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PERFORMANCE EVALUATION OF PENSION FUNDS: AN EMERGING INSTRUMENT FOR INVESTING

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ABSTRACT

With increasing life expectancy population of India is ageing. All the traditional sources will not suffice to meet retirement needs. Providing social security to every individual is seems to be a threat to Union budget and also to the economic reforms. Government of India has taken adequate steps to curtail poverty and to provide sustainable solution to it. New Pension Scheme is the tool which will provide social security to all including economically weaker section of the society to the workers of unorganized sector. Sample period of study was over the period of past three years, i.e., from March 28, 2011 to March 26, 2014. Risk and return of pension fund schemes are being calculated along with Sharpe ratio as a measure of risk adjusted returns for the analysis. Most of the schemes were found to be significant for investment and for planning to meet the end needs.

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INTRODUCTION

World population is ageing (Dave, 2000). India is a young country with average age of 26 years (Sadhak, 2009) and as per our calculation from Census, 2011; average age of population is 27 years (Population Enumeration Data (Final Population), 2011). The life expectancy of India is 67.8 years (The World Factbook, 2014) which means the elderly population is growing. The growth rate of elderly population is 3.8% much higher than the overall population growth rate of 1.8% (Sadhak, 2009). The elderly population share will rise to 8.9% in 2016 and it is expected to further increase to 13.3% of total population by 2026 (Dave 2000). It means India will no longer be the young country in near future. Traditional methods of providing social security to old age people will not going to be adequate. Increase in aging population also enhances the pension expenditure of a country which becomes a major burden on public finances.

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Also the traditional methods cover only the employees of organized sector leaving the person employed in unorganized or self employed one. Government of India is taking adequate steps to curb poverty with the introduction of various guaranteed employment scheme and rising wages will lead to reduction in coming years (Shah, 2006). Poverty among elderly can be reduced by sustainable and scalable pension scheme (Dave S. A., 2000). In view of that India embarked on the path of pension reforms in January 2004 with the introduction of New Pension Scheme. Pension reforms in India are the second generation economic reforms (Shah, 2006). With no or little source of income after retirement increases the need of sound financial planning for retirement. Retirement planning behavior depends on various behavioral aspects of investor. Investment life cycle has various stages like accumulation, consolidation and spending or gifting phase (Reilly and Brown, 2006). Similarly retirement planning has two phase's accumulation and spending. In accumulation phase investor saves for the future which runs till the time of retirement while in spending phase he enjoys the benefits of his savings. New Pension Scheme was originally proposed by Old Age Social and Income Security, report 2005. The growth of NPS is expected to have impact on providing security in the old age to a population experiencing unmatched changes in social structures with the growth in economy as well as it will have impact on debt and capital market (Mariathasan). (Swarup, 2008). NPS trust has been set up by Pension Fund Regulatory and Development Authority (PFRDA), which regulates the pension funds in 2008 (NPS Trust). Initially NPS was made operational for Central Government Employees with exception to defense forces joining the service after December 31, 2003. State Governments also followed the same. SBI Pension Funds Private Ltd, UTI Retirement Solutions Ltd. and LIC Pension Fund Ltd. were the three companies which were allocated as Pension Fund Managers. Subsequently, NPS was opened up for all citizens of India from organized or unorganized sectors both. Five more Pension Fund Managers were licensed to operate namely; ICICI Prudential Pension Funds Management Company Ltd., Kotak Mahindra Pension Fund Ltd., Reliance Capital Pension Fund Ltd., HDFC Pension Management Company Ltd. and DSP Blackrock Pension Fund Managers Pvt. Ltd. The PFRDA has allowed fund managers to directly invest in stocks which are eligible for trading in the derivatives markets (Your retirement corpus is set to turn aggressive). NSDL is being appointed as Central Recordkeeping Agency (CRA) for record keeping, administration and customer service functions. All the fund managers are linked with CRA which is also linked with Point of Presence i.e. banks and post offices from where investor can operate their accounts (NSDL e Governance Infrastructure, 2010; Administrative Arrangements of Central Recordkeeping of Personal Retirement Accounts, 2004). Pension fund is a two tier system, tier-I is contributory system where employer also contribute and the amount accrued under this structure cannot be disbursed before retirement while tier-II is voluntary system in which only employee have to contribute and one can withdraw the amount accrued before retirement. The investment by fund managers can be allocated in three types of assets namely; Equity, Government securities and corporate bonds. New Pension System also covers the people who are from weaker and economically disadvantage section of the society (NPS Swawlamban, 2010).

As on December 31, 2013 NPS has a corpus of INR 42,204.63 Crores under management with 58.59 Lakhs subscriber (NPS Trust). Objective of the study is to evaluate the performance of different schemes of pension funds on the basis of return and risk of the scheme along with risk adjusted returns. The remaining of the paper progresses as follow: Section 2 reviews the past literature and describes the research issues. Section 3 deals with the Data and Methodology to be used in this study and interpretation of result and discussion in Section 4.

Literature Review: Ntalianis and Wise (2011) studied the impact of financial education on retirement planning of an investor. The sample size of the study was 6000 with group of gender, age, qualification and superannuation balance. It was proposed that there would be no difference in the impact of financial education on the retirement planning of different groups. ANOVA, t-test and F-test were used to establish any significant difference between the responses of groups. It was found that younger people and female are less likely to utilize the financial education for their retirement planning. Moschis and Burkhalter (2007) studied the differences for preferences and motives for financial services and financing of post-retirement expenses and analyzed segments of mature consumers. Survey was conducted on 20,000 US citizens of the age 55 or above. The responses of older Americans different by lifestyle characteristics. Americans attached different levels of importance to the institutions they rely on for advice regarding financial management. Adami and Gough (2008) studied individual saving behavior in Italy and in the UK and present evidence of the factors determining saving for retirement in the two countries. Quantitative approach was used in study. The differences in pension policies and attitudes were examined with the possibility of cross-national saving policies and the effect of common demographic and social factors. The study employed two samples of adults interviewed in 2002; each sample comprised 300 individuals, for a total number of 600 respondents aged between 19 and 65. Univariate General Linear Model was made to investigate the relationships between each one of the four dependent variables that denote respondents' attitudes towards private retirement funds and saving behavior and four independent variables (predictors) portraying the demographic features of the respondents (income, education, age and sex). Study suggests that some groups of cross-national respondents with similar demographic characteristics to might hold similar perceptions with regard to the future of state pensions; particularly the young investors.

Hira, Rock, and Loibl (2009) investigated into the determinants of retirement planning behavior of investors of different age group. A national survey of 911 individuals from households with incomes of $75 000 or greater was conducted in the US. Three age groups: 21- to 39-year-olds, 40- to 59-year-olds and those aged 60 years and older. The significance of socio-demographic variables, the ability to recover from loss, behavioral tendencies and perceived or actual personal control were investigated; together with their role in the prediction of maximization of retirement contributions and ownership in the personal individual retirement account. The study has identified several significant variables in the prediction of the maximization of retirement contributions, including employment, income, savings activity, *ex ante research,* review of investment performance, early investor, investor activity, such as planning for financial future, setting up automatic deposits and reviewing financial information. (Burbidge and Robb, 1980) employed the lifecycle model to analyze the theoretical effects on an individual's retirement behavior of pension plans that are not actuarially fair. They had also examined the public and private pension plans in Canada. Parker and Rougier (2007) analyzed the retirement behavior of self employed workers. They have used life cycle framework and a multinomial logit model of dynamic employment and retirement choices. It had found that higher earning around retirement decrease the probability of retirement while age increases this probability. Poor health and gender are the variables which have significant impact on the retirement behavior.

METHODOLOGY

There are eight pension fund managers being licensed by Government namely; SBI Pension Funds Private Ltd, UTI Retirement Solutions Ltd., LIC Pension Fund Ltd., ICICI Prudential Pension Funds Management Company Ltd., Kotak Mahindra Pension Fund Ltd., Reliance Capital Pension Fund Ltd., HDFC Pension Management Company Ltd. and DSP Blackrock Pension Fund Managers Pvt. Ltd. In this study schemes of first three pension fund managers are being analyzed.

Table 1.

	Scheme Central Govt.			Scheme State Govt.		
	LIC	UTI	SBI	LIC	UTI	SBI
Avg annualized return	8.5468577	8.2338664	9.1199459	9.1169428	8.6282874	8.4362294
Std. dev.	0.3915841	0.2974313	0.8941675	0.4057038	0.3163279	0.3463345
Sharpe Ratio long term	1.1649033	0.4813429	1.151066	2.5295372	1.6994628	0.9976753
Sharpe Ratio short term	-0.7869122	-2.0883264	0.2963045	0.6456504	-0.7167013	-1.2091505
	Scheme Corporate CG.			Scheme E - Tier I		
	LIC	UTI	SBI	LIC	UTI	SBI
Avg annualized return	7.3879762	N/A	5.6520627	15.772728	8.5556887	9.4349844
Std. dev.	0.4380862	N/A	0.4716314	0.5870054	0.9930536	0.9572533
Sharpe Ratio long term	-1.6040766	N/A	-5.1706429	13.086809	0.4682414	1.4043143
Sharpe Ratio short term	-3.3487105	N/A	-6.7911882	11.784777	-0.3014049	0.605884
	NPS LITE Scheme - Govt. Pattern			Scheme C - Tier I		
	LIC	UTI	SBI	LIC	UTI	SBI
Avg annualized return	10.209468	9.8994584	8.8310836	9.6564034	10.642134	10.864358
Std. dev.	0.2974666	0.346343	0.3476492	0.1595723	0.2622357	0.2946137
Sharpe Ratio long term	7.1227098	5.2224486	2.1296862	9.8118771	9.7295455	9.4145572
Sharpe Ratio short term	4.5533459	3.0156765	-0.0687946	5.0221974	6.8149914	6.8203127
	Scheme G - Tier I			Scheme E - Tier II		
	LIC	UTI	SBI	LIC	UTI	SBI
Avg annualized return	7.341434	6.8406748	7.0921435	-1.8068728	8.4235958	9.4750872
Std. dev.	0.3207526	0.6605926	0.4085458	0.4644345	1.0168713	1.0876081
Sharpe Ratio long term	-2.3359623	-1.8922787	-2.4441729	-21.311019	0.3273726	1.2728732
Sharpe Ratio short term	-4.7187958	-3.0492702	-4.3149547	-22.956676	-0.4242466	0.5701385
	Scheme C - Tier II			Scheme G - Tier II		
	LIC	UTI	SBI	LIC	UTI	SBI
Avg annualized return	5.2913411	10.727498	9.6929765	9.4078722	6.3183933	7.0314088
Std. dev.	0.1864727	0.2974536	0.2772099	0.1937106	0.4029613	0.4129148
Sharpe Ratio long term	-15.012162	8.864571	5.7800119	6.7996927	-4.3982058	-2.5653988
Sharpe Ratio short term	-19.110884	6.2950946	3.0228953	2.8541152	-6.294914	-4.4163859

Annualized return is being estimated from the daily returns obtained from the NAV of funds over the period of past three years starting from March 28, 2011 to March 26, 2014. NAV data is being taken from the official website of the respective pension fund managers. Standard deviation is being calculated as the measure of volatility which represent the level of risk involve in the particular scheme. As the investment of pension funds being managed by investment in capital market as well as in debt market forming a portfolio so Sharpe ratio can be taken as measure of risk adjusted return (Sharpe, 1994). All the available schemes of funds are being compared. Sharpe ratio is being calculated for long term as well as short term purpose (Antolin, 2008). For long term risk free rate, interest on long term Government security 6.90 GS 2019, 8.0907% has been taken while for short term risk free rate, interest rate of 91-days T- bill, 8.855% has been taken. Table no.1 shows the average annualized return, standard deviation; Sharpe ratio for long term as well as for short term is being represented.

On analysis of schemes on the basis of short term Sharpe ratio, only few schemes were found to be significant while in case of long term Sharpe ratio most of them found to be significant. NPS Lite scheme of all the three fund managers found to be significant for long term rather for short term SBI NPS Lite have an insignificant value. Equity scheme of both types, tier I and II and corporate bonds scheme of tier II type of LIC have shown inconsistent results because both the schemes were relatively new and launched on June 11, 2013.

RESULTS

It was found from the study that pension funds are emerging instruments for investment with immense potential to provide security for elderly after their retirement. This NPS does not only help the individual in meeting their needs after retirement but it also has provision to meet interim needs of individuals. NPS also have provision for self employed, workers employed in unorganized sectors and the person belongs to economically weaker section of the society. The only concern with NPS is participation of investor in the scheme which is quite low due to less emphasis on marketing of schemes and also the penetration of financial education among investors. If PFRDA takes measures for visibility of pension funds schemes there will be an enormous success.

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