

RETURN ANALYSIS OF NATIONAL PENSION SCHEME IN INDIA

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ABSTRACT

The Central Government and the Pension Fund Regulatory and Development Authority (PFRDA) are in charge of the National Pension Scheme (NPS) India, a voluntary long-term investment plan for retirement. A government-sponsored pension program is the NPS. Throughout their working lives, participants of the plan are able to make regular contributions to a pension account. A portion of the corpus may be withdrawn in one lump amount by subscribers upon retirement, and the balance may be used to purchase an annuity to ensure a steady income in retirement. The National Pension Scheme is only vaguely known, and few people have shown much interest in it. The performance of the National Pension Scheme funds supplied by different companies is examined in order to determine which funds to invest in in order to increase income. In order to study the performance of the National Pension Scheme in India, this report attempts to do so.

KEYWORDS: Return, Fund, Analysis, India, NPS, and Performance.

1. OVERVIEW

The National Pension System (NPS) was established by the Government of India for the benefit of Indian citizens. The scheme enables investing with a minimal sum and permits investing according to individuals' preferences. The plan is for long-term savings that can provide some assistance in later life when people are without a source of income to cover the expenses paid in old age. In January 2004, NPS was made available to government workers. However, it became accessible to the broader public in 2009. Any Indian citizen between the ages of 18 and 65 may choose to participate in the NPS program. The National Securities Depository Limited (NSDL) maintains records for all NPS-related activity.

The two account categories that NPS offers are Tier-I and Tier-II. The pension account with limited withdrawals is known as a Tier-I account. A voluntary account called Tier-II provides investment and withdrawal liquidity. Only when the subscriber's name appears on an active Tier-I account is it permitted. Over time, contributions build up until retirement increases with market-linked returns.

The Annuity Service Provider (ASP) is responsible for ensuring the account holder receives their pension when the NPS investments' payout term has ended.

Eight organizations were chosen by the Pension Fund Regulatory and Development Authority (PFRDA) to run the pension fund. Investors are free to select the fund managers they like. the following companies:

1. Aditya Birla Sun Life Pension Management Ltd.
2. Kotak Mahindra Pension Fund Ltd.
3. ICICI Pru. Pension Fund Management Company Ltd.,
4. HDFC Pension Management Co. Ltd.
5. SBI Pension Funds Pvt. Ltd
6. LIC Pension Fund Ltd.

7. UTI Retirement Solutions Ltd.
8. Reliance Capital Pension Fund Ltd.

In order to understand the performance of the pension fund scheme, this study attempts to evaluate various selected fund's performance. This study will help the investor, to choose their operator and determine future returns.

2. OBJECTIVE OF THE STUDY

The goal of this study is to use return analysis to determine which pension scheme fund would be the best choice for an investment at current moment. It is beneficial to comprehend how the numerous National Pension Scheme funds offered by various organizations work.

3. STATEMENT OF THE PROBLEM

This analysis emphasis to apprehend the performance of the various funds over a period, since its commencement. This analysis helps the citizen of India to select the best funds to invest their retirement income accordingly. According to a report from the United Nations Population Division, the average lifespan would increase to 75 years by 2050 from 65 years. Regular expenses will go up along with the cost of living, and health care costs will rise at the same time. Therefore, as the non-earning period lengthens, everyone's life expectancy in India will rise. The NPS will aid residents in systematic financial provision through long-term investing, and it provides assistance throughout the retirement years in meeting the bare minimum needs and providing some income. Various companies are proposing the NPS and return be subject to on which the fund account has selected for investment.

4. LIMITATIONS

- i. Seven companies have taken for study.
- ii. Operating , Administration and other Total expenses limits are not accounted.
- iii. The study is limited to National Pension Scheme Particularly Equity related fund only.
- iv. The study period covers for five years.
- v. The return analysis is pertaining to the available data only for NPS trust .
- vi. The study has considered for Tire I and Tier II accounts.

5. RESEARCH METHODOLOGY

This study is an analytical and a descriptive study. And followed the following research design for the betterment of selected topic

1. Five years study period has taken for Analysis.
2. 7% PA Bank rate of return has been considered.
3. Seven companies are considered for study.

6. TOOLS USED FOR THE STUDY

The following tools were applied for analysis to understand the performance of the selected companies. Sharpe's Performance Index, Percentage analysis, Jensen's Alpha and Treynor's Performance Index.

SHARPE INDEX

$$S_p = \frac{r_p - r_f}{\sigma_p}$$

Here

- r_p = portfolio rate of return
 r_f = risk free rate of return
 σ_p = standard deviation.

TREYNOR INDEX

$$T_p = \frac{r_p - r_f}{\beta_p}$$

Here

- r_p = portfolio rate of return
 r_f = risk free rate of return
 β_p = portfolio beta.

JENSEN ALPHA

$$\alpha_p = r_p - (r_f + (r_m - r_f)\beta_p)$$

r_m = return of the market portfolio

7. ANALYSIS NPS**TABLE - 1: NEW PENSION SCHEME – EQUITY (NPS-E) - TIRE – I**

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI	Benchmark Return
Inception Date	05/09/17	08/01/13	05/18/09	05/15/09	07/23/13	05/15/09	05/21/09	NA
AUM (Rs Crs)	263.8	14,972.6	5,179.8	976.9	2,834.5	9,395.9	1,359.3	NA
Subscribers	28,579	1,271,28	497,512	75,431	314,434	2	110,743	NA
NAV	19.0	35.3	46.5	42.9	29.9	38.7	45.8	NA
Returns 1 Year	8.9%	8.3%	8.4%	8.5%	9.5%	8.6%	7.8%	10.6%
Returns 3 Years	17.3%	18.2%	17.8%	17.8%	17.6%	16.4%	17.4%	18.9%
Returns 5 Years	12.9%	13.4%	13.0%	12.4%	12.2%	12.4%	12.8%	14.0%
Returns Inception	12.9%	15.0%	12.3%	11.6%	12.8%	10.8%	12.2%	

Source: NPS Trust as on 12.08.2022 Returns

NA : Not Available

NPS – Equity (Tire – I) provided by Aditya Birla, LIC, SBI, HDFC, ICICI, Kotak and UTI gives a 7.8% to 9.5% return compared with the risk free rate of return (i.e., bank rate) for the initial year, the variation in the return among the companies are very close. The highest is LIC got the return of 9.5% and the lowest is 7.8% by UTI, for the one-year period.

When compared to the benchmark returns for one-year period, all the funds are within the limit.

NPS – Equity (Tire – I) provided by Aditya Birla, LIC, SBI, HDFC, ICICI, Kotak and UTI gives good return, for three years period. Compare to other offers, HDFC got the highest return of 18.2% and the lowest return by 16.4% by SBI for the period of three years, but it is higher than the risk free rate.

When compare to the benchmark returns for three years period HDFC (18.2%) return for the period of three years are very close to the benchmark return.

NPS – Equity (Tire – I) provided by Aditya Birla, SBI, LIC, HDFC, ICICI, Kotak and UTI gives good return, for five years period. Compare to other offers, HDFC got the highest return of 13.4% and the lowest return by 12.2% by LIC for the period of five years, but it is higher than the risk free rate.

When compare to the benchmark returns for five years period HDFC (13.4%) return for the period of five years are close to the benchmark return.

Since inception, HDFC gives the highest return as 15% and lower return, by SBI as 10.8%.

TABLE – 2: MEAN AND STANDARD DEVIATION NPS-E (TIRE - I)

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Mean	13.0%	13.3%	13.1%	12.9%	13.1%	12.5%	12.7%
Std. Dev	0.0421	0.0495	0.0466	0.0465	0.0414	0.0392	0.0481

HDFC has the higher mean return of 13.3% and the lower mean return by SBI as 12.5%. The lowest variation from the mean is 0.0392 by SBI and the highest variation from the mean is 0.0495 by HDFC.

SHARPE'S PERFORMANCE INDE:

TABLE – 3: SHARPE'S PERFORMANCE INDEX NPS-E (TIRE - I)

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns 1 Year	0.45	0.26	0.31	0.32	0.61	0.41	0.17
Returns 3 Years	2.45	2.26	2.31	2.32	2.57	2.41	2.17
Returns 5 Years	1.39	1.30	1.28	1.15	1.26	1.36	1.21

Sharpe's performance indexes of all the companies are giving a positive index for the all year period. In the first year, LIC is the highest index as 0.61 and UTI is the lowest index as 0.17.

In the three years shows good improvement compared to one year, LIC is the highest index as 2.57 and UTI is the lowest index as 2.17.

In five years period gives average index and reduced further, when compared to three-year index. Kotak shares Aditya Birla shares the highest index of 1.39 and the lowest index is 1.15.

TREYNOR'S PERFORMANCE INDEX:

TABLE – 4: TREYNOR'S PERFORMANCE INDEX NPS-E (TIRE - I)

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns 1 Year	0.019	0.011	0.013	0.014	0.025	0.017	0.007
Returns 3 Years	0.102	0.095	0.096	0.096	0.107	0.101	0.091
Returns 5 Years	0.058	0.055	0.054	0.048	0.053	0.057	0.051

Treynor's performance indexes of all the companies are giving the positive index for the all year's period. In the first year, LIC is the highest Treyno's performance index as 0.025 and the lowest is UTI with an index as 0.007. In the three years, all the companies' performance has improved. LIC is the highest Treyno's performance index as 0.107 and the lowest is UTI with index as 0.091. In five years, again the performance index shows average and reduce further compared to three years period, and with an average index value of 0.05.

JENSEN'S ALPHA

TABLE – 5: JENSEN'S ALPHA NPS- E (TIRE - I)

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns 1 Year	0.009	0.001	0.003	0.004	0.015	0.007	0.001
Returns 3 Years	0.073	0.077	0.074	0.074	0.077	0.066	0.070

Returns 5 Years	0.038	0.041	0.038	0.031	0.032	0.035	0.035
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Jensen's Alpha of all the companies, are giving the positive value for the years period. In the first year, LIC is the highest Treyno's performance index as 0.015 and the lowest are UTI with an index as 0.001.

In the three years, all the companies' performance has improved. HDFC & LIC are the highest Jensen's alpha value as 0.077, rest of the companies are very close value as 0.07. In five years, again the Jensen's alpha value shows reduced further, compared to three years period and with an average Jensen's alpha value as 0.03.

TABLE -6: NEW PENSION SCHEME – EQUITY (NPS-E) TIRE – II

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI	Benchmark Return
Inception Date	05/09/17	08/01/13	05/18/09	05/15/09	07/23/13	05/15/09	05/21/09	NA
AUM(Rs Crs)	20.7	701.5	248.0	71.6	105.4	359.4	71.7	NA
Subscribers	9,765	179,535	69,507	19,633	52,476	163,251	22,396	NA
NAV	18.9	30.5	36.8	37.8	25.1	35.8	37.4	NA
Returns 1Year	9.3%	8.3%	8.5%	8.6%	10.3%	9.0%	7.1%	10.6%
Returns 3Years	17.5%	18.2%	17.8%	17.5%	17.9%	16.6%	17.4%	18.9%
Returns 5Years	12.9%	13.4%	13.1%	12.2%	12.2%	12.4%	13.0%	14.0%
Returns Inception	12.9%	13.1%	10.8%	11.1%	10.8%	10.6%	11.0%	

Source: NPS Trust as on 12.08.2022 Returns

NA : Not Available

NPS – Equity (Tire – II) provided by Aditya Birla, LIC, SBI, HDFC, ICICI, Kotak and UTI gives a good return in first year. The highest is LIC got the return of 10.3% and the lowest is 7.1% by UTI, for the one-year period.

NPS – Equity (Tire – II) provided by Aditya Birla, LIC, SBI, HDFC, ICICI, Kotak and UTI gives a high return for three years period. Compare to other offers, HDFC got the highest return of 18.2% and the lowest return by 16.6% by SBI.

When compared to the benchmark returns for three years period, HDFC gave the return, which is near to the benchmark return (18.9%).

NPS – Equity (Tire – II) provided by Aditya Birla, LIC, SBI, HDFC, ICICI, Kotak and UTI gave positive return for five years period. HDFC got the highest return of 13.4% and the lowest return as 12.2%, by Kotak and LIC for the period of five years.

NPS – Equity (Tire – I) provided by HDFC gave above the benchmark return (14.0%) for five years.

Since inception, HDFC gives the highest return as 13.1% and least return by SBI as 10.6%. ICICI and LIC are at par, with each other as 10.8%.

TABLE – 7: MEAN AND STANDARD DEVIATION NPS-E (TIRE – II)

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Mean	13.2%	13.3%	13.1%	12.8%	13.5%	12.7%	12.5%
Std. Dev	0.0410	0.0491	0.0469	0.0448	0.0395	0.0381	0.0514

LIC has the higher mean return of 13.5% and the lower mean return is UTI as 12.5%. The lowest variation from the mean is 0.0381 by SBI and the highest variation from the mean is 0.0514 by UTI.

SHARPE'S PERFORMANCE INDEX:**TABLE – 8: SHARPE'S PERFORMANCE INDEX NPS-E (TIRE – II)**

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns 1Year	0.57	0.27	0.31	0.35	0.84	0.51	0.03
Returns 3Years	2.56	2.27	2.31	2.34	2.76	2.51	2.02
Returns 5Years	1.44	1.30	1.30	1.17	1.31	1.43	1.17

Sharpe's performance indexes of all the companies are giving a positive index for the all year's period. In the first year, LIC is the highest index as 0.84 and UTI is the lowest index as 0.03.

In the three years, also all the funds index shows some improvement compared to one year. LIC delivers the highest index as 2.76 and the lowest index is 2.02 by UTI.

In five years period, gives average index and reduced further, when compared to three-year index. Aditya Birla delivers, the highest index of 1.44 and the lowest index are Kotak and UTI as 1.17.

TREYNOR'S PERFORMANCE INDEX:**TABLE – 9: TREYNOR'S PERFORMANCE INDEX NPS-E (TIRE – II)**

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns1 Year	0.024	0.011	0.013	0.015	0.035	0.021	0.001
Returns 3 Years	0.107	0.095	0.097	0.098	0.117	0.105	0.086
Returns 5 Years	0.060	0.055	0.054	0.049	0.056	0.060	0.050

Treynor's performance indexes of all the companies are giving the positive index for the all year's period. In the first year, LIC is the highest Treyno's performance index as 0.035 and the lowest is UTI with index as 0.001.

In the three year, all the companies' performance has improved. LIC is the highest Treynor's performance index as 0.117 and the lowest is UTI with index as 0.086, the next least Treynor's index values is 0.095 by HDFC.

In five year again the performance index, shows average and reduce further, compared to the three years period and with an average index value of 0.055.

JENSEN'S ALPHA:**TABLE – 10: JENSEN'S ALPHA NPS-E (TIRE – II)**

Pension Fund	Aditya Birla	HDFC	ICICI	Kotak	LIC	SBI	UTI
Returns1 Year	0.013	0.002	0.003	0.005	0.024	0.010	0.001
Returns 3 Years	0.075	0.076	0.075	0.073	0.081	0.068	0.067
Returns 5 Years	0.039	0.041	0.038	0.031	0.033	0.036	0.036

Jensen's Alpha of all the companies, are giving the positive value for the all year's period with an average Alpha value in the first year as 0.008.

In the third year, all the companies' performance has improved. LIC is highest Jensen's alpha value as 0.081, rest of the companies are very close and UTI is the least value as 0.067.

In five year's again the Jensen's alpha value shows average and reduce further compared to three year period and with an average Jensen's alpha value as 0.036.

8. FINDINGS

- All the NPS – E (Tire – I) funds gives a positive return greater than the risk free rate of return, (i.e., bank rate) for the all year. HDFC got the highest return of 13.4% and the least return as 12.2% by LIC for the period of five years. Since inception, HDFC gives the highest return as 15.0% and least return by SBI as 10.8%.

- All the NPS – E (Tire – II) gives, a good return compared with the bank rate for the all years. HDFC got the highest return of 13.4% and the least return as 12.2% by Kotak and LIC for the

period of five years. HDFC gives near to the benchmark return (14.0%). Since inception, HDFC gives the highest return as 13.1% and least return by SBI as 10.6%. UTI and Kotak are at par with each other and Aditya Birla is at 12.9%.

- Sharpe's performance indexes of the companies for NPS – Equity, Tire-I & Tire - II are giving a positive for the first five year periods. In the three years, shows some improvement compared, to one year and in five years period the return reduced further when compared to three years index

- Treynor's performance indexes of the companies for NPS – Equity, Tire-I & Tire - II are giving the optimistic index for the first five year periods. In the three years, all the companies performance have improved. In third year, again the performance index reduced compare to three years period.

- Jensen's Alpha of all the companies for NPS – E, Tire-I & Tire - II are giving the positive value for the first five years periods. In the third year, all the companies' performance has improved. In five years again the Jensen's alpha value shows negative and reduce further compared to three years period.

9. SUGGESTIONS

A. TO THE INVESTOR

- Choose Active Investment choice and Individual analysis is required before making investment.
- Invest systematically and Long term Investors are comfortable for this investment.
- For retirement solutions and low cost investment, Investors can choose these schemes.
- Invest for better returns and compounding feature, not only for tax brackets.

B. TO THE COMPANY

- To attract more investors can lower the charges and more investor education required.
- To investors for parking their surplus return in this category, fund should achieve better return to meet out the benchmark return.

C. TO THE GOVERNMENT

- Increase marketing strategies and amounts of incentives to motivate and attract more investors.
- Government should increase contribution limit and for getting more investors, offer guaranteed pension amount for the investor.
- For additional tax benefits, reconsidering the reinvestment at the time of maturity.

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