Analysis of Financial Performance with respect to Productivity and Profitability of Public Sector General Insurance Company Operating in India

Srinivasa H T & Dr. K. Venkidasamy

Abstract

The intention behind the study is to analyse the driving factors which are determining the performance of public sector general insurance company and identifying the valid reasons for decline in its growth. The study has been conducted by considering some of the key dependent and independent variables impacting the performances. A sample of 4 public sector general insurance companies which are operating in India has been considered for the study. The time period of the study was from 2011-12 to 2020-21. Statistical test that was conducted were ANOVA and Paired sample test. The results of the study revealed that most of the key external and internal indicators chosen for the study shall try to reveal that there is not significant impact on return on profit (ROP).

Introduction

India is being the 5th largest economy in the world and also ranking 15th globally in the area of insurance contributing nearly 2.73% into the worlds insurance but still recording the lowest penetration rate. At present 53.89% contribution has been through the service sector out of the total GDP since insurance is also functioning under service sector where currently having a growth rate of 10-12% in respect to life insurance where as 16-18% growth has been witnessed YOY with respect to general insurance. Basically this sector needs an elevation to flourish in the market of uncertainties by adapting a suitable business models projecting positive growth in this sector, realising the companies about its core businesses they are in, moving ahead with the changes that are taking place worldwide needed to be addressed. Currently insurance has been considered as one of the stable industry when it is been compared with rest of the industry. Insurance industry has been ranked 4th in terms of new business application growth.

Table 1.1: Showing the Worlds GDP

(Year 2020-21)

Rank	Country	GDP(Trillion $)	Share of worlds GDP (%)
01	US	19485.4	24.08
02	China	12237.7	15.12
03	Japan	4872.4	6.02
04	Germany	3693.2	4.56
05	India	2650.7	3.28

(Source: www.worldometers.info)

Table 1.2: Showing Insurance Carriers & Related Activities

Year	Total GDP ($)	Insurance Carriers & Related Activities GDP($)	Percentage of total GDP (%)
2016-17	19,479.6	550.7	2.8
2017-18	20,527.2	590.7	2.9
2018-19	21,372.6	604.5	2.8
2019-20	20,893.7	640.3	3.1
2020-21	22,996.1	674.2	2.9

(Source: US department of Commerce Bureau of Economic Analysis)

Table 1.3 Showing Share of Non-Life Insurance Company During the Year 2020-21

Sector	Percentage (%)
Public Sector	49.3
Private Sector	36.2
Standalone Health Insurance	7.9
Specialised Insurers	6.6
Total	**100**

Figure 1: Showing the Challenges Faced by General Insurance Companies in India

Figure 2: Showing the Pillars of General Insurance

Literature Review

• Thirupathi & C.Balamurugan, (2022) In this research article titled "A Study on Performance Evaluation of Public Nonlife Insurance Companies in India", the author has highlighted about the performance of general insurance in Indian market where it is fastest-growing industries is insurance when compared to other sector. Since the insurance industry is unstable and there is skepticism about working with insurance companies in India, it becomes imperative to assess

how insurance companies, particularly those in the general insurance sector, are operating. The purpose of the study is to evaluate the performance of publicly traded non-life insurance firms. Six factors (the CARAMEL Model) were used to conduct the investigation.

- Sharma, Jadi and Ward, (2018) In this research article titled "Evaluating financial performance of insurance companies using rating transition matrices", the author has made an attempt in evaluating the Changes in rating grades that reflect certain changes in an insurance company's financial performance. An insurer is vulnerable to a rating change, which is a sign of the state of the economy. To analyze these transitions, we use Rating Transition Matrices (RTM). In this situation, a rating upgrade or reduction can indicate that credit quality is either getting better, staying the same, or getting worse. For UK insurers, we look at rating trends and project rating changes. We also discuss how the global financial crisis has affected the financial performance of UK insurance companies as seen by changes in rating. According to rating variations in rating matrices, our data demonstrates a considerable degree of rating changes. We come to the conclusion that insurers with higher (better) rating grades exhibit long-term rating stability.

- Sumesara (2020) In this research paper titled, "A comparative study of the financial performance of general Insurance Corporation of India and Bajaj alliance with special reference to caramel analysis model", the author has made an attempt to know the effect of surplus units to shortage and dwindling units in the economy by supporting investment activities. It also greases the wheels for saving money and passing on the risks that may arise.The businesses must be financially sound, operating efficiently, and building a solid asset base in order to facilitate this assistance. With a comparison examination of the General Insurance firm of India and The Bajaj Allianz general Insurance co. ltd., this article seeks to examine the stability and effectiveness of the insurance firm while presenting the overall findings.The insurance industry is absolutely essential to the nation's financial system. This sector of the economy serves to channel profits appropriately and pertinently starting from the surplus units to shortage and dwindling units in the economy by supporting investment activities. It also greases the wheels for financial savings and transfers risks that may arise. In order to compare the General Insurance firm of India and The Bajaj Allianz general Insurance co. ltd and show the overall results, this paper will assess the financial stability and effectiveness of the insurance

firm.

- Muthulakshmi and Muthumoni, (2023) in this article titled, "Determinants of Financial Performance – A Comparative Analysis of Public Sector Non-Life Insurers in India", the author has made an insight study on well-developed and functioning insurance sector is a prerequisite for an inclusive economy and growth in any country. The insurance sector in India has grown steadily and gradually. Insurance is an important financial service because it provides financial security to individuals and businesses. The efficiency of insurance companies is measured by techniques such as financial efficiency, technical, pure technical and scale efficiency. The objective of this research is to analyze the financial development of public sector non-life insurance companies in India and the factors affecting its development. Premiums, compensation costs, investment income, net income from insurance premiums, impeccable management and operating costs are the factors affecting the economic performance of non-life insurance companies. To explain the economic activity, data is collected from the 2009-10 financial year to the 2021-22 financial years. Data normality and stationary were checked using EViews statistical software. Research results show that New India Insurance Company Limited is doing better financially followed by United India Insurance Company Limited. The common determinants of after-tax profit of public sector non-life insurance companies are loss costs and net premium income.

Research Methodology

Objectives of the Study

- To assess the financial performance of public sector general insurance company operating in India.
- To study the indicators impacting the financial performance of public sector general insurance company operating in India.
- To study the Trends of financial performance of the public sector general insurance companies operating in India.

Sampling Design

Research Design

In this research paper the following are some of the key Dependent and Independent variable employed in the study
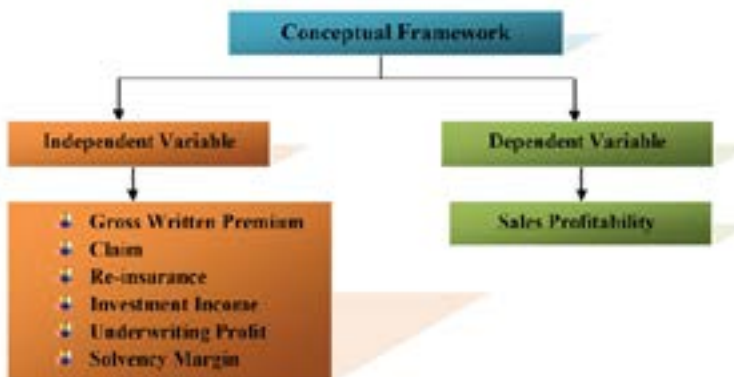

Sample Size

Research paper includes 4 public sector general insurance companies which are operating in India. The data has been collected through their financial reports that were presented during the last 10 years i.e. from the financial year 2011-12 to 2020-21 respectively.

Model Specification

In testing of association between the financial performance, the following static panel data model has been specified in order to test the effect on the performances of public sector general insurance company:-

$$SP = a_0 + \beta1(GWPit) + \beta2(Cit) + \beta3(RIit) + \beta4(IIit) + \beta5(UPit) + \beta6(SMit) \, \varepsilonit$$

Statistical Techniques
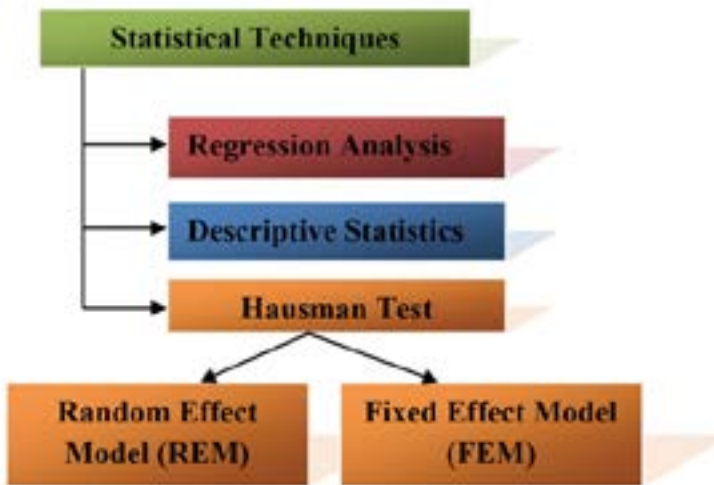
In order to investigate the financial performance and its impact some of the key financial ratios have been employed along with regression analysis and Hausman Test for better analysis.

Sources of Data

Secondary sources of data have been used in conducting the study.

Study Period

Study has been conducted for a period of 10 years that is from 2011-12 to 2020-21 respectively.

Limitations of the Study

- The Study has been confined only to 4 public sector general insurance companies operating in India.

- There may be other indicators affecting the financial performances apart from the variables employed in the study henceforth results may vary.

- As only public sector general insurance company has been taken up for the study, the same outcome may or may not hold good for the private sector general insurance companies operating in India.

Hypothesis Used in the Study

H_0 : ROA,NPM, YOTI,CTR,DPR,IR,RI ,GR,UER,LR,IP ,ID,SM does not have a significant impact on ROP

H_1 : ROA has a significant impact on ROP

H_2 : NPM has a significant impact on ROP

H_3 : YOTI has a significant impact on ROP

H_4 : CTR has a significant impact on ROP

H_5 : DPR has a significant impact on ROP

H_6 : IR has a significant impact on ROP

H_7 : RI has a significant impact on ROP

H_8 : GR has a significant impact on ROP

H_9 : UER has a significant impact on ROP

H_{10} : LR has a significant impact on ROP

H_{11} : IP has a significant impact on ROP

H_{12} : ID has a significant impact on ROP

H_{13} : SM has a significant impact on ROP

4. DATA ANALYSIS AND INTERPRETATION

Table 4.1 Showing Reliability Statistics:-

Reliability Statistics	
Cronbach's Alpha	N of Items
.361	15

Table 4.2: Showing Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Return on Asset	40	-5.70	6.29	1.0080	2.89784
Yield on Total Investment	40	6.32	22.39	12.1793	4.08053
Net Profit Margin	40	-18.14	19.09	3.7488	8.88225
Return on Profit	40	-29.50	14.68	-2.9493	10.20372
Capital Turnover Ratio	40	18.68	39.47	30.4435	5.12985
Dividend Payout Ratio	40	.00	25.22	2.3412	6.45027
Interest Rate	40	.65	.87	.7290	.06080
Reinsurance	40	.62	.93	.8240	.06800
Growth Rate	40	-6.60	8.70	5.4700	4.30957
Unemployment Rate	40	5.30	8.00	5.7000	.80000
Literacy Rate	40	69.30	74.37	70.8210	2.35296
Insurance Penetration	40	.70	1.00	.8310	.11254
Insurance Density	40	10.00	19.00	14.2200	3.83848
Solvency Margin	40	.02	3.56	1.7370	.74852
Inflation Rate	40	3.40	10.00	5.8100	2.14713
Valid N (List Wise)	40				

Table 4.3: Showing One-Sample Kolmogorov-Smirnov Test

		Return On Asset	Yield On Total Investment	Net Profit Margin	Return On Profit	Capital Turnover Ratio	Dividend Payout Ratio	Interest Rate	Reinsurance	Growth Rate	Unemployment Rate	Literacy Rate	Insurance Penetration	Insurance Density	Solvency Margin	Inflation Rate
N		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Normal Parameters[a,b]	Mean	1.0080	12.1793	3.7487	-2.9493	30.4435	2.3413	.7290	.8240	5.4700	5.7000	70.8210	.8310	14.2200	1.7370	5.8100
	Std. Deviation	2.89784	4.08053	8.88225	10.20372	5.12985	6.45027	.06080	.06800	4.30957	.80000	2.35296	.11254	3.83848	.74852	2.14713
Most Extreme Differences	Absolute	.221	.206	.200	.124	.127	.458	.183	.152	.303	.446	.441	.210	.261	.130	.228
	Positive	.125	.206	.106	.065	.069	.458	.183	.091	.227	.446	.441	.209	.261	.130	.228
	Negative	-.221	-.162	-.200	-.124	-.127	-.358	-.097	-.152	-.303	-.309	-.259	-.210	-.238	-.101	-.153
Kolmogorov-Smirnov Z		1.397	1.303	1.262	.783	.801	2.898	1.159	.958	1.915	2.822	2.789	1.331	1.649	.824	1.442
Asymp. Sig. (2-tailed)		.040	.067	.083	.572	.543	.000	.136	.317	.001	.000	.000	.058	.009	.505	.031

a. Test distribution is Normal.

b. Calculated from data.

Table 4.4: Showing Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.848[a]	.718	.561	6.76350	2.029
a. Predictors: (Constant), Inflation Rate, Yield on Total Investment, Unemployment Rate, Capital Turnover Ratio, Reinsurance, Interest Rate, Insurance Penetration, Solvency Margin, Dividend Payout Ratio, Return on Asset, Literacy Rate, Growth Rate, Insurance Density, Net Profit Margin					
b. Dependent Variable: Return on Profit					

Table 4.5: Showing ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2916.898	14	208.350	4.555	.000[b]
	Residual	1143.622	25	45.745		
	Total	4060.521	39			
a. Dependent Variable: Return on Profit						
b. Predictors: (Constant), Inflation Rate, Yield on Total Investment, Unemployment Rate, Capital Turnover Ratio, Reinsurance, Interest Rate, Insurance Penetration, Solvency Margin, Dividend Payout Ratio, Return on Asset, Literacy Rate, Growth Rate, Insurance Density, Net Profit Margin						

Table 4.6: Showing Coefficients

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	44.667	85.726		.521	.607
	Return on Asset	-2.402	3.495	-.682	-.687	.498
	Yield on Total Investment	-.991	.453	-.396	-2.186	.038
	Net Profit Margin	1.188	1.192	1.034	.996	.329
	Capital Turn-over Ratio	-.117	.315	-.059	-.371	.714
	Dividend Pay-out Ratio	.288	.305	.182	.944	.354
	Interest Rate	-64.554	37.323	-.385	-1.730	.096
	Reinsurance	98.344	26.139	.655	3.762	.001
	Growth Rate	-.715	.687	-.302	-1.041	.308
	Unemployment Rate	-3.100	3.508	-.243	-.884	.385
	Literacy Rate	-.881	1.206	-.203	-.731	.472
	Insurance Pene-tration	12.807	42.922	.141	.298	.768
	Insurance Density	.429	1.636	.161	.262	.795
	Solvency Margin	.561	2.197	.041	.255	.801
	Inflation Rate	-.414	.892	-.087	-.464	.647
a. Dependent Variable: Return on Profit						

Table 4.7: Showing Residuals Statistics

Residuals Statistics[a]					
	Mini-mum	Maxi-mum	Mean	Std. De-viation	N
Predicted Value	-22.1029	13.1248	-2.9493	8.64825	40
Residual	-13.69460	9.74265	.00000	5.41513	40
Std. Predicted Value	-2.215	1.859	.000	1.000	40
Std. Residual	-2.025	1.440	.000	.801	40
a. Dependent Variable: Return on Profit					

Table 4.8: Showing Paired Samples Test

		Paired Samples Test							
Mean		Paired Differences					t	df	Sig. (2-tailed)
		Std. De-viation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Return on Profit - Capital Turnover Ratio	-33.39275	12.50456	1.97714	-37.39190	-29.39360	-16.889	39	.000
Pair 2	Return on Profit - Yield On Total Invest-ment	-15.12850	10.91316	1.72552	-18.61870	-11.63830	-8.767	39	.000
Pair 3	Return on Profit - Return On Asset	-3.95725	9.38453	1.48383	-6.95857	-.95593	-2.667	39	.011
Pair 4	Return on Profit - Dividend Payout Ratio	-5.29050	11.05320	1.74766	-8.82549	-1.75551	-3.027	39	.004
Pair 5	Return on Profit - Interest Rate	-3.67825	10.23818	1.61880	-6.95258	-.40392	-2.272	39	.029
Pair 6	Return on Profit - Reinsur-ance	-3.77325	10.16535	1.60728	-7.02429	-.52221	-2.348	39	.024
Pair 7	Return on Profit - Growth Rate	-8.41925	9.41999	1.48943	-11.43191	-5.40659	-5.653	39	.000
Pair 8	Return on Profit - Unem-ployment Rate	-8.64925	10.49200	1.65893	-12.00475	-5.29375	-5.214	39	.000
Pair 9	Return on Profit - Literacy Rate	-73.77025	11.37663	1.79880	-77.40867	-70.13183	-41.011	39	.000

Pair 10	Return on Profit - Insurance Penetra- tion	-3.78025	10.23806	1.61878	-7.05454	-.50596	-2.335	39	.025
Pair 11	Return on Profit - Insurance Density	-17.16925	12.28560	1.94252	-21.09837	-13.24013	-8.839	39	.000
Pair 12	Return on Profit - Solvency Margin	-4.68625	9.95073	1.57335	-7.86865	-1.50385	-2.979	39	.005
Pair 13	Return on Profit - Inflation Rate	-8.75925	9.96428	1.57549	-11.94598	-5.57252	-5.560	39	.000
Pair 14	Return on Profit - Net Profit Margin	-6.69800	10.30362	1.62914	-9.99326	-3.40274	-4.111	39	.000

Findings of the Study

- Findings of the study reveal that the above dependent and independent variables such as return on asset, yield on total investment, net profit margin, capital turnover ratio, dividend payout ratio, interest rate, reinsurance, growth rate, unemployement rate, literacy rate, insurance penetration, insurance density, solvency margin, inflation rate, majority outcomes depict that there is no significant impact except YOTI and SM.

- Whereas in case of paired sample test was conducted on each individual variables were tested to find out the quantum of significant impact on return on profit (ROP), the study showed that none of the key indicators i.e. either dependent or independent variable has a significant impact on the Return on Profit.

Table 5.1: Showing the Summary of the Results

Variables	Indicators	P Value	Impact	Decision
Internal	ROA	0.498	Not significant	Accept H_0
	NPM	0.329	Not significant	Accept H_0
	YOTI	0.038	Significant	Accept H_1
	CTR	0.714	Not significant	Accept H_0
	DPR	0.354	Not significant	Accept H_0
	RI	0.096	Not significant	Accept H_0
	SM	0.001	Significant	Accept H_1
External	IR	0.308	Not significant	Accept H_0
	GR	0.385	Not significant	Accept H_0
	UEM	0.472	Not significant	Accept H_0
	LR	0.768	Not significant	Accept H_0
	IP	0.795	Not significant	Accept H_0
	ID	0.801	Not significant	Accept H_0
	IFR	0.647	Not significant	Accept H_0

Conclusion

- The study concludes that the financial performance of public sector general insurance company that are operating in India has been performing better when compared to the rest of the general insurance companies that are doing business in India.

- Most of the indicators that were chosen for the study had been the key important variables which are so important where the company's productivity and profitability shall lay around these indicators so that the companies shall have a key focus on these variables.

Scope for further research

Four public sector general insurance companies which are operating in India has not been attracted FDI when investigated in its financial statement even though the policy has been liberalized and enhanced from 49% to 74% in the fiscal year 2021. Hence, there is scope for further research where a study can be conducted to find the reason behind why the public sector has not considered FDI as one of the important aspects in the current era where companies are keen to have these benefits.

References

Muthulakshmi, P., & Muthumoni, A. (2023). Determinants of Financial Performance–A Comparative Analysis of Public Sector Non-Life Insurers in India. *SDMIMD Journal of Management , 14* (1).

Sharma, A., Jadi, D. M., & Ward, D. (2018). Evaluating Financial Performance of Insurance companies using rating transition matrices. *The Journal of Economic Asymmetries , 18* (1).

Sumesara, K. G. (2020). A Comparative Study of the Financial Performance of General Insurance Corporation of India and Bajaj Alliance with special reference to caramel analysis model. *International Journal of Applied Research*, 244-249.

Thirupathi, D. T., & C.Balamurugan. (2022). A Study On Performance Evaluation of Public NonLife Insurance Companies In India. *Journal of Positive School Psychology, 6* (6), 2903-2917.

https://corporate.cyrilamarchandblogs.com/2022/08/fdi-liberalisation-in-insurance-companies-and-harmonisation-of-insurance-regulations-what-has-changed-in-the-year-gone

https://newindia.co.in/

https://uiic.co.in/

https://orientalinsurance.org.in/

https://nationalinsurance.nic.co.in/