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A comparative study of earnings and profitability of public and private non-life insurance companies

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Abstract

Insurance Industry is one of the core sectors where the funds are directly mobilised by the small investors. There are mainly two types of Insurance viz. Life Insurance and General Insurance. General Insurance is also known as Non-Life Insurance Sector which is one of the core sectors to contribute to the growth of an Economy. The present research study focuses on the earnings and profitability of public and private Non-Life Insurance companies. The main aim of present research study is to analyse and compare the earnings and profitability of the selected non-life insurance companies.

Keywords: return on equity (ROE), return on total assets (ROTA), Non-life insurance, profitability

Introduction

Objectives of the Study

- 1) To know about the non-life insurance sector of India
- 2) To evaluate the profitability of selected non-life insurance companies working in India
- 3) To compare the profitability of selected non-life insurance companies.
- 4) To derive the appropriate conclusion and suggestions for measure of improvement for selected samples

Hypothesis of the Study

H₀- There is no significant difference in the Earning and Profitability Ratios between Public and Private Sector Non-life Insurance Company.

H₁- There is significant difference in the Earning and Profitability Ratios between Public and Private Sector Non-life Insurance Company.

Research Design

With the changing scenario of the present economic and competitive situation in India and the present outlook of Indian economy, this study has been covered 10 accounting years commenced from 2009-10 to 2018-19.

The sample has been selected by considering the market cap of the insurance corporations. For the present study, researcher has taken total 8 insurance companies which include four (4) from Public Sector and four (4) from private sector. Following is the list of selected samples:

Public Sector Insurance Corporations

1. General Insurance Corporation of India
2. The New India Assurance Company Ltd.
3. United India Insurance Company Ltd.
4. The Oriental Insurance Company Ltd.

Private Sector Insurance Corporations

1. Bajaj Allianz General Insurance Co.
2. Reliance General Insurance Company Ltd.
3. TATA AIG General Insurance Company Ltd.
4. IFFCO TOKIO General Insurance Company Ltd.

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For evaluating and comparing the profitability of selected private and public non-life insurance companies, following variables are taken:

1. Return on Equity Ratio (Net Income / Shareholders Fund * 100)
2. Return on Total Assets (Net Income / Total Assets * 100)
3. Earnings per Employees (Net Income / No. of Employees)
4. Expenses Ratio (Operating Expenses / Net Premium * 100)

For the present research problem, A Comparison is to be made between selected Private and Public Non-Life Insurance Companies. Here the average of all the variables is taken and T-Test is used to test the hypothesis at 5% level of Significance.

Data Analysis and Interpretation

Data Collection, Presentation, Analysis and Interpretation is the vital part of any research study. Data Collection is the pivot for any research. It is the core component with which the research study can be carried on. For the present study Earnings and Profitability Analysis is done for evaluating

and analyzing the performance of the Selected Non-Life Insurance Companies. For testing of hypothesis, here we have used two statistical tools namely F-Test ANOVA and T-Test for Comparing the performance of Private and Public Non Life Insurance Companies during the study period of last ten years

Return on Equity

Table 1: Average of Return On Equity Ratio (Roe)

Year	Public Sector			Private Sector		
	General Insurance CO.			General Insurance Co.		
	(Mean)	$\bar{X}(\bar{X}-\bar{X})$	$(\bar{X}-\bar{X})^2$	(Mean)	$\bar{Y}(\bar{Y}-\bar{Y})$	$(\bar{Y}-\bar{Y})^2$
2009-10	9.965	3.335	11.122	4.363	-4.826	23.289
2010-11	2.603	-4.027	16.218	-7.615	-16.804	282.371
2011-12	-2.410	-9.040	81.723	-2.203	-11.392	129.775
2012-13	16.363	9.733	94.729	13.803	4.614	21.290
2013-14	13.945	7.315	53.508	18.740	9.551	91.224
2014-15	12.668	6.038	36.456	13.048	3.859	14.893
2015-16	9.413	2.783	7.745	11.278	2.089	4.364
2016-17	-6.223	-12.853	165.202	16.615	7.426	55.147
2017-18	25.200	18.570	344.841	13.340	4.151	17.232
2018-19	-15.223	-21.853	477.558	10.520	1.331	1.772
TOTAL	66.301		1289.102	91.889		641.357

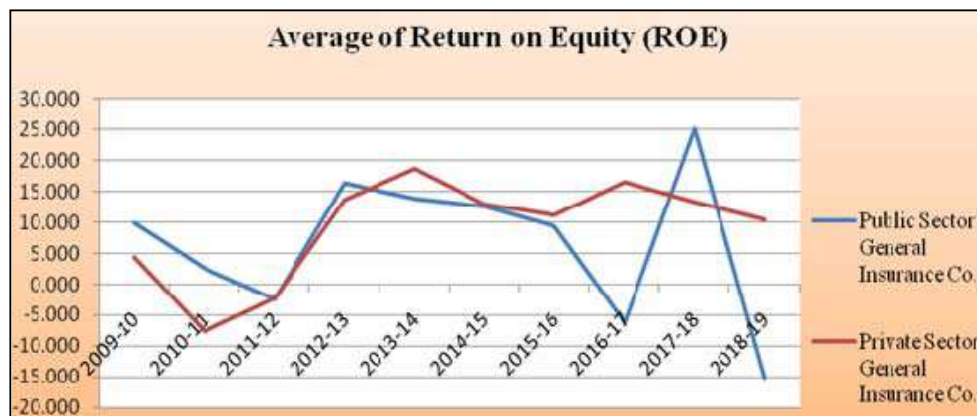


Chart 1: Average of return on equity of selected samples

The above Table no. 1 and Chart No. 1 shows the Average of Return of Equity (ROE) Ratio of the selected samples of Private and Public Non-life Insurance Companies during the study period starting from 2009-10 to 2018-19.

The mean of means of public sector non life insurance companies was 6.6301 and that of private non life insurance companies was 9.1889 during the study period.

Table 2: T-Test statistics for average of return on equity (Roe)

Name of Sector	Mean	SD	DF	't' Cal. Value	't' Table Value
Public Sector Non-Life Insurance Companies	6.6301	10.3561	18	0.5524	2.1009
Private Sector Non-Life Insurance Companies	9.1889				

The above Table No. 2 shows the T-Test Statistics for Average of Return on Equity (ROE) for the test of hypothesis using 5% level of significance. For the present study, the hypothesis is based on the T-Test for comparing the performance of selected Public and Private Non-Life Insurance companies during the study period from 2009-10 to 2018-19.

H₀= There is no significant difference between the Average of Return on Equity (ROE) Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

H₁= There is significant difference between the Average of Return on Equity (ROE) Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

The calculated value for comparative 'T-Test' for Average of Return on Equity (ROE) Ratio between Public and Private Non-Life Insurance Companies is 0.5524 while the Table value is 2.1009.

For hypothesis testing using 5% level of significance, the calculated value is lower than the table value. So, Null hypothesis is accepted and alternate hypothesis is rejected. It shows that there is no significant difference exists between the Average of Return on Equity (ROE) Ratio of the selected Public and Private Non-Life Insurance Companies from Insurance Sector during the study period of ten years.

Return on Total Assets Ratio

Table 3: Average of return on total assets ratio

Year	Public Sector			Private Sector		
	General Insurance Co.			General Insurance Co.		
	(Mean) \bar{X}	$(\bar{X} - \bar{X})$	$(\bar{X} - \bar{X})^2$	(Mean) \bar{Y}	$(\bar{Y} - \bar{Y})$	$(\bar{Y} - \bar{Y})^2$
2009-10	4.005	2.014	4.058	4.348	-4.667	21.785
2010-11	0.958	-1.033	1.066	-7.615	-16.630	276.570
2011-12	-0.515	-2.506	6.278	-5.140	-14.155	200.375
2012-13	5.815	3.824	14.626	13.823	4.808	23.113
2013-14	5.103	3.112	9.687	18.630	9.615	92.441
2014-15	4.088	2.097	4.399	16.855	7.840	61.459
2015-16	3.688	1.697	2.881	11.090	2.075	4.304
2016-17	-6.258	-8.249	68.039	15.760	6.745	45.490
2017-18	8.695	6.704	44.949	12.433	3.418	11.680
2018-19	-5.673	-7.664	58.731	9.970	0.955	0.911
TOTAL	19.906		214.715	90.154		738.128

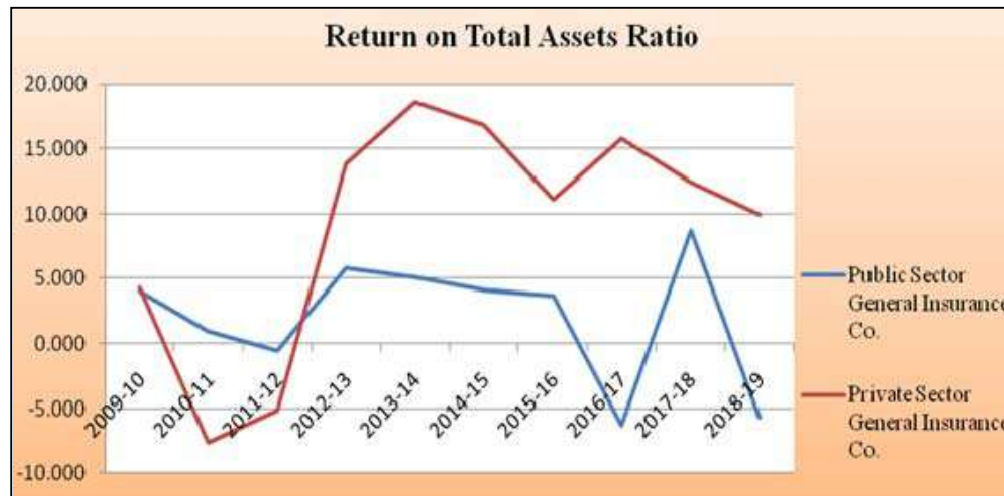


Chart 2: Average of return on total assets ratio of selected samples

The above Table no. 3 and Chart No. 2 shows the Average of Return on Total Assets Ratio of the selected samples of Private and Public Non-life Insurance Companies working in India during the study period starting from 2009-10 to 2018-19. The mean of means of public sector non life insurance companies was 1.9906 and that of private non life insurance companies was 9.0154 during the study period.

Table 4: T-Test statistics for average of return on total assets ratio

Name of Sector	Mean	SD	DF	't' Cal. Value	't' Table Value
Public Sector Non-Life Insurance Companies	1.9906	7.2757	18	2.1589	2.1009
Private Sector Non-Life Insurance Companies	9.0154				

The above Table No. 4 shows the T-Test Statistics for the Average of Return on Total Assets the test of hypothesis using 5% level of significance. For the present study, the hypothesis is based on the T-Test for comparing the performance of selected Public and Private Non-Life

Insurance companies during the study period from 2009-10 to 2018-19.

H₀= There is no significant difference between the Average of Return on Total Assets Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

H₁= There is significant difference between the Average of Return on Total Assets Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

The calculated value for comparative 'T-Test' for Average of Return on Total Assets Ratio between Public and Private Non Life Insurance Companies is 2.1589 while the Table value is 2.1009 which is higher than the table value. So, Null hypothesis is rejected and alternate hypothesis is accepted. It shows that there is significant difference exists between the Average of Return on Total Assets Ratio of the selected Public and Private Non-Life Insurance Companies from Insurance Sector during the study period of ten years.

Earnings per Employees ratio

Table 5: Average of Earning Per Employees Ratio

Year	Public Sector			Private Sector		
	General Insurance Co.			General Insurance Co.		
	(Mean) \bar{X}	$(\bar{X} - \bar{X})$	$(\bar{X} - \bar{X})^2$	(Mean) \bar{Y}	$(\bar{Y} - \bar{Y})$	$(\bar{Y} - \bar{Y})^2$
2009-10	1.025	0.119	0.014	0.008	-0.051	0.003
2010-11	0.586	-0.321	0.103	-0.033	-0.092	0.009
2011-12	-1.278	-2.185	4.772	-0.022	-0.081	0.007
2012-13	1.290	0.384	0.147	0.038	-0.021	0.000
2013-14	1.125	0.219	0.048	0.083	0.024	0.001
2014-15	1.323	0.417	0.173	0.155	0.096	0.009
2015-16	1.303	0.397	0.157	0.067	0.008	0.000
2016-17	1.343	0.437	0.191	0.118	0.059	0.003
2017-18	1.463	0.557	0.310	0.093	0.034	0.001
2018-19	0.885	-0.022	0.000	0.085	0.026	0.001
TOTAL	9.065		5.915	0.592		0.033

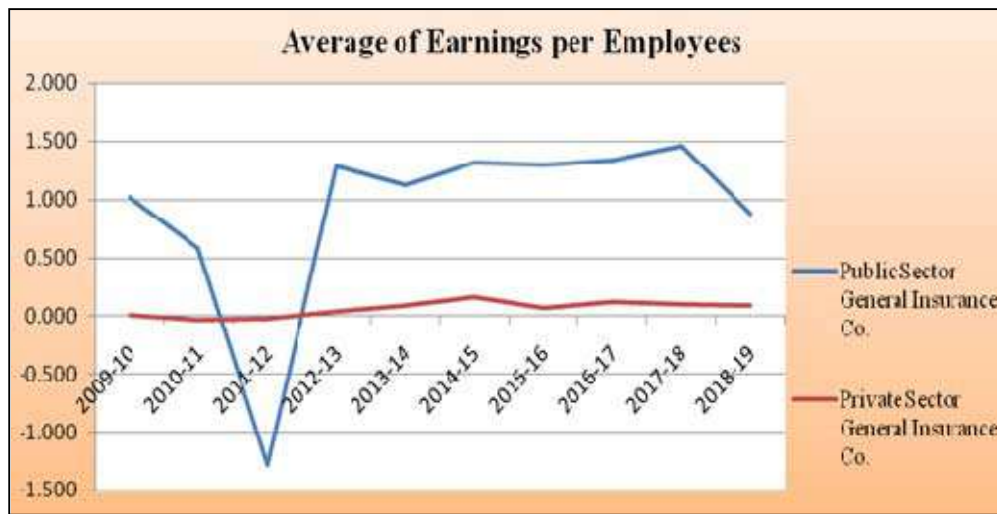


Chart 3: Average of earnings per Employees ratio of selected samples

The above Table no. 5 and Chart No. 3 shows the mean of means of Earnings per Employees Ratio of the selected samples of Private and Public Non-life Insurance Companies working in India during the study period starting from 2009-10 to 2018-19. The mean of means of public sector non-life insurance companies was 0.9065 and that of private non-life insurance companies was 0.0592 during the study period.

Table 6: T-test statistics for average of earnings per employee's ratio

Name of Sector	Mean	SD	DF	't' Cal. Value	't' Table Value
Public Sector Non-Life Insurance Companies	0.9065	0.5748	18	3.2958	2.1009
Private Sector Non-Life Insurance Companies	0.0592				

The above Table No. 6 shows the T-Test Statistics for the Average of Earnings per Employees Ratio for the test of hypothesis using 5% level of significance. For the present study, the hypothesis is based on the T-Test for comparing the performance of selected Public and Private Non-Life

Insurance companies during the study period from 2009-10 to 2018-19.

H₀= There is no significant difference between the Average of Earnings per Employees Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

H₁= There is significant difference between the Average of Earnings per Employees Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

The calculated value for comparative 'T-Test' for Average of Earnings per Employees Ratio between Public and Private Non-Life Insurance Companies is 3.2958 while the Table value is 2.1009. At 5% level of significance and 18 degree of freedom the calculated value is higher than the table value. So, Null hypothesis is rejected and alternate hypothesis is accepted. It shows that there is significant difference exists between the Average of Earnings per Employees Ratio of the selected Public and Private Non-Life Insurance Companies from Insurance Sector during the study period of ten years

Operating Expenses Ratio

Table 7: Average of operating expenses ratio

Year	Public sector			Private Sector		
	General Insurance co.			General Insurance Co.		
	(Mean) \bar{X}	$(\bar{X} - \bar{X})$	$(\bar{X} - \bar{X})^2$	(Mean) \bar{Y}	$(\bar{Y} - \bar{Y})$	$(\bar{Y} - \bar{Y})^2$
2009-10	23.360	2.449	5.999	33.230	3.979	15.830
2010-11	26.138	5.227	27.324	33.298	4.047	16.376
2011-12	20.133	-0.778	0.605	30.028	0.777	0.603
2012-13	21.503	0.592	0.351	27.273	-1.978	3.914
2013-14	20.598	-0.313	0.098	26.555	-2.696	7.270
2014-15	22.428	1.517	2.302	27.948	-1.303	1.699
2015-16	22.295	1.384	1.916	30.813	1.562	2.439
2016-17	19.893	-1.018	1.036	32.868	3.617	13.081
2017-18	16.375	-4.536	20.573	25.790	-3.461	11.981
2018-19	16.385	-4.526	20.483	24.710	-4.541	20.623
Total	209.108		80.686	292.513		93.815

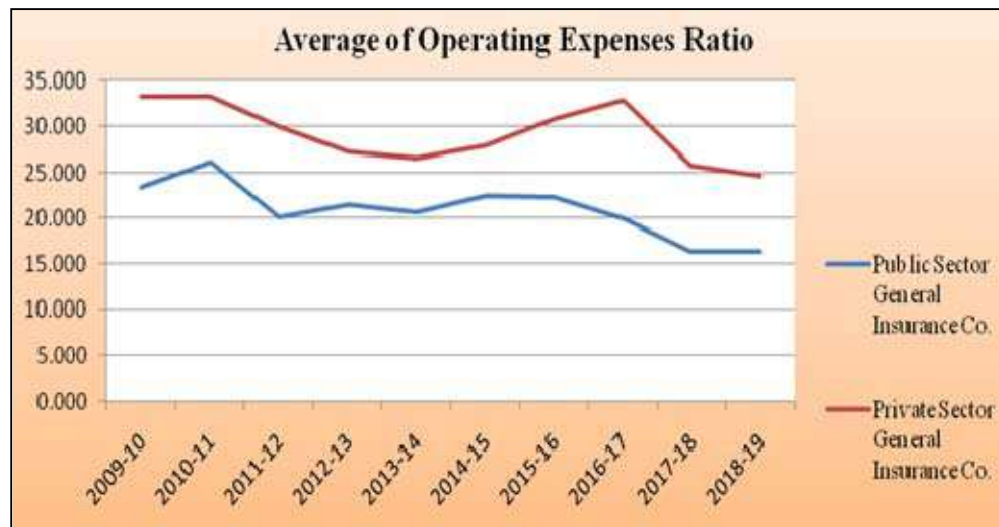


Chart 4: Average of operating expenses ratio

The above Table no. 7 and Chart No. 4 shows the mean of means of Operating Expenses Ratio of the selected samples of Private and Public Non-life Insurance Companies working in India during the study period starting from 2009-10 to 2018-19. The mean of means of public sector non life insurance companies was 20.9108 and that of private non life insurance companies was 29.2513 during the study period.

Table 8: T-Test statistics for average of operating expenses ratio

Name of Sector	Mean	SD	DF	't' Cal. Value	't' Table Value
Public Sector Non-Life Insurance Companies	20.9108	3.1136	18	5.9898	2.1009
Private Sector Non-Life Insurance Companies	29.2513				

The above Table No. 8 shows the T-Test Statistics for the Average of Operating Expenses Ratio for the test of hypothesis using 5% level of significance. For the present study, the hypothesis is based on the T-Test for comparing the performance of selected Public and Private Non-Life Insurance companies during the study period from 2009-10 to 2018-19.

H₀= There is no significant difference between the Average of Operating Expenses Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

H₁= There is significant difference between the Average of Operating Expenses Ratio of the selected Public and Private Non-Life Insurance Companies during the study period of ten years

The above table shows the calculated value for comparative 'T-Test' at 5% level of significance for Average of Operating Expenses Ratio between Public and Private Non Life Insurance Companies is 5.9898 while the Table value is 2.1009 which is higher than the table value. So, Null hypothesis is rejected and alternate hypothesis is accepted. It shows that there is significant difference exists between the Average of Operating Expenses Ratio of the selected Public and Private Non-Life Insurance Companies from Insurance Sector during the study period of ten years

Summary Findings and Suggestions

From the above research study following findings and suggestions can be put-

Name of Ratio	Hypothesis Accepted/Rejected
Return on Equity Ratio (ROE)	H ₀ Null hypothesis Accepted
Return on Total Assets Ratio	H ₁ Alternate hypothesis Accepted
Earnings per Employees Ratio	H ₁ Alternate hypothesis Accepted
Operating Expenses Ratio	H ₁ Alternate hypothesis Accepted

1. From the above research, For Return on Equity Ratio, the Null hypothesis is accepted and Alternate hypothesis is rejected. It means that the difference is not exists between return on equity ratio of Public and Private Non-Life Insurance Companies during the study period of ten years.
2. For Return on Total Assets Ratio, the Alternate hypothesis is accepted and null hypothesis is rejected. It means that the difference is exists between return on Total Assets ratio of Public and Private Non-Life Insurance Companies during the study period of ten years.
3. From the above research, For Earnings per Employees Ratio, the Null hypothesis is rejected and Alternate hypothesis is accepted. It means that the difference is exists between Earnings per Employees ratio of Public and Private Non-Life Insurance Companies during the study period of ten years
4. From the test of hypothesis based on T-Test, For Operating Expenses Ratio, the Null hypothesis is not accepted and Alternate hypothesis is accepted. It means that the difference is exists between Operating Expenses ratio of Public and Private Non-Life Insurance Companies during the study period of ten years
5. In simple words, we can say that there is difference in the earnings and profitability between the selected public and private non-life insurance companies during the study period of ten years.

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