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A Comparative Study of Financial Performance of Select Non-life Insurance Companies

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Abstract

Insurance is a type of financial product that provides a financial safety net against loss or damage in exchange for regular payments known as premiums. In insurance, a person or entity is insured and another party, the insurer, provides coverage for specified losses or damages. A well-developed insurance sector contributes for the growth of any country to a greater extent. The efficiency of insurance sector can be measured by studying its financial performance. The present study focuses on comparing the financial performance of select non-life insurance companies during the period 2010-11 to 2021-22. Two public sector companies- The New India Assurance Company Ltd and National Insurance Company Ltd and two private sector insurers- ICICI Lombard and Bajaj Allianz are considered for the study. The company's financial position is studied using CARAMEL Analysis. It was concluded that The New India Assurance Company Ltd leaded the select companies under study.

Key Words: Insurance, ratios, CARAMEL, financial performance, public sector, private sector, insurers

I. Introduction

Insurance is a risk management tool. It is used as a hedge against risk of financial losses that may result from any probable eventualities. Insurance is broadly divided into life and non-life insurances. According to previous study, Non-life insurance has various segments like fire, marine and miscellaneous comprising motor, health, travel, public liability, personal accident, aviation etc. The insurance sector in India is broadly classified into two- life insurance and non-life insurance sectors. (Mandal and Ghosh Dastidar,2014). The Indian Insurance sector initially comprised of only public sector companies. However it was opened for private players in 1992. After a long policy deliberation, private players were allowed to operate in the Indian market in 2000 through the enactment of "Insurance Regulatory and Development Authority Act" (Ashraf and Faiz, 2018). The number of private players has increased significantly now. The insurance sector comprises of one public sector life insurer and four public sector non-life insurers along with 23 private life insurers and 28 non-life private players. Non-life Insurance Companies Offer a variety of insurance products. They can broadly be classified into Fire, Marine and Miscellaneous that comprise of motor, health, liability, rural, cattle, engineering Aviation, personal accident products.

The insurance sector has become an integral part of every business and thus the economy. This necessitates the need to measure the efficiency and soundness for the insurance companies to understand their responsiveness to the changes occurring in different components of the economy. Hence a standard framework has been created by IRDAI to measure all the component and aspects based on some parameters which can be generalized for all the insurance companies (Ketankumar 2019). CARAMEL Framework is one such model which analyse the financial soundness and performance using category wise ratios.

II. Review of Literature:

1. **P. Muthulakshmi and A Muthumoni (March 2023),** have analysed the financial performance of public sector non-life insurance companies and the determinants for the performance, in their research work titled, " Determinants of Financial Performance – A Comparative Analysis of Public Sector Non-Life Insurers in India". The study was conducted for the financial years 2009-10 to 2021-22. Common determinants of net profit after tax of public sector non-life insurance companies are claims incurred and net premium earned are considered for the study. It was concluded that New India Assurance Company Ltd performed better followed United India Insurance Company Limited.
2. **Kamand Morara and Athenia Bongani Sibindi(November 2021),** have studied the factors determining the financial performance of insurance companies in their work, " Determinants of Financial Performance of Insurance Companies: Empirical Evidence Using Kenyan Data". The study used a sample of insurance companies comprising of life, non-life, composites and reinsurance companies. It was observed that the size of the insurer, reinsurance ratios, investment returns were positively related while the age of the firm was negatively related to the financial performance of a company. The study is limited to Kenya.
3. **Harwani D (2021),** in the research paper titled, " A Caramel Model Analysis of Selected Public Sector Nonlife Insurance Companies in India", examined the performance of public sector-nonlife insurance companies during the financial years 2014-15 to 2018-19. All the ratios of Caramel Model

have been used to analyse the financial performance of the companies. It was concluded that all the four companies focussed more on asset base rather than equity base.

4. **Vasani Sureshbhai Vithalbhai , Alok Kumar Chakrawal(2021),** identified CARAMEL model as the best model to analyse the financial soundness and performance of insurance companies, in their study titled, “Analysis of caramel model as a financial performance indicator in the insurance sector”. They have concluded that the financial health of an insurer individually or the sector as whole if a difficult task and reliability needs study in both primary and secondary works. However, the ratios under CARAMEL model help to analyse the financial performance.
5. **Abhiramy, G & Dr Hemalatha P (2021),** have studied financial performance of Oriental Company Ltd, in their paper, “Financial Performance Of Oriental Insurance Company Ltd”. The authors measured the productivity of the company using output maximisation model. It was concluded that the firm size and long-term investment are the most influencing factors for the financial performance in Indian life insurance companies. It was further concluded that the companies should focus on management of their total assets, long-term investment, current assets and liabilities to optimise their profits. The study further emphasised on use of panel data analysis including loss ratio, operating margin , premium growth rate and tangibility as independent variables.
6. **Saket Rathi, Sunita Jatav (2020),** in their paper titled “ Comparative Assessments of Financial Performance of Selected Public Sector Non-Life Insurance Companies of India” have analysed and compared the financial performance of the Public sector Non-life insurance companies during the period 2009-10 to 2019-20. A study of ratios like combined ratio, expense of management to gross direct premium, expense of management to net written premium, gross direct premium to net worth ratio, gross premium growth rate, liquid assets to liabilities, net commission ratio, net earnings ratio, operating profit ratio, underwriting balance ratio, etc were studied to rank the public sector general insurance companies on the basis of their financial performance. Among all, the New India Assurance Company Limited was found to lead the market while National Insurance Company was the last.
7. **Surya M & Sudha B(2020)** presented the core set of quantitative financial soundness indicators in their study, “ Insurance Financial Soundness Indicator- Caramel Model”. They have identified various ratios that form part of CARAMEL Model for life and non-life insurance companies in India.
8. **Ketankumar G Sumeswara (2019)** has studied the financial performance of select general insurance companies in his research work titled, “A comparative study of the financial performance of general Insurance Corporation of India and Bajaj alliance with special reference to Caramel Analysis Model”.

It was concluded that there is significant difference in the ratios of the companies and both have performed differently towards risks arising in the economy.

9. **Neha Verma, Dr. Sumninder Kaur Bawa(2017)** analysed the performance of the Indian Re-insurance company- GIC Re for the period of 2004-05 to 2013-14 using CARAMELS Model. It was found that Earning and Profitability, Liquidity of the company needs to be improved .
10. **Nikolina Smajla (2014)** has studied about financial soundness of insurance companies in his research work titled, " Measuring Financial Soundness of Insurance Companies by using CARAMELS Model- Case of Croatia". The author has used Capital adequacy, Asset quality, Reinsurance, Adequacy of claims and actuarial, Management soundness, Earnings and profitability, Liquidity and Sensitivity to market risk ratios to study about the financial soundness of insurance companies in Croatia.

III. Objectives of the Study:

1. To measure and analyse the financial performance of select non-life insurers in India
2. To compare the financial performance of the select companies using CARAMEL analysis.

IV. Research Methodology

A. Sample:

Four companies two each from public and private sectors are selected for the study. The New India Assurance Company Ltd, National Insurance Company Ltd from public sector companies, ICICI Lombard and Bajaj Allianz from the private sector were considered for the study.

B. Data Collection:

The data required for the study was collected from annual reports of the above mentioned companies.

C. Methodology:

CARAMEL Analysis and the ratios required for the analysis. Ranking Method has also been used.

D. Period of the Study:

Annual reports of past twelve years from 2010-11 to 2021-22

V. Data Analysis

A holistic assessment of financial performance of a company can be done using the financial ratios. These ratios also help in evaluating the company's performance against its peers in the industry. They are not an end but a means to understand the performance.

Financial soundness indicators used for banking sector are known as CAMELS framework (Capital adequacy, Asset quality, Management soundness, Earnings and profitability, Liquidity and Sensitivity to market risk) These are generally used and have shown good results in the financial soundness measurement of Banks. Quantitative soundness indicators are presented in CARAMELS framework (Capital adequacy, Asset quality, Reinsurance, Adequacy of claims and actuarial, Management soundness, Earnings and profitability, Liquidity and Sensitivity to market risk) for insurance companies. This adds the reinsurance and actuarial part to the CAMELS framework. Das, Davies and Podpiera (2003) have proposed a set of indicators for the insurance sector (grouped separately for life and non-life insurance) that should be compiled and used for surveillance of the financial soundness of insurance companies and the insurance sector as a whole. However, a few ratios only are considered for the current study.

The follow ratios are studied for understanding the Financial Soundness of Non-life Insurance Companies

Category	Indicator
Capital adequacy	Net premium/capital Shareholders fund/Total Assets
Asset quality	Equity Share Capital/Total Assets
Reinsurance and actuarial issues	Risk retention ratio (Net premium/Gross premium)
Management soundness	Operating Expenses/Gross Premium
Earnings and profitability	1.Claim Analysis (Net claims/Net premium) 2.Operating Analysis (Operating expense/Net premium) 3.Net Commission/Net Premium 4. Net Income from investment/Net earned Premium 5.Return on equity (ROE) 6. Profit after Tax/Net Worth
Liquidity – Financial Soundness	Total Assets/Total Liabilities Liquid assets/current liabilities
Solvency Ratios	Solvency Ratio

Sources: Compiled from IMF Working Paper on insurance and Issue in financial Soundness, WP/03/138(2003)

1. Capital Adequacy Ratio

Capital helps the financial system remain stable and effective. It indicates whether an insurance firm has enough capital to cover losses brought on by claims. A higher capital adequacy ratio indicates that the company has enough capital to operate smoothly. Capital adequacy of a company can be understood using three ratios

a) Ratio of Net Premium to Capital: This ratio indicates the risk taking ability of a company. Underwriting a lot of risk is quite unpredictable and could jeopardise a company's ability to maintain a strong capital position. The IRDA has not established a standard benchmark for this, although generally speaking, a ratio of 100 to 200 percent may be regarded as satisfactory. This criterion was supported by Rani and Shankar (2014) for insurance providers.

Table 1: Net earned Premium/Shareholder's funds (Percentage)

Company/ Year	NIA	National	ICICI Lombard	Bajaj Allianz
2010-11	101.91	325.11	198.14	276.51
2011-12	124.28	350.62	281.79	281.17
2012-13	132.79	315.99	234.77	255.17
2013-14	140.1	304.21	188.9	225.97
2014-15	136.96	274.02	156.82	18.013
2015-16	152.31	311.99	171.14	163.9
2016-17	161.61	279.31	177.03	149.987
2017-18	127.98	651.19	172.75	150.74
2018-19	136.33	6164.55	179.28	152.87
2019-20	149.62	-431.49	157.17	134.68
2020-21	147.5	2202.2	143.71	103.99
2021-22	158.54	441.38	148.08	92.98

The above table indicates that though National Insurance company had enough capital to manage the business from 2010-11 to 2016-17, it has seen an abnormal increase during the years 2017-18 and 2018-19. The ratio was very inconsistent being negative in 2019-20, increased in 2020-21 and then fell back to 441.38 in 2021-22.

b) Ratio of Shareholders funds to Total Assets: The ratio of shareholder's funds to total assets indicates the portion of the shareholder's funds in the total assets of the company. It also indicates the effective application of share holder's funds to generate assets for the company.

Table 2: Shareholders funds/Total Assets				
Company/ Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	0.18	0.09	0.19	0.19
2011-12	0.17	0.1	0.14	0.18
2012-13	0.17	0.1	0.15	1.92
2013-14	0.16	0.11	0.18	0.21
2014-15	0.16	0.13	0.21	0.25
2015-16	0.16	0.12	0.2	0.27
2016-17	0.16	0.12	0.16	0.28
2017-18	0.21	0.05	0.15	0.26
2018-19	0.2	0.48	0.16	0.3
2019-20	0.21	-0.07	0.17	0.3
2020-21	0.2	1.52	0.19	0.27
2021-22	0.19	0.07	0.18	0.3

The above table indicates that there is a fall in 2018-19 for all New India and Bajaj Allianz while National Insurance has seen the fall in 2017-18 and 2019-20 to a greater extent

2. Asset Quality Ratio:

Asset Quality implies the quality of assets of the company which absorbs or covers the financial strength of the company as well as liability. The ratio of equity share capital to total assets indicates amount of total assets contributed by equity capital of the company.

Table 3: Asset Quality Ratio				
Eq.sh cap/Total assets (in percentage)				
ear	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	0.505	0.515	4.917	2.479
2011-12	0.474	0.502	4.148	2.049
2012-13	0.438	0.417	3.682	16.861
2013-14	0.377	0.370	3.286	1.418
2014-15	0.324	0.330	3.270	1.238
2015-16	0.318	0.347	2.855	1.049
2016-17	0.289	0.309	1.932	0.866
2017-18	0.552	0.288	1.526	0.651
2018-19	1.037	0.308	1.360	0.651
2019-20	1.104	8.093	1.227	0.559
2020-21	0.914	15.001	1.157	0.424
2021-22	0.872	23.152	0.965	0.401

The above table shows that the percentage of equity share capital to total assets has been decreasing over the period of study for all the companies except National Insurance Company Ltd. This company also saw the decreasing trend till 2017-18 but started increasing from 2018-19

3. Risk Retention Ratio: This measures the risk retention capacity of the insurance companies. This ratio indicates the level of risks retained by the insurer vis-à-vis that ceded to the reinsurers. Reinsurance plays an essential role in the risk-spreading process.

Table 4: Reinsurance & Actuarial Issues(Risk Retention Ratio)				
Net prem/Gross prem(in percentage)				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	87.44	86.3	71.34	73.83
2011-12	87.07	88.96	79.78	73.33
2012-13	86.53	86.54	67.58	77.95
2013-14	87.98	91.81	65.61	82.04
2014-15	86.01	92.06	66.3	75.63
2015-16	84.22	92.96	67.17	77.49
2016-17	82.48	73.91	61.49	68.96
2017-18	78.4	70.58	63.49	70.97
2018-19	80.76	63.57	65.84	70.06
2019-20	79.18	61.71	72.42	62.46
2020-21	83.09	89.13	76.3	58.75
2021-22	81.39	92.85	75.04	56.3

The table shows that though the ratios are fluctuating, every company has been maintaining the same ratios. Among all the above four companies, Bajaj Allianz has the lowest risk bearing capacity and the ratio decreased tremendously from 73.83% to 56.3% from 2010-11 to 2021-22.

4. Management Soundness Ratio:

This ratio shows the efficiency of management towards financial stability of the company. The ratio of operating expenses to gross premium is studied to understand the management soundness. This ratio indicates the proportion of operating expenses incurred in underwriting the gross premium. The lower the ratio, the better it is for the company.

The ratios of the four companies have been fluctuating during the study period. However, New India Assurance and Bajaj Allianz have the lowest ratios, while National Insurance has the highest ratios.

Table 5: Management Soundness				
Operating exp/Gross Premium (percentage)				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	23.62	26.02	15.99	20.65
2011-12	20.51	21.19	16.95	18.29
2012-13	19.99	20.98	16.6	18.71
2013-14	19.16	22.16	17.72	18.24
2014-15	19.77	27.67	20.77	17.8
2015-16	19.79	29.3	21.15	19.33
2016-17	17.51	23.33	18.48	17.71
2017-18	14.03	17.93	17.09	14.81
2018-19	15.16	17.16	13.9	16.28
2019-20	12.88	28.66	17.22	18.08
2020-21	17.03	24.21	19.53	16.32
2021-22	11.30	21.45	21.81	15.7

5. Earning & Profitability Ratios:

Earnings and profitability of any company reflects the strength of its existence in the market. Undoubtedly, earnings are the key and the long term sources of capital. Low profitability leads to solvency problems. The ratio signifies the capacity of the insurers in creating earnings by making profits. IMF working paper has proposed numerous ratios to evaluate the performance of insurance companies

a) Operating Analysis: This is the ratio of operating expenses to net premium. It indicates the amount of operating expenses incurred in underwriting net premium. Lower the ratio, better the profitability of the company. Therefore, the operating expense is taken as the amount of operating expenses related to insurance business and the net premium is the amount obtained after deducting reinsurance ceded and adding reinsurance accepted from and to the gross premium amount.

Table 6: Earnings & Profitability Ratios				
Operating exp/Net Premium (percentage)				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	27.02	30.15	22.41	27.96
2011-12	23.55	23.82	21.24	24.94
2012-13	23.11	24.24	24.56	24
2013-14	21.77	24.14	27	22.24
2014-15	22.99	30.06	31.33	23.53
2015-16	23.5	31.41	31.49	24.95
2016-17	21.23	31.57	30.05	25.68
2017-18	17.89	25.4	26.92	20.87
2018-19	18.78	27	21.11	23.24
2019-20	16.27	46.43	23.79	28.95
2020-21	20.5	27.17	25.59	27.77
2021-22	13.89	23.1	29.06	27.89

The table depicts that operating ratio for all the companies under study is more or less the same. However, the ratio of New India Assurance has been declining and the least among all while the other three companies are more or less the same.

b) Claim Analysis: This ratio indicates the proportion of net premium that has been paid towards claims incurred. Lower the ratio, better for the company. The percentage of net premiums have been highest for both the public sector companies but on lower side for the private companies. Though there is a declining trend in the claims ratio of all, the public sector companies have the high ratio in 2021-22 which is an increase over previous years.

Table 7: Earning & Profitability Ratios				
Net Claim/Net Premium(Percentage)				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	100.72	85.78	90.09	80.44
2011-12	92.28	76.43	87.64	79.06
2012-13	86.54	80.31	81.51	74.83
2013-14	85.37	74.82	80.46	74.22
2014-15	84.02	73.89	77.77	73.18
2015-16	87.84	92.03	72.28	74.44
2016-17	91.26	99.54	75.12	72.47
2017-18	85.66	112.26	67.75	70.15
2018-19	95.39	118.48	66.13	61.85
2019-20	91.43	108.46	7107	72.45
2020-21	84.19	76.67	64.3	68.66
2021-22	99.46	105.76	72.51	73.15

c) Commission Analysis : This ratio indicates the percentage of net premium received paid as commission to the agents and other parties for procuring the business. The ratio is highest for public sector companies indicating that most of the business is procured through the agents.

Table 8: Earning & Profitability Ratios				
Net Commission/Net Premium (percentage)				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	9.02	4.74	-1.79	1.75
2011-12	10.23	5.2	-1.49	2.77
2012-13	8.21	4.91	-4.42	3.09
2013-14	9.02	6.19	-5.09	3.59
2014-15	9.64	5.44	-8.44	1.23
2015-16	9.38	5.55	-6.03	2.05
2016-17	7.43	2.74	-6.58	0.67
2017-18	9.25	0.1	-3.62	4.72
2018-19	10.23	8.47	2.34	4.82
2019-20	9.75	8.51	3.78	1.14
2020-21	9.4	7.65	5.62	0.67
2021-22	7.93	6.85	4.7	-1.21

d) Net income from investments to Net earned Premium: This is the ratio of income generated from sources other than premium to that of premium collected. The ratio declined from 2010-11 to 2021-22 for public insures while it increased for private insurers.

Table 9: Earning & Profitability Ratios
Net Income from investment/Net earned Premium

Year	NIA	National	ICICI Lombard	Bajaj Allianz
2010-11	32.4	26.89	8.54	9.39
2011-12	26.73	20.42	7.5	10.78
2012-13	27.17	21.65	11.18	11.95
2013-14	26.43	19.17	14.66	12.32
2014-15	19.45	20.17	17.26	13.22
2015-16	17.82	26.1	17.11	13.56
2016-17	16.79	28.06	15.18	13.91
2017-18	17.89	24.15	14.36	13.13
2018-19	17.61	27.35	14	11.96
2019-20	19.2	18.1	16	14.93
2020-21	16.48	21	15.58	16.09
2021-22	16.19	20.81	16.98	17.92

e) Return on Equity: This ratio measures the efficiency of the company in utilising its equity share capital in generating profits. A higher ratio signifies the profitability of the business and thus more dividends to the equity shareholders. Net profit after tax and paid share equity are considered for calculating the ratio.

Table 10: Earning & Profitability Ratios
Return on Equity=PAT/Equity Share Capital (percentage)

Year	NIA	National	ICICI Lombard	Bajaj Allianz
2010-11	-210.78	74.89	-19.86	39.26
2011-12	89.66	325.21	-95.36	112.18
2012-13	421.83	697.85	69.97	267.7
2013-14	544.48	822.89	114.9	371.04
2014-15	715.61	970.11	119.93	510.14
2015-16	414.34	149.23	113.39	511.87
2016-17	503.97	45.84	155.58	660.31
2017-18	534.2	-2170.77	189.84	835.77
2018-19	70.36	-1696.12	230.96	707.55
2019-20	172.06	-164.33	262.67	906.11
2020-21	194.74	-9.9	324.04	1206.68
2021-22	19.94	17.86	258.92	1214.88

The above table shows fluctuations in ROE to a greater extent. The private sector companies show an increasing trend while the public sector companies depict declining ROE. The ROE for National Insurance has been negative during the years 2017-18 to 2020-21. While all the three companies showed an increase during 2021-22, there is a great fall in ROE of New India Assurance Co. Ltd.

f) Profit After Tax/Net worth: This ratio shows the proportion of profit after tax of Net worth. The below table depicts greater fluctuations for National Insurance Company Ltd as the ratio has gone up to -1083.44% during 2018-19. It can be observed that private insurers were more consistent than public companies.

Table 11: Earning & Profitability Ratios
Profit After Tax/Net Worth (percentage)

Year	NIA	National	ICICI Lombard	Bajaj Allianz
2010-11	-5.97	4.52	-5.25	5.18
2011-12	2.54	16.4	-28.55	12.9
2012-13	10.9	27.71	17.32	23.51
2013-14	12.63	26.57	21.48	24.57
2014-15	14.72	25.59	18.97	25.27
2015-16	8.44	4.17	15.98	20.23
2016-17	9.14	1.21	18.84	20.59
2017-18	14.28	-123.3	18.98	20.63
2018-19	3.68	-1083.44	19.72	15.33
2019-20	9.02	187.58	19.46	16.78
2020-21	9.02	-97.86	19.81	18.65
2021-22	0.9	60.88	13.95	16.04

6. Liquidity Ratios:

a) Total Assets to Total Liabilities: This ratio signifies the ratio of assets to liabilities. This implies the amount of total assets including both capital and current assets that are available to meet total liabilities. It can be observed that all the companies maintained a consistent ratio for the study period.

Table 12: Liquidity Ratios				
Total Assets/Total Liabilities				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	1.22	1.09	1.23	1.23
2011-12	1.2	1.11	1.16	1.22
2012-13	1.2	1.12	1.17	-1.09
2013-14	1.19	1.13	1.21	1.27
2014-15	1.19	1.14	1.26	1.33
2015-16	1.19	1.14	1.25	1.36
2016-17	1.19	1.13	1.19	1.38
2017-18	1.26	1.05	1.18	1.36
2018-19	1.25	1	1.19	1.43
2019-20	1.27	0.93	1.2	1.43
2020-21	1.25	-1.93	1.23	1.38
2021-22	1.24	1.07	1.22	1.44

b) Current Ratio: This ratio is used to study the short-term solvency position of the companies. Good liquidity helps an insurance company meet its policyholder's obligations promptly. Sufficient liquidity allows insurers to handle unforeseen cash needs without having to sell investments prematurely, which could lead to significant losses due to temporary market conditions or tax implications. None of the companies maintained the required current ratio of 2:1.

Table 13: Liquidity Ratios				
Current Ratio				
Year	**NIA**	**National**	**ICICI Lombard**	**Bajaj Allianz**
2010-11	0.41	0.9	0.34	0.19
2011-12	0.43	3.33	0.31	0.21
2012-13	0.6	0.27	0.39	0.25
2013-14	0.63	0.35	0.49	0.24
2014-15	0.71	0.39	0.56	0.29
2015-16	0.52	0.41	0.7	0.33
2016-17	0.71	0.45	0.3	0.29
2017-18	0.76	0.43	0.37	0.35
2018-19	0.89	0.29	0.43	0.35
2019-20	0.87	0.29	0.46	0.43
2020-21	0.92	0.31	0.58	0.43
2021-22	0.86	0.4	0.64	0.4

7. Solvency Ratio : This ratio is calculated as the available solvency ratio to statutory solvency ratio. The adequacy of solvency margin forms the basic foundation for meeting the policyholder's obligations. Insurance companies must adhere to the solvency margin requirements set by the regulator. Currently, the Insurance Regulatory and Development Authority of India (IRDAI) has established a minimum solvency margin of 1.5x for insurance companies in India.

Table 14: Solvency Ratios

Year	NIA	National	ICICI Lombard	Bajaj Allianz
2010-11	1.66	1.3	2.46	3.44
2011-12	2.13	0.62	2.9	3.45
2012-13	2.11	0.02	2.17	2.54
2013-14	2.13	1.04	2.24	2.55
2014-15	2.58	1.55	2.05	2.76
2015-16	2.19	1.9	2.1	2.61
2016-17	2.3	1.26	1.82	2.51
2017-18	2.44	1.52	1.95	1.82
2018-19	3.56	1.55	1.72	1.96
2019-20	3.35	1.5	1.55	1.79
2020-21	2	1.37	1.36	1.56
2021-22	2.9	1.34	1.56	1.15

The above table depicts that all the aforementioned companies are maintaining a good solvency ratio and thus will be able to meet the policyholder obligations.

The below tables represent the ranks assigned to the select non-life insurers' under review based on their relative performances covering the period from 2010-11 to 2021-22, in accordance with the set of FSIs studied.

Depiction of Ranks for New India Assurance Co Ltd and FSI's Used															
Ratios	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Average	Average Rank	Final Rank
Net earned Prem/ Shareholder's funds	4	4	4	4	3	4	3	4	4	2	2	2	3.33		
Sh.hold funds/Total Assets	3	2	2	3	3	3	3	2	2	2	2	2	2.42		
Eq.sh cap/Total assets	4	4	3	3	4	4	4	3	2	3	3	3	3.33		
Net prem/Gross prem	1	2	2	2	2	2	1	1	1	1	2	2	1.58		
Operating exp/gross prem	2	2	2	2	3	3	4	4	3	4	3	4	3.00		
Net Claim/Net Premium	1	1	1	1	1	2	2	2	2	3	1	2	1.58		
Operating exp/Net prem	3	3	4	4	4	4	4	4	4	4	4	4	3.83	2.39	1
Net Comm/Net Prem	1	1	1	1	1	1	1	1	1	1	1	1	1.00		
Net Invest income/ Net earned Premium	1	1	1	1	2	2	2	2	2	1	2	4	1.75		
Return on Equity	4	3	2	2	2	2	2	2	3	3	3	3	2.58		
PAt/networth	4	3	4	4	4	3	3	3	3	4	3	4	3.50		
Total Assets/Tot liab	3	2	1	3	3	3	3	2	2	2	2	2	2.33		
Current Ratio	2	2	1	1	1	2	1	1	1	1	1	1	1.25		
Solvency Ratio	3	3	3	3	2	2	2	1	1	1	1	1	1.92		

Depiction of Ranks for National Insurance Co Ltd and FSI's Used															
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Average	Average	Final
Net earned Prem/ Shareholder's funds	1	1	1	1	1	1	1	1	1	4	1	1	1.25		
Sh.hold funds/ Total Assets	4	4	4	4	4	4	4	4	4	4	4	4	4.00		
Eq.sh cap/Total assets	3	3	4	4	3	3	3	4	4	1	1	1	2.83		
Net prem/Gross prem	2	1	1	1	1	1	2	3	4	4	1	1	1.83		
Operating exp/gross	1	1	1	1	1	1	1	1	1	1	1	2	1.08		
Net Claim/Net Premium	3	4	3	3	3	1	1	1	1	2	2	1	2.08		
Operating exp/Net prem	1	2	2	2	2	2	1	2	1	1	2	3	1.75	2.42	2
Net Comm/Net Prem	2	2	2	2	2	2	2	3	2	2	2	2	2.08		
Net Invest income/ Net earned Premium	2	2	2	2	1	1	1	1	1	2	1	1	1.42		
Return on Equity	1	1	1	1	1	3	4	4	4	4	4	4	2.67		
PAt/networth	2	1	1	1	1	4	4	4	4	1	4	1	2.33		
Total Assets/Tot liab	4	4	3	4	4	4	4	4	4	4	4	4	3.92		
Current Ratio	1	1	3	3	3	3	2	2	4	4	4	3	2.75		
Solvency Ratio	4	4	4	4	4	4	4	4	4	4	3	3	3.83		

Depiction of Ranks for ICICI Lombard and FSI's Used															
Ratios	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Average	Average	Final
Net earned Prem/ Shareholder's funds	3	2	3	3	2	2	2	2	2	1	3	3	2.33		
Sh.hold funds/Total	2	3	3	2	2	2	2	3	3	3	3	3	2.58		
Eq.sh cap/Total	1	1	2	1	1	1	1	1	1	2	2	2	1.33		
Net prem/Gross	4	3	4	4	4	4	4	4	3	2	3	3	3.50		
Operating exp/gross	4	4	4	4	2	2	2	2	4	3	2	1	2.83		
Net Claim/Net	2	2	2	2	2	4	3	4	3	1	4	4	2.75		
Operating exp/Net	4	4	1	1	1	1	2	1	3	3	3	1	2.08	2.66	4
Net Comm/Net Prem	4	4	4	4	4	4	4	4	4	3	3	3	3.75		
Net Invest income/ Net earned Premium	4	4	4	3	3	3	3	3	3	3	4	3	3.33		
Return on Equity	3	4	4	4	4	4	3	3	2	2	2	2	3.08		
PAt/networth	3	4	3	3	3	2	2	2	1	2	1	3	2.42		
Total Assets/Tot liab	1	3	2	2	2	2	2	3	3	3	3	3	2.42		
Current Ratio	3	3	2	2	2	1	3	3	2	2	2	2	2.25		
Solvency Ratio	2	2	2	2	3	3	3	2	3	3	4	2	2.58		

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Depiction of Ranks for Bajaj Allianz and FSI's Used

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Average	Average	Final
Net earned Prem/ Shareholder's funds	2	3	2	2	4	3	4	3	3	3	4	4	3.08	2.52	3
Sh.holders funds/ Total Assets	1	1	1	1	1	1	1	1	1	1	1	1	1.00		
Eq.sh cap/Total	2	2	1	2	2	2	2	2	3	4	4	4	2.50		
Net prem/Gross	3	4	3	3	3	3	3	2	2	3	4	4	3.08		
Operating exp/gross	3	3	3	3	4	4	3	3	2	2	4	3	3.08		
Net Claim/Net	4	3	4	4	4	3	4	3	4	4	3	3	3.58		
Operating exp/Net	2	1	3	3	3	3	3	3	2	2	1	2	2.33		
Net Comm/Net Prem	3	3	3	3	3	3	3	2	3	4	4	4	3.17		
Net Income from investment/Net earned Premium	3	3	3	4	4	4	4	4	4	4	3	2	3.50		
Return on Equity	2	2	3	3	3	1	1	1	1	1	1	1	1.67		
PAt/networth	1	2	2	2	2	1	1	1	2	3	2	2	1.75		
Total Assets/Tot liab	1	1	4	1	1	1	1	1	1	1	1	1	1.25		
Current Ratio	4	4	4	4	4	4	4	4	3	3	3	3	3.67		
Solvency Ratio	1	1	1	1	1	1	1	3	2	2	2	4	1.67		

Based on the understanding from the above tables, it has been observed that The New India Assurance Company ranked first with an average of 2.39 followed by National Insurance Company with average of 2.42, while the private players Bajaj Allianz and ICICI Lombard stood third and fourth with average of 2.52 and 2.66 respectively. This also indicates that the public sector companies performed better compared to private sector companies.

VI. Conclusion

The liquidity ratios were found to be very low not meeting the statutory limit. This may be due to higher operating costs. The companies need to seriously address the higher operating expenses and claims costs which can be detrimental to their profitability position in the

long run. The study has witnessed negative ratios of PAT/Net worth for National Insurance. Also, the study included the period of Covid and its influence on Insurance Companies. However, it was also observed that the companies are slowly overcoming the ill effects of pandemic.,

The above study is limited to only four companies, two each from the public and private sectors. There is scope for further study extending to entire public and private sector insurers.

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