AN EMPIRICAL STUDY ON FACTORS INFLUENCING EMPLOYEES IN THE INVESTMENT DECISION OF PENSION FUND SCHEME IN A PUBLIC SECTOR ORGANIZATION AT TIRUCHIRAPPALLI

N. Suresh (Corresponding Author)
B.Com., MBA., PGDIRPM
Associate Professor
Department of Management Studies
Saranathan College of Engineering, Tiruchirappalli – 620012
Tamilnadu, South India

Dr. S. V. Devanathan
MIE., MBA., Ph.D
Head, Department of Management Studies
Saranathan College of Engineering, Tiruchirappalli – 620012
Tamilnadu, South India

Abstract
India, like most other developing countries, does not have a universal social security system to protect the elderly against economic deprivation. Today, major retirement schemes in India include provident fund, gratuity and pension schemes. The first two schemes provide lump sum retirement benefit while the last one makes payment in the form of monthly annuity. These schemes are characterized by the following common features i.e. they are mandatory, occupation based, earnings related, and have embedded insurance cover against disability and death. Under this context, the various factors that contribute on the investment decisions of the retiring employees on various pension fund schemes are discussed.
Keywords: Pension Schemes, Gratuity, Provident Fund, Risk coverage
Introduction

“A pension is a representative of a long standing obligation to retirees to support sustainability of their consumption in retirement” Pension funds are the principal sources of retirement income for millions of people in the world. They are also important contributors to the GDPs of countries and a significant source of capital in financial markets. A global pension crisis emerged in the past two years owing to depressed financial markets. This eroded funds to cater for the retirement income of the ageing populations. It is therefore important that pension funds be managed effectively, safely and judiciously.

Structure of the pension system

India, like most other developing countries, does not have a universal social security system to protect the elderly against economic deprivation. Perhaps, persistently high rates of poverty and unemployment act as a deterrent to institute a pay-roll tax financed state pension arrangement for each and every citizen attaining old age. India has adopted a pension policy that largely hinges on financing through employer and employee participation. This restricted the coverage to the organized sector workers - denying the vast majority of the workforce in the unorganized sector. There is no formal channel functioning for the economic support worth mentioning. Today, major retirement schemes in India include provident fund, gratuity and pension schemes. The first two schemes provide lump sum retirement benefit while the last one makes payment in the form of monthly annuity. This type of scheme is available even for unorganized workers of various industries in European, American and Australian countries. Provident fund and gratuity are mandatory for all employees under Indian law(The Employees Provident Fund and Miscellaneous Act, 1952 and The Payment of Gratuity Act, 1972) .These schemes are
characterized by the following common features i.e. they are mandatory, occupation based, earnings related, and have embedded insurance cover against disability and death.

**Review of Literature**

Cocco, Joao F. and Lopes, Paula (2004) **Defined benefit or defined contribution?: an empirical study of pension choices** studied individual pension choice between two different defined benefit (DB) plans and a defined contribution (DC) plans. The DB plans differ in their contribution rates and in the way retirement benefits are calculated, as a proportion of final salary or as a proportion of lifetime earnings. Labor income characteristics are related to the choice of pension plan. Among other determinants of pension choice, it is found that: (i) individuals who face higher income growth are more likely to choose DB final salary plans, and less likely to choose the DC plan; (ii) individuals who face higher earnings volatility are less likely to choose DB final salary plans; (iii) individuals with higher earnings are more likely to choose either the DC or the DB final salary plan. These results constitute evidence of self selection of individuals into different pension plans, an important issue for pension fund providers and for those involved in pension reform.

Gort, Christoph (2009) in his study on **Overconfidence and active management: An empirical study across Swiss pension plans examined the** Pension plans in Switzerland that favor active management over indexing to implement their strategic asset allocation. Empirical surveys show, that their success has been below expectations, as the median performance of Swiss pension plans in domestic and international equities is below market indices even gross of fees. The results of this paper's survey across decision makers of Swiss pension plans sheds some light on why active management is still so popular than-average-effect.
Lucy Jepchoge Rono (2009) This study focused on the analysis of factors influencing pension fund managers’ investment decisions. The objectives of the study were to identify investment options available to pension fund managers, identify factors that are considered by fund managers when making investment decisions and identify challenges faced by fund managers in making investment decisions. In this study it is found out that returns, investment risks and trends in interest rates were the most important factors affecting pension managers’ investment decisions. Decision-making preferences, investment portfolio, past performance and legal framework were rated as less important. The researcher identified a need for a portfolio that will give higher returns. There is also need to harmonize all regulations relating to pensions in order to create efficiency and avoid confusion.

Nandita Markandan (2005) in his study on A Consolidated Model of Pensions for India discussed the Pension system in India under the following heads: 1) Current System in India. 2) An illustrative model of a new Pension for India, learning from the international experiences in this field.

Ashraf Imam (2011) In his paper examined the potential and actual role played by government in pension fund management. It is shown that government played important role in investment performance in terms of risk and return, and pension funds are well placed to take advantage of the benefits, but pension fund typically hold low proportions equity on their portfolios which hamper its growth but at the same time low equity proportions means more safety for pension funds. Whereas some degree of “home bias” is likely to occur naturally, it is undesirable for regulations to enforce tighter limits on proportion of equities and there is thus considerable scope for improvement in the
current system and other issue which needs attention for making the new pension scheme equitable is the tax treatment.

**Lucy Jepchoge Rono et.al** (2010) In his study focused on the analysis of the impact of RBA guidelines on the return on investments of both pension funds under management and those for pension schemes. A random sample of 175 fund trustees and a census of 13 fund managers from registered fund management companies participated in the survey. The questionnaire was administered through the drop-and-pick method. Data were analyzed using SPSS (Statistical Package for Social Sciences) and summarized in descriptive statistics, such as mean, standard deviation, frequencies, percentages, and t-tests for mean differences were used. The study determined that annual investment return for retirement benefits schemes in the past three years ranged between 10 and 27.52%, sometimes falling below the annual inflation.
Conceptual Framework

**Investment Decision**

- Risk
- Investment Portfolios
- Maximum guarantee
- Capital Preservation
- Easy for Transaction
- Expert's Guidelines
- Easy to Liquidate
- Extra benefits at maturity
- Funds past performance
- Balanced Investment portfolio
- Return

**Fig 1**
The Employee’s who are interested to invest in pension fund schemes is faced with a decision of whether to invest in the money market, real estate, government securities, stocks and offshore investment. The total investment was treated as the dependent variable. This was considered in relation to independent variables considered in investment decision making which include; returns, risk, Investment portfolio, Guarantee, Capital preservation, Easy for transaction, Expert’s guidelines, Easy to liquidate, Extra benefits at maturity and Funds past performance. This was diagrammatically represented as shown in Figure 1

**Research Question**

The point of research is to study and to identify the various factors that influences the employees in the investment decision of pension fund scheme in a public sector organization at Tiruchirappalli

**Methodology**

The study is a descriptive one. Primary data was collected with the help of structured questionnaire administered to the middle level employees who are about to retire from their service from a public sector organization at Tiruchirappalli - Tamilnadu. About 103 employees from that organization constitute the sample size. Fifteen questionnaires were distributed for the purpose of pre-testing the questionnaire's contents. A full questionnaire was developed based on the comments collected under pilot study. Type of sampling method used was simple random sampling (using lottery method). The company’s name is kept confidential at the request of the respondents.
Reliability Statistics

Insert Table-1 Here

An examination had been made from the reliability of the data to check whether random error causing inconsistency and in turn lower reliability is at a manageable level or not, by running reliability test. From table 1 it is clear that values of Coefficient alpha (Cronbach’s Alpha) have been obtained, the minimum value of Coefficient alpha obtained was 0.715. This shows data has satisfactory internal consistency reliability.

Statistical Tools Used
The following tests were administered 1) Factor Analysis and 2) Reliability Test.

Limitation of the study
There was a constraint of availability of respondents through human engagements such as leave of absence, training, or overseas engagements. Nonetheless, the researcher managed to get response from all respondents meaning that these limitations had marginal effects on the overall findings of the Study.

Factor Analysis
The individual statements on invest decision of pension fund was examined using factor analysis based on 12 individual statements and the reliability of the samples collected was tested for internal consistency of the grouping of the items.

Insert Table – 2 Here

KMO measure of sampling adequacy is an index to examine the appropriateness of factor analysis. High values between 0.5 and 1.0 indicate factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate. From the above table it is seen that Kaiser – Meyer – Olkin measure of sampling adequacy index is 0.810 and hence the factor analysis is appropriate for the given data set. Bartlett’s Test of Sphericity is used to examine the hypothesis that the variables are uncorrelated. It is based on chi-Square transformation of the determinant of correlation matrix. A large value of the test statistic will favor the rejection of the null
hypothesis. In turn this would indicate that factor analysis is appropriate. Bartlett’s test of Sphericity Chi-square statistics is 2895.966, that shows the 12 statements are correlated and hence as inferred in KMO, factor analysis is appropriate for the given data set.

**Insert Table – 3 Here**

Eigen Value represents the total variance explained by each factor. Percentage of the total variance attributed to each factor. One of the popular methods used in Exploratory Factor Analysis is Principal Component Analysis, Where the total variance in the data is considered to determine the minimum number of factors that will account for maximum variance of data. From the table no 3 it is found out that 5 individual variables contribute 84.92% of the total study. It has been clearly discussed in the table no 4

**Insert Table – 4 Here**

Interpretation of factors is facilitated by identifying the statements that have large loadings in the same factor. The factor can be interpreted in terms of the statement that loads high on it.

The factors of a study on investment decision of pension fund scheme comprises of 12 individual statements. Out of 12 variables, 5 individual variables contribute more towards the study.

The variables are:

1. Balanced investment portfolio(0.957)
2. Risk Profile of the scheme of investment(0.917)
3. Funds past performance(0.889)
4. Return on Investment(0.840)
5. Guarantee Maximization(0.635)
Summary and Conclusion

Main goals of pension investment are to ensure adequate, affordable and sustainable benefits to contributors, secure safety & security of funds and ensure adequate liquidity to pay all pension benefits of contributors as and when due risk management for pension assets established on quantitative limits which is maximum limits for individual, class or class of mix assets. Achieve an optimal trade-off of risk and return through strategic asset allocation. Our major findings are as follows, the paradigm of the long-term investor is changing. Pension fund regulation became more risk aware and safety-focused. This study established that the factors that affect investment decisions of the employees who are about to retire from a public sector organization were rated as follows in the order of importance, Extra benefits at the time of maturity, Risk profile of the scheme of investment, Balanced investment portfolio, Guarantee maximization and Funds past performance. So the pension schemes need to concentrate on these factors in order to attract more customers to their organization.
## Reliability Statistics

### Table-1

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.715</td>
<td>24</td>
</tr>
</tbody>
</table>

## Table - 2

### KMO and Bartlett's Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.810</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>2895.966</td>
</tr>
<tr>
<td>df</td>
<td>190</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

## Table -3

### Total Variance Explained

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>7.278</td>
<td>36.391</td>
<td>36.391</td>
</tr>
<tr>
<td>2</td>
<td>3.918</td>
<td>19.588</td>
<td>55.979</td>
</tr>
<tr>
<td>3</td>
<td>2.470</td>
<td>12.352</td>
<td>68.331</td>
</tr>
<tr>
<td>4</td>
<td>1.988</td>
<td>9.939</td>
<td>78.270</td>
</tr>
<tr>
<td>5</td>
<td>1.330</td>
<td>6.651</td>
<td>84.921</td>
</tr>
<tr>
<td>6</td>
<td>0.749</td>
<td>3.743</td>
<td>88.663</td>
</tr>
<tr>
<td>7</td>
<td>0.550</td>
<td>2.751</td>
<td>91.414</td>
</tr>
<tr>
<td>8</td>
<td>0.413</td>
<td>2.665</td>
<td>94.0799</td>
</tr>
<tr>
<td>9</td>
<td>0.318</td>
<td>2.060</td>
<td>96.139</td>
</tr>
<tr>
<td>10</td>
<td>0.254</td>
<td>2.050</td>
<td>98.189</td>
</tr>
<tr>
<td>11</td>
<td>0.213</td>
<td>1.190</td>
<td>99.379</td>
</tr>
<tr>
<td>12</td>
<td>0.147</td>
<td>0.632</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
<table>
<thead>
<tr>
<th>Component</th>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Preservation</td>
<td>Capital Preservation</td>
<td>0.035</td>
<td>-0.156</td>
<td>0.553</td>
<td>0.595</td>
<td>0.050</td>
</tr>
<tr>
<td>Legal Framework</td>
<td>Legal Framework</td>
<td>0.341</td>
<td>0.777</td>
<td>-0.066</td>
<td>-0.135</td>
<td>0.283</td>
</tr>
<tr>
<td>Easy for Transaction/ less transaction cost</td>
<td>Easy for Transaction/ less transaction cost</td>
<td>0.349</td>
<td>-0.073</td>
<td>0.049</td>
<td>-0.180</td>
<td>0.253</td>
</tr>
<tr>
<td>Goodwill of the company</td>
<td>Goodwill of the company</td>
<td>-0.027</td>
<td>0.562</td>
<td>0.418</td>
<td>-0.051</td>
<td>0.049</td>
</tr>
<tr>
<td>Expert’s guidelines</td>
<td>Expert’s guidelines</td>
<td>0.567</td>
<td>0.225</td>
<td>0.061</td>
<td>0.560</td>
<td>-0.312</td>
</tr>
<tr>
<td>Easy to liquidate</td>
<td>Easy to liquidate</td>
<td>0.289</td>
<td>0.370</td>
<td>0.521</td>
<td>0.160</td>
<td>0.087</td>
</tr>
<tr>
<td>Extra Benefits at the time of maturity</td>
<td>Extra Benefits at the time of maturity</td>
<td>-0.175</td>
<td>0.786</td>
<td>0.429</td>
<td>0.034</td>
<td>0.154</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>Return on Investment</td>
<td>0.171</td>
<td>0.192</td>
<td>0.831</td>
<td><strong>0.840</strong></td>
<td>0.019</td>
</tr>
<tr>
<td>Risk profile of the scheme of investment</td>
<td>Risk profile of the scheme of investment</td>
<td>0.191</td>
<td>-0.093</td>
<td><strong>0.917</strong></td>
<td>-0.051</td>
<td>0.423</td>
</tr>
<tr>
<td>Balanced Investment Portfolio</td>
<td>Balanced Investment Portfolio</td>
<td><strong>0.957</strong></td>
<td>0.066</td>
<td>-0.120</td>
<td>0.070</td>
<td>0.104</td>
</tr>
<tr>
<td>Guarantee Maximization</td>
<td>Guarantee Maximization</td>
<td>0.539</td>
<td>0.789</td>
<td>0.125</td>
<td>-0.083</td>
<td><strong>0.635</strong></td>
</tr>
<tr>
<td>Funds past performance</td>
<td>Funds past performance</td>
<td>-0.026</td>
<td><strong>0.889</strong></td>
<td>-0.046</td>
<td>0.255</td>
<td>-0.038</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.
References


Mugenda A G, Mugenda O M (1999); Research Methods, Quantitative and Qualitative Approaches, ACTS Press, Nairobi


"Choices in Financing Health Care and Old Age Security", proceedings of a conference sponsored by the Institute of policy studies, Singapore, published by the World Bank, November 8 1997