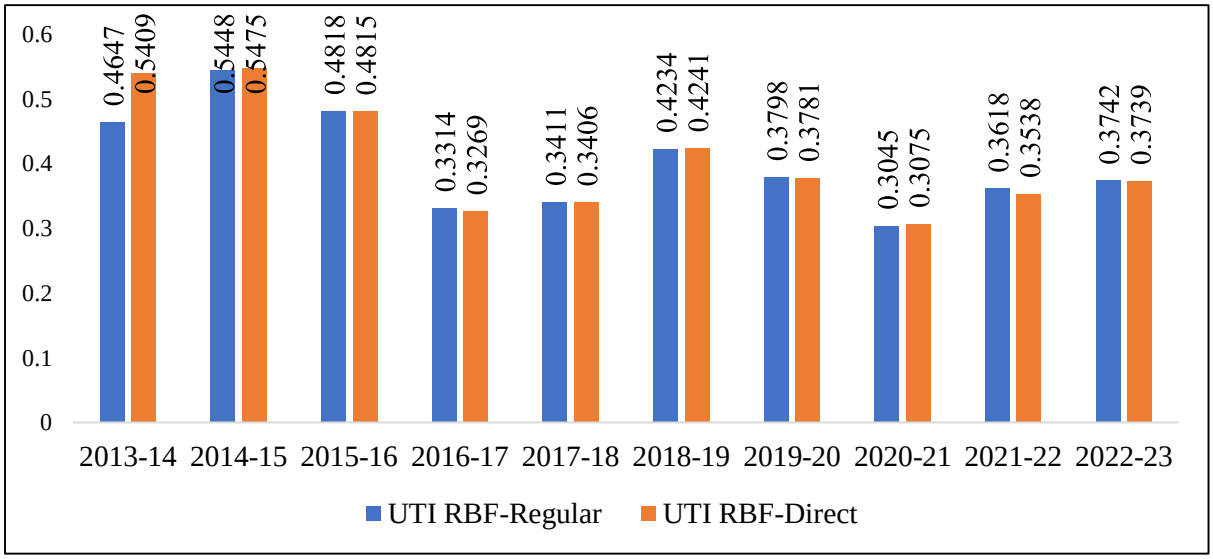

Figure 3 concerning the beta value of both the schemes under study found to be less risky than the market.

6.4 Treynor Index

The calculated Treynor index value of both UTI Retirement Benefit Fund- Regular (UTI RBFR) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) of the UTI Retirement Benefit Fund for the period from 2013-14 to 2022-23 is mentioned in **Table 5** along with **Figure 4**.

Table v: Treynor Index Value of Selected Pension Fund Schemes

Year	Name of Pension Fund Schemes	
	UTI Retirement Benefit Fund- Regular	**UTI Retirement Benefit Fund- Direct**
2013-14	-19.4269	-15.9477
2014-15	-13.8772	-13.7334
2015-16	-15.0525	-14.9555
2016-17	-15.3131	-15.3541
2017-18	-16.1607	-16.0451
2018-19	-15.0175	-14.8922
2019-20	-17.6059	-17.5508
2020-21	-2.6987	-2.6365

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2021-22	-6.7167	-6.5682
2022-23	-14.4448	-14.2979

Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23

Analysis of

Table 5 regarding the Treynor index value of UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) found that, the value of both the schemes was found to be negative across the years. Hence, it is deduced that market performance is found to be better than both schemes during the period under coverage.

Figure 4: Treynor Index of Selected Pension Fund Schemes

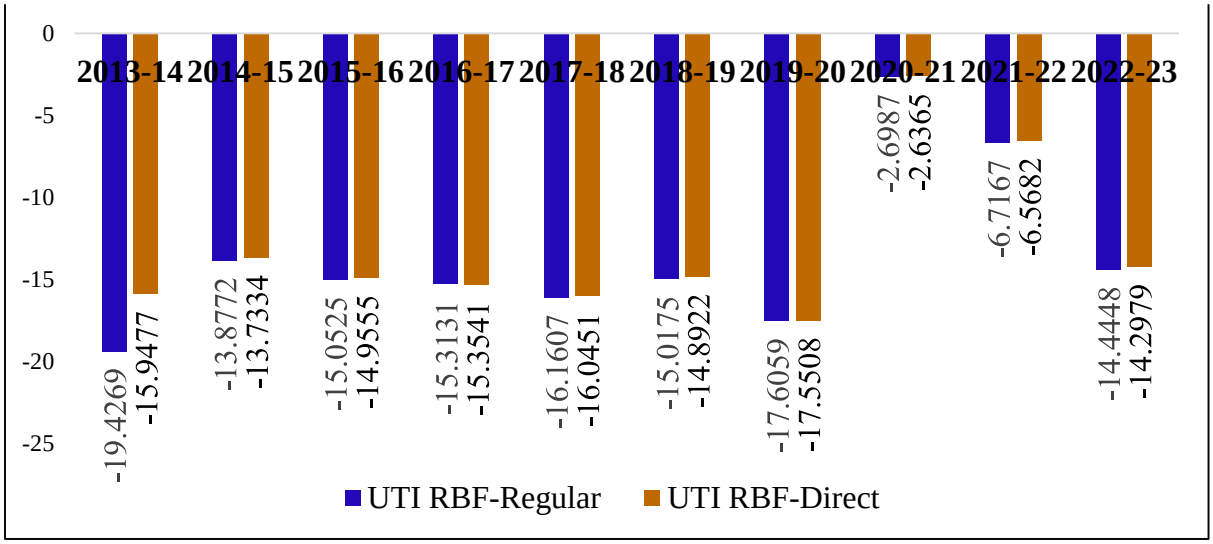

Figure 4 concerning the Treynor Index value of both UTI Retirement Benefit Fund- Regular (UTI RBF-R) and UTI Retirement Benefit Fund- Direct (UTI RBF-D) of the UTI Retirement Benefit Fund for the period under coverage found to be negative.

6.5 Average Return of UTI Retirement Benefit Fund- Regular and Benchmark Index The average return of UTI Retirement Benefit Fund- Regular and Benchmark Index from 201314 to 2022-23 is placed in **Table 6** supplemented with **Figure 5** for clear understanding.

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Table vi: Average Return of UTI Retirement Benefit Fund-Regular and Benchmark Index (in Percentage)

Year	UTI Retirement Benefit Fund-Regular	Benchmark Index
2013-14	-0.1452	1.2059
2014-15	0.9353	2.2169
2015-16	0.1688	-0.5913
2016-17	1.3710	6.1645
2017-18	0.9646	6.5858
2018-19	0.2467	5.6542
2019-20	-1.2636	3.6092
2020-21	2.4925	3.4167
2021-22	1.0732	5.2783
2022-23	0.3729	-0.1339

Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23

Analysis of the average return of UTI Retirement Benefit Fund-Regular and Benchmark index placed in **Table 6** revealed that the benchmark index has outperformed than UTI Retirement Benefit Fund-Regular during the study period. But in the year 2015-16 and 2022-23, UTI Retirement Benefit Fund-Regular has shown a better performance than the market index.

Figure 5: Average Return of UTI Retirement Benefit Fund-Regular and Benchmark Index (in Percentage)

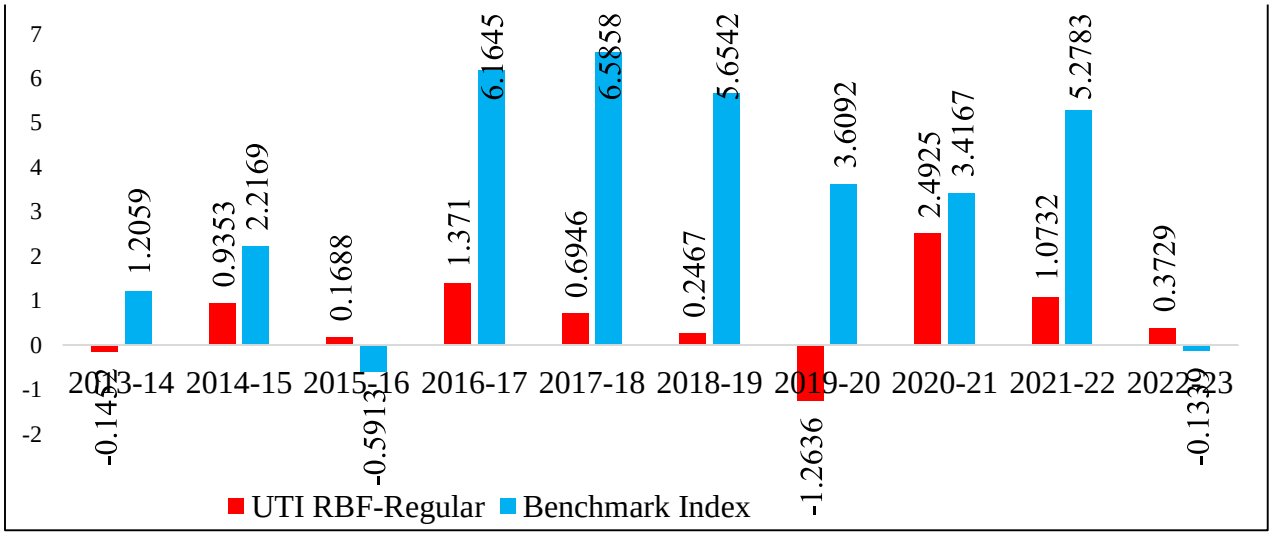

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Figure 5 visualized that benchmark index performance was better than UTI Retirement Benefit Fund-Regular.

6.6 Average Return of UTI Retirement Benefit Fund- Direct and Benchmark Index The average return of UTI Retirement Benefit Fund- Direct and Benchmark index for the study period is placed in **Table 7** along with **Figure 6**.

Table vii: Average Return of UTI Retirement Benefit Fund-Direct and Benchmark Index (in Percentage)

Year	UTI Retirement Benefit Fund-Direct	Benchmark Index
2013-14	0.2562	1.2059
2014-15	0.9765	2.2169
2015-16	0.2203	-0.5913
2016-17	1.4262	6.1645
2017-18	0.7425	6.5858
2018-19	0.2892	5.6542
2019-20	-1.2127	3.6092
2020-21	2.5035	3.4167
2021-22	1.1795	5.2783
2022-23	0.4313	-0.1339

Source: Calculated from AMFI, NSE, and RBI data from 2013-14 to 2022-23

Analysis of the Average Return of the UTI Retirement Benefit Fund-Direct and Benchmark Index placed in **Table 7** revealed that benchmark index performance was found to be satisfactory as compared to the UTI Retirement Benefit Fund-Direct scheme during the period under study. But in the year 2015-16 and 2022-23, the percentage of the UTI Retirement Benefit Fund-Direct scheme came to 0.2203 and 0.4313 respectively as against the percentage of benchmarks index value with -0.5913 and -0.1339 in the same years. This shows that, in the year 2015-16 and 2022-23, the UTI Retirement Benefit Fund-Direct scheme performed better than the benchmark index.

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Figure 6: Average Return of UTI Retirement Benefit Fund-Direct and Benchmark Index (in Percentage)

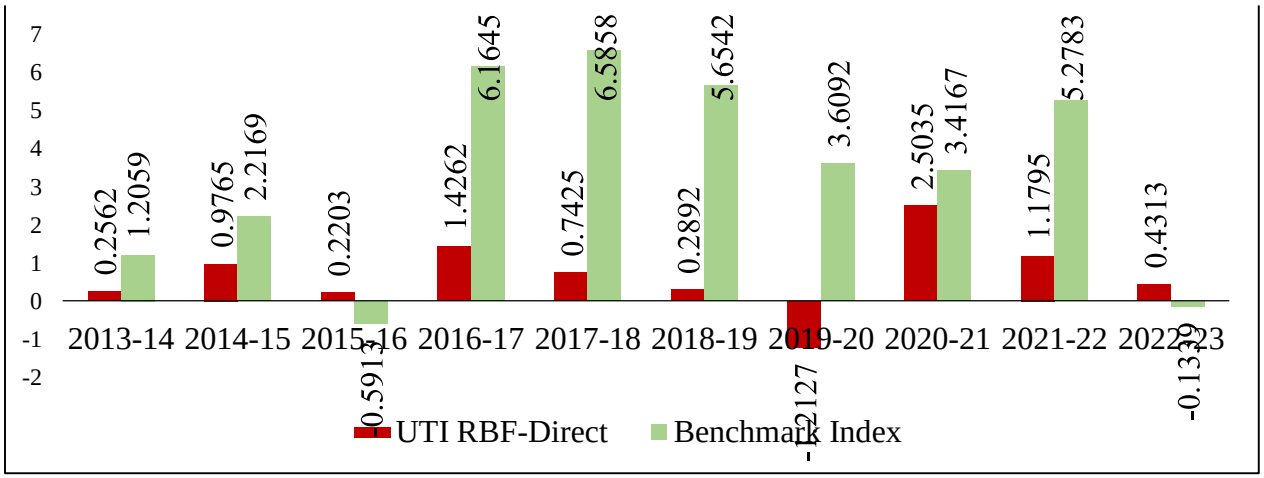

Figure 6 depicted that benchmark index performance was better than UTI Retirement Benefit Fund-Direct.

7. Testing of Hypotheses

The formulated hypotheses for the present study have been tested through SPSS version 16. H_o1- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Average Return.

The ANOVA test between the two pension fund schemes of UTI Mutual Fund in terms of average return is mentioned in

Table 8.

Table viii: ANOVA Test between two Pension Fund Schemes of UTI MF in terms of Average Return

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F Crit*
Between Groups	0.037524	1	0.037524	0.0385991	0.84568	4.413873
Within Groups	17.32275	18	0.962375	-	-	-
Total	17.36027	19				

Source: Calculated through SPSS Analysis of

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Table 8 revealed that as the p-value is 0.84, it is not significant at 0.05 level with df=1. It indicates that there is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of average return. Hence, the null hypothesis is accepted.

H_o2- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Standard Deviation.

The ANOVA test between the two pension fund schemes of UTI Mutual Fund in terms of standard deviation is mentioned in

Table 9.

Table ix: ANOVA Test between two Pension Fund Schemes of UTI MF in terms of Standard Deviation

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F Crit*
Between Groups	0.024144	1	0.024144	0.029051	0.866563	4.413873
Within Groups	14.95995	18	0.831108	-	-	-
Total	14.9841	19				

Source: Calculated through SPSS

Analysis of **Table 9** revealed that as the p-value is 0.86, it is not significant at 0.05 level with df=1. It indicates that there is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of standard deviation. Hence, the null hypothesis is accepted.

H_o3- There is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Treynor Index Value. The ANOVA test between the two pension fund schemes of UTI Mutual Fund in terms of Treynor index value is mentioned in **Table 10**.

Table x: ANOVA Test between two Pension Fund Schemes of UTI MF in terms of Treynor Index Value

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F Crit*
Between Groups	0.938441	1	0.938441	0.039027	0.845609	4.413873
Within Groups	432.8277	18	24.04598	-	-	-
Total	433.7661	19				

Source: Calculated through SPSS Analysis of

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Table 10 revealed that as the p-value is 0.84, it is not significant at 0.05 level with df=1. It indicates that there is no significant difference in the performance between the two pension fund schemes of UTI Mutual Fund in terms of Treynor index value. Hence, the null hypothesis is accepted.

H_o4- There is no significant difference in the return of the pension funds of UTI Mutual Fund and Benchmark Index.

The ANOVA test between the pension fund of UTI Mutual Fund and the Benchmark Index in terms of average return is mentioned in

Table 11.

Table xi: ANOVA Test between the Pension Fund of UTI MF and Benchmark Index in terms of Average Return

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F Crit*
Between Groups	36.5228	1	36.5228	9.435336	0.006574	4.413873
Within Groups	69.67536	18	8.70853	-	-	-
Total	106.1982	19				

Source: Calculated through SPSS

Analysis of **Table 11** revealed that as the p-value is 0.00, it is significant at 0.05 level with df=1. It indicates that there is a significant difference in the performance between the pension fund of UTI Mutual Fund and the Benchmark Index in terms of average return. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

8. Findings

The objective-wise findings of the study are discussed below:

8.1 Objective-i

To find out the prevailing pension fund schemes of different public sector mutual funds in India.

The prevailing pension fund schemes of different public sector mutual funds in India are discussed in **Table 12**.

Table xii: Pension Fund Schemes of different Public Sector Mutual Funds in India

Sl. No.	Name of Mutual Fund	Name of Pension Fund	Name of Pension Fund Schemes

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1	SBI Mutual Fund	SBI Retirement Benefit Fund	i. ii. iii. iv. v. vi. vii. viii. ix. x.	SBI Retirement Benefit FundAggressive Hybrid Plan-Direct PlanGrowth SBI Retirement Benefit FundAggressive Hybrid Plan-Direct Plan-IDCW SBI Retirement Benefit Fund-Aggressive Hybrid Plan-Regular PlanGrowth SBI Retirement Benefit Fund-Aggressive Hybrid Plan-Regular Plan-IDCW SBI Retirement Benefit FundAggressive Plan-Direct Plan-Growth SBI Retirement Benefit FundAggressive Plan-Direct Plan-IDCW SBI Retirement Benefit Fund-Aggressive Plan-Regular Plan-Growth SBI Retirement Benefit FundAggressive Plan-Regular Plan-IDCW SBI Retirement Benefit Fund-Conservative Hybrid Plan-Direct PlanGrowth SBI Retirement Benefit Fund-Conservative Hybrid Plan-Direct Plan-IDCW

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			xi. xii. xiii. xiv. xv. xvi.	SBI Retirement Benefit FundConservative Hybrid Plan-Regular Plan-Growth SBI Retirement Benefit FundConservative Hybrid Plan-Regular Plan-IDCW SBI Retirement Benefit Fund-Conservative Plan-Direct Plan-Growth SBI Retirement Benefit Fund-Conservative Plan-Direct Plan-IDCW SBI Retirement Benefit FundConservative Plan-Regular Plan-Growth SBI Retirement Benefit Fund-Conservative Plan-Regular Plan-IDCW
2	Union Mutual Fund	Union Retirement Fund	i. ii. iii. iv.	Union Retirement Fund-Direct Plan-Growth Union Retirement Fund-Direct Plan-IDCW Union Retirement Fund-Regular Plan-Growth Union Retirement Fund-Regular Plan-IDCW
3	UTI Mutual Fund	UTI Retirement Benefit Fund	i. ii.	UTI Retirement Benefit Fund- Regular UTI Retirement Benefit Fund-Direct

8.2 Objective-ii

To compare the performance between the two pension fund schemes of UTI Mutual Fund.

(i) UTI RBF-D provided the highest average return of 2.5035 compared to UTI RBF- R that extended the return to 2.4925 in the year 2020-21. The lowest average return was provided by UTI RBF-R, i.e., -1.2636 while

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UTI RBF-D provided -1.2127 in the year 2019-20. Hence, it is deduced that the overall performance of UTI RBF-D is better as compared to UTI RBF-R.

(ii) The standard deviation value of UTI RBF-D is found to be the highest, i.e., 4.1906 compared to 3.4892 in respect of UTI RBF-R during the period under coverage. The lowest standard deviation for UTI RBF-D came to 1.1425 while for UTI RBF-R, it came to 1.1500. Hence, it is inferred that UTI RBF-D is riskier as compared to UTI RBF-R.

(iii) The beta value of both UTI RBF-R and UTI RBF-D is found to be less than 1 across the years. Hence, it is derived that, both schemes are defensive funds and less risky than the market.

(iv) The Treynor index value of both UTI RBF-R and UTI RBF-D is found negative across the years. Hence, it may be concluded that market performance is better than both the schemes namely, UTI RBF-R and UTI RBFD.

8.3 Objective-iii

To assess and compare the return of both the UTI Mutual Fund pension fund schemes with the benchmark index.

(i) The average return of the benchmark index has outperformed than UTI RBF-R scheme across the years. However, in the year 2015-16 and 2022-23, the UTI RBF-R scheme has shown a better performance than the market index.

(ii) The average return of the benchmark index is found to be satisfactory as compared to the UTI RBF-D scheme across the years. But, in the year 2015-16 and 2022-23, the UTI RBF-D scheme performed better than the benchmark index.

9. Conclusion

Average return, Standard deviation, Beta and Treynor index were employed in the study as performance evaluation measures since they show the fund's performance strengths and weaknesses. The overall performance of UTI Retirement Benefit Fund- Direct is found to be satisfactory as compared to UTI Retirement Benefit Fund-Regular across the years. But between the benchmark index and UTI Retirement Benefit Fund, the benchmark index performance is better than the scheme. It is derived from the ANOVA test that there is no significant difference between the schemes in terms of average return, standard deviation and Treynor index value. But there is a significant difference in the performance between UTI Retirement Benefit Fund and the benchmark index. Performance evaluation of other pension fund schemes of different mutual funds can be undertaken as future research.

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