

FINANCIAL PERFORMANCE OF PUBLIC SECTOR HEALTH INSURANCE COMPANIES IN TELANGANA

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Abstract

The financial performance of public sector health insurance companies plays a critical role in ensuring accessible and affordable healthcare, particularly in emerging economies like India. This study examines the financial performance of major public sector health insurance providers operating in Telangana, focusing on key indicators such as premium growth, claim settlement ratio, underwriting performance, and profitability over a specified period. Using secondary data collected from annual reports, IRDAI publications, and government sources, the study employs ratio analysis and trend analysis to evaluate financial stability and operational efficiency. The findings reveal that while public sector insurers have demonstrated steady growth in premium income due to increased awareness and government-sponsored health schemes, they continue to face challenges such as high claim ratios, rising operational costs, and underwriting losses. However, improved claim management practices and policy support mechanisms have contributed to enhanced financial resilience in recent years. The study concludes that strategic reforms, technological integration, and efficient risk management are essential for sustaining the financial health of public sector health insurance companies in Telangana.

Keywords:

Financial Performance, Public Sector Insurance, Health Insurance, Telangana, Claim Settlement Ratio, Underwriting Profit/Loss, Premium Growth, IRDAI, Ratio Analysis, Operational Efficiency.

1. 1 INTRODUCTION

People today are increasingly exposed to uncertainties as a result of rapid economic and industrial development. More formalized means are required to mitigate losses resulting from adverse situations. No one can forecast the unpleasant scenario or the amount of loss that will occur, but he or she may manage in the present by purchasing insurance. Being diagnosed with an illness and having the need to be hospitalized can be a tough ordeal. A health insurance policy can cover such

expenses to a large extent. Well-to-do segment of the population both in rural and urban areas have acceptability and affordability towards medical care.

1.2 MEANING OF HEALTH INSURANCE

The Health Insurance Business is defined under Section 2 (6C) of the Insurance Act of 1938: "health insurance business" is the executing of contracts that provide for, sickness benefits, medical, surgical, or hospital spending benefits, in-patient or outpatient, travel insurance, and personal accident insurance are all available. In a narrow sense, health insurance refers to an individual or group purchasing health care coverage in advance by paying a premium; in a broader sense, it refers to any arrangement that assists individuals and households in deferring, delaying, reducing, or completely avoiding payment for health care. Given the applicability of this concept in the Indian context, this is the one we will use.

1.3 EVOLUTION OF HEALTH INSURANCE IN INDIA

The health care system in India is characterized by multiple systems of medicine, mixed ownership patterns and different kinds of delivery structures. Public sector ownership is voided between central and state governments, municipal and *Panchayat* local governments. Public health facilities include teaching hospitals, secondary level hospitals, first-level referral hospitals (CHCs or rural hospitals), dispensaries; primary health centres (PHCs), sub-centres, and health posts. Also included are public facilities for selected occupational groups like organized work force (ESI), defence, government employees (CGHS), railways, post and telegraph and mines among others.

1.4 TYPES OF INSURANCE

The types of insurance are presented as follows:

Life Insurance: It is the insurance which give protection from bad situation to insured person's family in case of death of insured or give a lump sum amount to insured at the end of maturity of policy which is great help for him. It is a contract between the insurer and insured upon human life. Life insurance is a way to secure the lives of rest of the family members when principal member of the family dies. So the main subject matter of life insurance is life of human being.

General Insurance: All insurance other than Life Insurance comes under General Insurance, like Fire Insurance, Marine Insurance, Motor Insurance, Health Insurance, Fidelity, Burglary, Liability Insurance etc.

Social Insurance: It is the insurance which provide protection to the weaker section of society. Such type of insurance is provisioned by the States and Central Governments. Pension, Sickness Insurance, Industrial Insurance, Disability Benefit etc., are the examples of Social insurance.

Health Insurance: Health insurance is protection against unforeseen losses arises at the time medical emergency. It provide sickness benefit, or medical/surgical or hospital expenses benefit at the time of accidental condition or illness, in return insured has to pay premium calculated on the basis of terms and health conditions of insured person. Insured is obligate to pay for only those disease or illness which is covered under the policy. Hence, one can say that, “Health Insurance is insurance against loss by illness or injury”.

1.5 NEED FOR THE STUDY

The health insurance market in India is very limited covering about 10 per cent of the total population. In India certain sectors like Railways, Army and employees working with the Central Government are covered. Some developed countries spend as much as 6% to 8% of their GDP on health. The escalating medical costs are due to the advanced diagnostic and therapeutic procedures. An insurance scheme will guarantee that no compromises are made in your treatment for wants of funds. Before asking best health insurance quote or plan to buy a health insurance plan which becomes an informed consumer. It is thus required now to observe how the private and public sector insurance companies are able to sustain and do business and to study their expansion, profitability and market share in such a competitive environment. Hence, it is clearly states that, there is a need to assess the financial performance of health insurance companies in India.

1.6 REVIEW OF LITERATURE

The important studies on this topic are presented as follows:

Pooja Kansra and Harinder Singh (2021) inspected the effectiveness and efficiency of health insurance business of public and private general insurance agencies in India. The study was made with the help of information envelopment investigation and Malmquist efficiency index. It was seen that mean of specialized proficiency of the public area organizations was higher than of private sector organizations. The absolute factor profitability change had diminished for all open general insurance agencies from 2006-2007 to 2013-2014, while private general insurance agencies had indicated colossal expansion in efficiency from 2006-2007 to 2013-2014. This could be because of the way that privately owned businesses had exploited mechanical change,

proficiency change, unadulterated specialized effectiveness change and scale productivity change. Along these lines, public general insurance agencies ought to extend their exercises and effort in the serious climate.

Sílvia Garcia-Mandicó Arndt Reichert Christoph Strupat (2021) used the roll-out of the national health insurance in Ghana to assess the cushioning effect of coverage on the financial consequences of health shocks and resulting changes in coping behaviours. We find a strong reduction in medical expenditures, preventing households from cutting non-food consumption and causing a decrease in the volume of received remittances as well as labour supply of healthy adult household members.

Moreover, the investigators presented evidence that the insurance scheme reduced the likelihood that households experiencing a health shock pulled their children out of school in order to put them to work. Avoidance of such costly coping mechanisms is potentially an important part of the social value of formal health insurance.

Muthusamy A. and Jansi Rani P. (2018)¹⁴ analyzed the selected three private sector general insurance company's overall financial performance for 5 years from 2013 to 2017. Based on the market performance of these three insurance companies are selected for this study. It is an empirical study based on data from IRDAI annual reports.

The hypothesis is to test different between the expenses of the sampled companies during the period of study. The analysis reveals that, there is a difference in expenses of selected all three private sector general insurance companies during the period.

1.7 RESEARCH GAP

Based on the findings of the aforementioned studies, health insurance in India has a strong development potential due to low penetration of insurance providers to meet the demands of low-income individuals. In addition to their traditional market of high-income individuals, insurance carriers must reach out to low-income individuals.

People's risk profiles are shifting dramatically from a conservative to a proactive strategy to budgeting for their health care bills. Where the cost of health care and the quantity spent on health bills is steadily rising, putting a strain on people's spare income and savings.

It is thus necessary to examine how private and public sector insurance companies are able to survive and thrive in such a competitive environment, as well as their expansion, profitability

and market share. According to the above reviews, there have been very few research studies on financial performance evaluation of health insurance companies. It clearly states that a research on financial performance evaluation of public and select private sector health insurance companies is need of the hour that how public sector retained their financial performance after the liberation and how the private sector health insurance companies financially retained in this competitive environment.

1.8 RESEARCH PROBLEM

The health insurance sector in India is one of the fastest expanding segments of the insurance industry, yet there are a number of issues that insurance firms, policyholders, third-party administrators, hospitals, and other stakeholders are dealing with. Insurance firms in India have greater claim pay-out ratios, while customers in India are less familiar with fundamental health insurance terms. It is critical for health insurance firms to provide better service to policyholders in order to maintain a healthy growth rate. As a result, the purpose of this research is to assess the financial health of a select health insurance business player in India.

1.9 RESEARCH QUESTIONS

The research problem is converted into the following research questions.

- 1) What is the financial performance of Public Sector Health Insurance Companies in India?
- 2) Is there any significant difference among the financial performance of the Public Health Insurance Companies?

1.10 OBJECTIVES OF THE STUDY

The following objectives are framed to address the above research questions:

1. To analyze the financial performance of Public Sector Health Insurance Companies in India.
2. To analyze the financial performance of select Public Sector Health Insurance Companies in India.
3. To compare the financial performance of public and select private sector health insurance companies in India.

1.11 HYPOTHESES OF THE STUDY

The above objectives are tested with the help of following hypotheses:

H01: There is no significant difference among financial performance of public sector health insurance companies in India.

H02: There is no significant difference among financial performance of select public sector health insurance companies in India.

1.12 RESEARCH METHODOLOGY

Research methodology used in this study is presented as follows:

Sources of Data

In this study secondary data has been used. Secondary data constitutes the main source of information, suitable for the purpose of present research work. The sources of secondary data were collected from Annual Reports of select companies and IRDA website.

Sample Size

The study has covered health insurance business establishments from public sector. All the public sector health insurance companies were taken for the study.

Table 1.1: Sample Health Insurance Companies

Sl.No.	Public Sector (all)
1	United India Insurance Company Limited (UIICL)
2	National Insurance Company Limited (NICL)
3	The Oriental Insurance Company Limited (OICL)
4	New India Assurance Company Limited (NIACL)

Caramel Model:

The performance of health insurance companies can be measured by a number of indicators. However, in the present study, CARMEL parameters are used to study the financial performance of health insurance companies. For measuring the financial performance of insurance companies on the basis of CARMEL parameters, the present study employs ratio analysis with the following methodology:

The description of CARMEL acronym and ratios calculated to test each acronym are:

A. Capital Adequacy: Capital Adequacy can be viewed as the key indicator of an insurer's financial soundness. Capital is seen as a cushion to protect insured and promote the stability and efficiency of financial system, it also indicates whether the insurance company has enough capital to absorb losses arising from claims. For the purpose of calculation of capital adequacy of companies under study, two ratios have been used, prescribed by IMF and World Bank (IMF, 2005). First is the ratio of Net Premium to Capital and second ratio is Capital to Total Assets.

Capital Adequacy Ratio: The ratio indicates the capacity of the health insurers to absorb losses.

It is calculated by using the following formulas:

(a) Share Capital to Total Assets Ratio = Share Capital/Total Assets

(b) Share Capital to Mathematical Reserve Ratio = Share Capital/Mathematical Reserves

Whereas

Share Capital = Equity share capital + Reserve and surplus – Debit balance of policy holders account – Debit balance of shareholders account – Miscellaneous expenditure

Total Assets = Fixed assets + Current assets + Investments.

Mathematical Reserves are Surplus after allocation of Bonus.

Net Premium to Share Holder’s Fund

Net Premium to Share Holder's Fund means the gamble emerging from guaranteeing tasks. Net expense is a perfect proxy for the quantum of held reimbursement risk, that is to say, risk the guarantor holds behind reinsurance.

Table no.1
Net Premium and Shareholder’s Fund of Selected Public Sector Non-Life Insurance
Companies during the Period from 2010-11 to 2022-23 (Rs.in Lakhs)

Year	National		New India		Oriental		United	
	Premium	Fund	Premium	Fund	Premium	Fund	Premium	Fund
2010-11	160231	927270	33420000	180722	556988	6041014	101862	34570
2011-12	178384	106117	29154000	199029	662040	6573267	110618	32970
2012-13	746848	251806	19281410	2317863	538711	258780	725094	495263
2013-14	868267	314842	1119687	969342	595397	292174	760330	536053
2014-15	989816	389125	1331529	1064965	642517	318183	881623	558903
2015-16	1079138	398670	1495983	1137372	702390	333790	1002287	73120
2016-17	1428236	403224	1781478	1217016	104288	18577055	201159	49525
2017-18	1624368	2093621	20825658	43175947	99663	15643192	226247	49075
2018-19	1517994	17606244	29772093	474388599	106732	8451223	242155	49150
2019-20	1531288	15,65,503	38869424	509977041	141188	10128398	257141	48435
2020-21	1418575	2522447	47285959	576833700	173045	9841652	287597	50630
2021-22	9293893	2894972	50434240	620364421	169752	110355128	324162	245705

2022-23	940149	2729724	53864161	640597004	1599261	125323116	371622	273720
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Source: IRDA

The higher capital sufficiency proportion is meticulous as great, albeit no benchmark has been endorsed by IRDA, be that as it may, to guarantee security against indebtedness, high capital ampleness proportion is positive.

Table no.2

Ratio of Net Premium and Shareholder’s Fund of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (In Percentage)

Year	National	New India	Oriental	United
	Net Premium	Net Premium	Net Premium	Premium
2010-11	17.27	18492.49	9.22	294.65
2011-12	168.10	14648.11	10.07	335.51
2012-13	296.59	831.86	208.17	146.40
2013-14	27.40	115.51	203.78	141.83
2014-15	254.36	125.03	201.93	157.74
2015-16	270.68	131.52	210.42	1370.74
2016-17	354.20	146.38	0.56	406.17
2017-18	77.58	48.23	0.63	461.02
2018-19	88.96	6.27	1.26	492.68
2019-20	97.81	7.62	13.94	530.89
2020-21	56.23	8.20	1.75	508.78
2021-22	321.03	8.12	0.15	131.93
2022-23	34.44	8.40	1.28	135.76

Source: Computed

*Ratio = Net Premium / shareholder’s fund *100

*Shareholder’s fund = Equity share capital + Reserve & Surplus

Result

The ratio of net premium to the shareholder’s Fund, witnessed for National Insurance Company Limited shows fluctuation ranging from 17.27 and 321.03 percentage and The New India Assurance Company Limited fluctuating trend in the ratio ranging between 6.27 and 18492.49 Percentage while for The Oriental Fire & General Insurance Company Limited shows fluctuating trend in the ratio

ranging between 0.15 and 210.42 percentage respectively simultaneously United India Insurance Company Limited also shows fluctuating trend in the ratio ranging between 131.93 to 1370.74 percentages. This indicates that the business was supported by the fair amount of capital for all the public insurers, however, the decreasing trend witnessed by National and New India was as a result of the more capital infusion this ratio indicates that United and Oriental insurers have retained more indemnity risk and which is to be covered by capital. Similarly, National and New India insurers have been able to shift indemnity risk and have fewer burdens on capital due to said risk retention.

B. Asset Quality: Asset quality is one of the most critical areas in determining the overall financial health of an insurance company. The primary factor effecting overall asset quality is the quality of the real estate investment and the credit administration program. Ratio of equities to total assets and ratio of Real Estate + Unquoted Equities + Debtors to Total Assets has been used, prescribed by IMF and World Bank.

Asset quality ratio measures the degree of exposure to equity risk. For computing this ratio Equity is divided by Total assets.

$$\text{Asset Quality Ratio} = \frac{\text{Equity Share Capital}}{\text{Total Assets}} \times 100$$

$$\text{Equity Share Capital} = \text{Equity share capital}$$

$$\text{Total Assets} = \text{Fixed assets} + \text{Current assets} + \text{Investments}$$

Table no.3

Equity Share Capital and Total Asset of Selected Public Sector Non-Life Insurance Companies during the Period from 2010-11 to 2022-23 (Rs. in Lacs)

Year	National		New India		Oriental		United	
	Equity	Asset	Equity	Asset	Equity	Asset	Equity	Asset
2010-11	100000	1936522	2000000	764470	1000000	19150809	1500000	89641850
2011-12	100000	1990826	2000000	803319	1000000	19154888	1500000	84342850
2012-13	100000	2400308	2000000	4537552	1000000	2636107	1500000	2332490
2013-14	100000	2705020	2000000	5301086	1000000	2979649	1500000	2567442
2014-15	100000	3030227	2000000	6171963	1000000	129109725	1500000	2872670
2015-16	100000	2884413	2000000	6288007	1000000	117623188	1500000	2800804
2016-17	100000	3239736	2000000	6917281	1000000	8846748	1500000	3381782
2017-18	100000	3478260	2000000	7662679	1000000	8117800	1500000	3618440

2018-19	100000	3243408	2000000	79475	1000000	372254161	1500000	3770516
2019-20	100000	3089059	2000000	74609	1000000	307699306	1500000	3600279
2020-21	100000	3783045	2000000	90189	1000000	342427281	1500000	4386419
2021-22	100000	4049306	2000000	94530	1000000	352885661	1500000	4506638
2022-23	100000	3889609	2000000	96603	1000000	351674524	1500000	4425350

Table No.4

Ratio of Equity Share Capital and Total Asset of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (In Percentage)

Year	National	New India	Oriental	United
2010-11	5.16	26.16	5.22	1.67
2011-12	5.02	24.89	5.22	1.77
2012-13	0.04	4.40	37.93	64.30
2013-14	3.69	3.77	33.56	58.42
2014-15	3.30	3.24	0.77	52.21
2015-16	3.46	3.18	0.85	53.55
2016-17	3.08	2.89	11.30	44.35
2017-18	2.87	2.61	12.31	41.45
2018-19	3.08	268.06	0.26	39.78
2019-20	3.23	268.06	0.32	41.66
2020-21	2.64	221.75	0.29	34.19
2021-22	2.46	211.57	0.28	33.28
2022-23	2.57	207.03	0.28	33.89

Analysis for calculated ratio for selected public sector non-life insurance companies

The ratio of Equity Share Capital to Total Assets, witnessed for National Insurance Company Limited shows fluctuation ranging from 0.04 and 5.16 percentage and The New India Assurance Company Limited fluctuating trend in the ratio ranging between 2.61 and 268.06 Percentage respectively, as the ratio of The Oriental Fire & General Insurance Company Limited shows fluctuating trend in the ratio ranging between 0.26 to 37.93 percentages Simultaneously, United India Insurance Company Limited shows fluctuating trend in the ratio ranging between 1.67 and 64.30 percentage. The entire selected Public Sector Non-Life insurer is having lower Asset Quality norms which shows that all these companies are more rely on an asset base in comparison to equity capital base.

C. Reinsurance and Actuarial Issues: Reinsurance and Actuarial issue ratios reflect the overall underwriting strategy of the insurer and depict the proportion of risk retained and passed on to the reinsurers and indicates the risk bearing capacity of the country’s insurance sector. IMF prescribes two ratios in this standard viz. ratio of Net Premium to Gross Premium and ratio of Net Technical Reserves/ Average of Net Claims paid in last three years. Ratios which are covered under this heading are:

$$\text{Ratio} = \text{Net Premium} / \text{Gross Premium} \times 100$$

Table No:5

Year	National		New India		Oriental		United	
	Net	Gross	Net	Gross	Net	Gross	Net	Gross
2010-11	538971	624517	719223	709714	48654	68568	511694	637666
2011-12	695285	781569	877121	854286	54210	81134	608724	817929
2012-13	6356213	1233856	1027417	1250458	139292	347595	748908	926604
2013-14	7212304	1481357	1207861	1430385	312899	312581	760330	970893
2014-15	7601000	112418900	139388	1605000	50678	101278	932602	1069173
2015-16	7528221	120189700	1591191	1837137	62440	104754	10023	12250
2016-17	7,747,077	1428236	18590	23021	922239	11117	13347	16063
2017-18	6,910,596	1624368	20956	26554	1002823	11737	12861	17430
2018-19	1,569,930	1517994	22121	28017	1084539	1348475	13792	16420
2019-20	1,377,215	1531288	24487	31244	1098869	1399601	13745	17515
2020-21	84,69,256	14,18,575	26966	33046	1100735	1274742	14081	16705
2021-22	92,88,944	13,07,683	29760	36835	1229963	1402043	13437	15722
2022-23	8,985,681	15,20,58,51	31127	34801	1433864	1599261	15397	17644

Source: IRDA

(a) Net Premium to Gross Premium Ratio: The ratio serves as an indicator of insurance risk management policy of insurers. It is computed by dividing the Net premium by Gross premium.

That is,

$$\text{Risk Retention Ratio: Net Premium/Gross Premium} \times 100 \quad \text{Whereas}$$

$$\text{Net Premium} = \text{Gross premium} - \text{Reinsurance ceded} + \text{Reinsurance accepted}$$

Table no.6

Ratio of Net Premium and Gross Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2010-11 to 2022-23 (In Percentage)

Year	National	New India	Oriental	United
2010-11	86.30	101.33	70.95	80.24
2011-12	88.96	102.67	66.81	74.42
2012-13	81.23	79.59	79.96	78.25
2013-14	84.62	81.56	81.76	78.31
2014-15	87.73	86.01	84.97	82.46
2015-16	89.79	84.22	81.56	81.82
2016-17	75.64	82.48	75.41	74.91
2017-18	425.43	78.91	8544.11	73.78
2018-19	103.42	78.95	80.42	83.99
2019-20	89.93	78.37	78.51	78.47
2020-21	597.02	81.60	86.34	84.29
2021-22	710.33	80.79	87.72	85.46
2022-23	59.09	89.44	89.65	87.26

Source: Computed

*Ratio = Net Premium / Gross Premium *100

Result

The analysis of risk retention ratio clearly indicates that the risk retention capacity of the public sector insurers have deteriorated during study period. National shows the fluctuation ranging from 86.30 (2010-11) to 59.09 (2022-23) during research period, as it shows progressive fluctuation up to 2021-22 and thereafter it shows major reduction for the last year of research period. New India showing fluctuation ranging 101.33 (2010-11) to 89.44 (2022-23) during research period, as it shows progressive fluctuation up to 2020-21 and thereafter it shows major reduction for the last two years of research period. Oriental shows the fluctuation ranging 70.95 (2010-11) to 89.65 (2022-23) during research period, as it shows progressive fluctuation up to 2017-18 and thereafter it shows major reduction for the last two years of research period. United shows fluctuation ranging 80.24 (2010-11) to 87.26 (2022-23) during research period, as it shows progressive fluctuation up to 2018-19 and thereafter it shows major reduction for the last two years of research period.

D. Management efficiency: The ratio reflects the efficiency in operations, which ultimately indicates the management efficiency and soundness. The indicator prescribed is Operating Expenses to Gross Premiums.

Management Soundness Ratio = Operating Expenses/Gross Premium × 100 Whereas

Operating Expenses = Operating expenses relating to insurance business + Commission paid to agents.

Table no.7
Operating Expenses and Gross Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (Rs.in Lacs)

Year	National		New India		Oriental		United	
	Expenses	Premium	Expenses	Premium	Expenses	Premium	Expenses	Premium
2010-11	160231	4268144	194323	719223	157254	545733	172528	511694
2011-12	178384	5260606	206581	877121	135446	604789	156606	677952
2012-13	191354	919461	237300	1187349	175873	673766	203716	926604
2013-14	227412	1026098	264410	1372761	179916	728254	219060	970893
2014-15	312646	1128262	306516	1548035	236225	756192	266790	1069173
2015-16	350901	1201898	351528	1776331	258009	861159	292407	1225036
2016-17	333207	1428236	378147	2159792	275554	1111702	296912	1606281
2017-18	485721	9,10,816	352902	22952	260943	1002823	308600	178087
2018-19	449844	10625043	403804	24035	244864	1084539	385100	189699
2019-20	544105	11684305	3827	26999	315990	1098869	343297	1374003
2020-21	455648	11365873	5377	28663	278204	1100735	390552	1408065
2021-22	381357	10249297	401378	32837	307958	1229963	414093	1343665
2022-23	628068	9330014	430066	34801	355681	1433824	630768	1539684

E. Earnings and Profitability: IMF prescribes five sub dimensions to this standard to limelight the earnings and profitability of the insurance companies. The standard is two-tier, covering both operational and non-operational efficiency of the insurance companies.

(a) Commission Expenses/Income Analysis: Commission whether paid or received is an important element for non-life insurer. As technically all the business of non-life insurer with reference to premium generation or risk acceptance is based on the business generated by an agent and agency policy of the organization. The ratio expresses the relationship between expenses and net Premium under written. The Expense ratios calculated in this chapter are as follows:

(i) Operating Expenses to Net Premium Ratio = Total Operating Expenses/Total Operating Income × 100

(ii) Commission to Net Premium Ratio = Net Commission/Net Commission × 100

(iii) Other expenses to net premium ratio: Other Expenses/Net Premium × 100 whereas
 Expenses = Operating expenses + Commission + Other expenses
 Net premium underwritten = Premium received – Premium on reinsurance ceded + Premium on reinsurance accepted.

Table No:8

Net Commission and Net Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (Rs.in Lacs)

Year	National		New India		Oriental		United	
	Commission	Premium	Commission	Premium	Commission	Premium	Commission	Premium
2010-11	142096	4268144	31990	719223	28980	545733	27154	511694
2011-12	346971	5260606	50287	877121	32595	604789	35692	677952
2012-13	39052	746848	84317	945064	30467	538711	30808	725094
2013-14	58311	868267	117261	1119687	35744	595397	43883	760330
2014-15	56459	989816	128387	1331529	34782	642517	53129	881623
2015-16	61986	1079138	140375	1495983	46310	702390	51335	1002287
2016-17	28923	1080363	132314	1781478	50025	838326	62627	1203231
2017-18	187726	9,10,816	182401	22952	63450	1002823	66759	178087
2018-19	159846	10625043	219898	24035	66129	1084539	73270	189699
2019-20	911411	11684305	2294	26999	81807	1098869	76471	1374003
2020-21	1078267	11365873	2467	28663	90384	1100735	91833	1408065
2021-22	1022254	10249297	151481	32837	94480	1229963	90249	1343665
2022-23	1121418	9330014	163485	34801	94633	1433824	106119	1539684

Table No.9

Ratio of Net Commission and Net Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (In Percentage)

Year	National	New India	Oriental	United
2010-11	3.32	4.44	5.31	5.30
2011-12	6.59	5.73	5.38	5.26
2012-13	5.23	8.92	5.66	4.25
2013-14	6.72	10.47	6.00	5.77
2014-15	5.70	9.64	5.41	6.03
2015-16	5.74	9.38	6.59	5.12
2016-17	2.68	7.43	5.97	5.20
2017-18	20.61	794.70	6.32	37.48

2018-19	1.50	914.91	6.09	38.62
2019-20	7.80	8.49	7.44	5.56
2020-21	9.48	8.60	8.21	6.52
2021-22	9.97	461.31	7.68	6.71
2022-23	12.01	469.77	6.60	6.89

Source: Computed

*Ratio = Net Commission / Net Premium *100

Result

National insurance shows ratio ranging between 3.32 percentages (2010-11) to 20.61 percentages (2017-18) and there was a fluctuation afterwards, While New India Assurance is keeping the ratio in the range of 4.44 percentages (2010-11) to 469.77 percentage (2022-23). And, Oriental general insurance shows average ratio ranging between 5.31 percentages (2010-11) to 6.60 percentages (2022-23) during the research period. United also shows ratio ranging between 5.330 percentage (2010-11) to 6.89 (2022-23) during research period. All the selected non-life insurers from public sector showing positive ratios in combination of all business which is actually good sign for overall non-life insurer.

(c) Return on Shareholders’ Investment: The ratio reveals how profitably the proprietor’s funds have been utilized by the company. The ratio is calculated using the following formula.

$$\text{Net Income/Average Share Holder’s Investment}$$

Whereas

Shareholders’ Investment Income

= Interest, Dividend & Rent (Gross) + Transfer/Gain on revaluation/change in fair volume + Amortization of premium / Discount on Investment + Appropriation/Expropriation Adjustment account.

Income from Investment is the second main source of income for insurer as collection of premium against risk acceptance is invested in various commercial and government securities, real estates and income generating properties.

Table no.10

Net Income from Investment and Net Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (Rs.in Lacs)

	National	New India	Oriental	United
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Year	Income	Premium	Income	Premium	Income	Premium	Income	Premium
2010-11	538971	4268144	3093928	719223	1708896	545733	183181	511694
2011-12	695285	5260606	3726854	877121	1860656	604789	160009	677952
2012-13	250672	746848	414572	945064	224982	538711	240981	725094
2013-14	272004	868267	427600	1119687	237522	595397	254952	760330
2014-15	320881	989816	506225	1331529	256434	642517	276523	881623
2015-16	459786	1079138	524507	1495983	225188	702390	338832	1002287
2016-17	451380	1080363	603938	1781478	279661	838326	305887	1203231
2017-18	4026701	9,10,816	503623	22952	1342416	1002823	382432	178087
2018-19	3703592	10625043	573677	24035	1421111	1084539	510200	189699
2019-20	3423872	11684305	10807067	26999	31787576	1098869	631200	1374003
2020-21	4945011	11365873	10785078	28663	24103134	1100735	445300	1408065
2021-22	1467762	10249297	10830898	32837	29425299	1229963	238300	1343665
2022-23	1738532	9330014	12257952	34801	30986131	1433824	357357	1539684

Table no.11

Ratio of Net Income from Investment and Net Premium of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (In Percentage)

Year	National	New India	Oriental	United
2010-11	12.62	430.17	313.13	35.79
2011-12	13.21	424.89	307.65	23.61
2012-13	33.56	43.86	41.76	33.23
2013-14	31.32	38.18	39.89	33.53
2014-15	32.41	38.01	39.91	31.36
2015-16	42.60	35.06	32.06	33.80
2016-17	41.78	33.90	33.35	25.42
2017-18	442.09	2194.24	133.86	214.74
2018-19	34.85	2386.84	131.03	268.95
2019-20	29.30	40027.65	289.27	45.93
2020-21	43.50	37627.17	2189.73	31.62
2021-22	14.32	32983.82	2392.37	17.73
2022-23	18.63	35222.98	2161.08	23.20

Source: Computed *Ratio = Net Income from Investment / Net Premium *100

(d) Return on Policyholders Investment: The ratio measures how efficiently the policyholder’s funds have been used in the business. It is calculated as:

Net Income/Average Policy Holder’s Investment Whereas

Policyholder’s Investment Income = Interest, Dividend & Rent (Gross) + (Profit/Loss) on sale/redemption of investment + Transfer/Gain on revaluation/change in fair volume + Amortization of premium/Discount on Investment + Appropriation/Expropriation Adjustment account.

Table No: 12

Year	National		New India		Oriental		United	
	Income	Policy Holder’s Investment	Income	Policy Holder’s Investment	Income	Policy Holder’s Investment	Income	Policy Holder’s Investment
2010-11	538971	144950	3093928	1279066	1708896	821473	183181	73011616
2011-12	695285	141976	3726854	1544734	1860656	916487	160009	100853
2012-13	250672	169885	414572	186009	224982	827672	40981	126878
2013-14	272004	180584	427600	213927	237522	2008732	254952	196718
2014-15	320881	209915	506225	13212	256434	2220564	276523	214192
2015-16	459786	83390	524507	12032	225188	842442	338832	259899
2016-17	451380	76784	603938	299036	279661	1032981	305887	263607
2017-18	4026701	522	503623	352828	1342416	215951	382432	382432
2018-19	3703592	80039	573677	36930	1421111	362246	510200	5102
2019-20	3423872	153035	10807067	41133	31787576	204582952	631200	6312
2020-21	4945011	219425	10785078	47693	24103134	233419880	445300	4453
2021-22	1467762	2778129	10830898	50599	29425299	266773382	238300	2383
2022-23	1738532	2848887	12257952	3959662	30986131	339932232	357357	357357

Source: Computed

Table No: 13

Policy Holder’s Investment Income Analysis

Year	National	New India	Oriental	United
2010-11	371.83	241.88	208.02	0.25
2011-12	489.72	241.26	203.02	158.65
2012-13	147.53	222.87	27.18	32.29
2013-14	150.62	199.88	11.82	129.60
2014-15	152.86	3831.55	11.54	129.10
2015-16	551.36	4359.26	26.73	130.37
2016-17	587.85	201.96	27.07	116.03
2017-18	771398	142.73	621.62	100
2018-19	4627.23	1553.41	392.30	10000
2019-20	2237.31	26273.47	15.53	10000

2020-21	2253.62	22613.54	10.32	10000
2021-22	52.83	21405.35	11.03	10000
2022-23	61.02	309.57	9.11	100

Source: Computed

Result

Analysis of Net Income from Investment with Net premium shows the proportion of investment income with net premium. National insurance company limited shows the proportion ranging between 371.83 percentages (2010-11) to 2253.62 percentages (2020-21) while New India Assurance company limited shows the ratio ranging between 241.88 percentages (2010-11) to 309.57 (2022-23). Oriental fire and general insurance company limited shows the ratio ranging between 208.02 percentages (2010-11) to 9.11 percentages (2022-23). United India general insurance company limited also shows the ratio ranging between 0.25 percentages (2010-11) to 100 percentages (2022-23). The all selected non-life insurers from public sector showing lower ratio during the research period.

(e) **Return on Total Investment:** Return on total investment is calculated using the following formula:

$$\text{Net Income/Cost of Investment} = \times 100 \text{ Whereas}$$

Investment Income = Income from policyholders investments + Income from shareholders investments

Table No: 14

Year	National		New India		Oriental		United	
	Income	Total Investment	Income	Total Investment	Income	Total Investment	Income	Total Investment
2010-11	538971	182013	3093928	284782244	1708896	821473	183181	186576
2011-12	695285	171169	3726854	282032202	1860656	916487	160009	169196
2012-13	250672	210190	414572	311733531	224982	231335	40981	181152
2013-14	272004	226278	427600	2101100	237522	2008732	254952	185720
2014-15	320881	265398	506225	2481300	256434	456160	276523	214192
2015-16	459786	376396	524507	2618056	225188	454508	338832	259898
2016-17	451380	374597	603938	514302038	279661	443275	305887	263607
2017-18	4026701	376396	503623	555382128	1342416	215951	382432	382432

2018-19	3703592	293493	573677	591902008	1421111	362246	510200	291125
2019-20	3423872	195036	10807067	292321245	31787576	204582952	631200	288440
2020-21	4945011	272359	10785078	3450162	24103134	233419880	445300	272362
2021-22	1467762	264130	10830898	1575728	29425299	266773382	238300	284559
2022-23	1738532	283023	12257952	1675402	30986131	339932232	357357	352376

Source: Computed

Table no:15

Return on Total Investment:

Year	National	New India	Oriental	United
2010-11	296.11	1.08	208.02	98.18
2011-12	406.19	1.32	203.02	94.57
2012-13	119.25	0.13	97.25	22.62
2013-14	120.20	20.35	11.82	137.27
2014-15	120.90	20.40	56.21	129.10
2015-16	122.15	20.03	49.54	130.37
2016-17	120.49	0.11	63.08	116.03
2017-18	1069.80	0.09	621.62	100
2018-19	1261.90	0.09	392.30	175.25
2019-20	1755.50	3.69	15.53	218.83
2020-21	1815.62	312.59	10.32	163.49
2021-22	555.69	687.35	11.03	83.74
2022-23	614.27	5.40	9.11	101.41

Source: Computed

Result

Analysis of Net Income from Investment with Net premium shows the proportion of investment income with net premium. National insurance company limited shows the proportion ranging between 296.11 percentages (2010-11) to 614.27 percentages (2022-23) while New India Assurance company limited shows the ratio ranging between 1.08 percentages (2012-13) to 5.40 (2022-23). Oriental fire and general insurance company limited shows the ratio ranging between 208.02 percentages (2010-11) to 9.11 percentages (2022-23). United India general insurance company limited also shows the ratio ranging between 98.18 percentages (2010-11) to 101.41 percentages (2022-23). The all selected non-life insurers from public sector showing lower ratio during the research period.

(f) Return on Equity: The ratio measures the profitability of funds belonging to equity shareholders.

Net Income/ Average Share Holder's Equity Whereas

Share Capital = Equity share capital + Reserve & surplus – Debit balance of policyholder accounts
– Debit balance of shareholders accounts – Miscellaneous expenses

Return on Equity indicates the rewards on the original investment by investor in the company it does not includes the reserve & surplus.

Table no.16

Profit after Tax and Equity Share Capital of Selected Public Sector Non-Life Insurance Companies during the Period from 2012-13 to 2016-17 (Rs. in Lacs)

Year	National		New India		Oriental		United	
	Profit	Equity	Profit	Equity	Profit	Equity	Profit	Equity
2010-11	7540	10000	487698	20000	546153	15000	13055	15000
2011-12	33106	10000	255990	20000	2533945	15000	38679	15000
2012-13	69785	10000	84366	20000	53388	15000	52733	15000
2013-14	82289	10000	108898	20000	46029	15000	52760	15000
2014-15	97011	10000	143122	20000	39210	15000	30057	15000
2015-16	14923	10000	82869	20000	30049	15000	22059	15000
2016-17	4584	10000	100793	20000	169110	15000	191353	15000
2017-18	218250	10000	22009198	20000	150989	15000	100266	15000
2018-19	169629	10000	5797878	20000	29366	15000	187791	15000
2019-20	410834	10000	163883	20000	152410	15000	148585	15000
2020-21	56300	10000	203772	20000	152544	15000	98468	15000
2021-22	167467	10000	16427	20000	31151606	15000	-213555	15000
2022-23	386581	10000	105539	20000	49681120	15000	-282933	15000

Table no.17

Ratio of Profit after Tax and Equity Share Capital of Selected Public Sector Non-Life Insurance Companies during the Period from 2010-11 to 2022-23 (In Percentage)

Year	National	New India	Oriental	United
2010-11	75.40	2438.49	3641.02	87.03
2011-12	331.06	1279.95	16892.96	257.86
2012-13	697.85	421.83	355.92	351.55

2013-14	822.89	544.89	306.86	351.73
2014-15	970.11	715.61	196.05	200.38
2015-16	149.23	414.35	150.25	147.06
2016-17	45.84	503.97	-845.55	-1275.69
2017-18	2182.5	110045.99	1006.59	668.44
2018-19	1696.29	28989.39	195.77	1251.94
2019-20	4108.34	819.415	1016.06	990.56
2020-21	563	1018.86	1016.96	656.45
2021-22	1674.67	82.135	207677.37	-1423.7
2022-23	3865.81	527.69	331207.46	-1886.22

Source: Computed

***Ratio = PAT / Equity Share Capital *100**

Result

Analysis of PAT with Equity share capital indicates the proportion of return on the equity share capital during the research period. By observation of the above table no.20 indicates that high fluctuation in the ratio during the research period. National insurance shows ratio ranging – 75.40% (2010-11) to 3865.81% (2022-23) and shows 1674.67 and 3865.81 % in the last two years of the research period. New India Assurance general insurance shows ratio ranging between – 2438.49 % (2010-11) to 527.69 % (2022-23) and goes to 110045.99% (2017-18). Oriental insurance shows range of ratio between – 3641.02 % (2010-11) to 331207.46 % (2022-23). United insurance shows the ratio ranging between -87.03% (2010-11) to 1886.22% (2022-23) which indicates that all the selected public sector, non-life insurance have not stable growth during the research period as a range of ratio is very high and too fluctuating during the research period towards return on equity capital.

F. Liquidity Ratio: The ratio identified the vulnerability to loss resulting from forced sale of illiquid assets. The formula for computing this ratio is:

Liquid ratio = Current Assets/Current Liabilities x 100 Whereas

Liquid assets include cash and bank balance.

Assessing financial soundness insurers as well as insurance sectors as a whole is a complex task. The essential undertaking is to explore the risk to which insurers are exposed and their ability to endure them.

Solvency Ratio: The ratio is a measure of risk faced by insurers relating to claims which cannot be absorbed by it. There are many types in it. It is calculated as:

Interest Coverage Ratio = EBIT/Interest Expenses

EBIT= Earnings before Interest and Taxes

Debt-to-Assets Ratio = Debts/Assets

Equity Ratio= The share holder's equity ratio is calculated as follows:

SER=TSE/Total Assets

SER= Share Holder's Equity Ratio

TSE= Total Share Holder's Equity

Debt-to-Equity Ratio= Debt Outstanding/Equity

Above mentioned ratios are used in the study to evaluate the financial soundness of life insurance industry.

Dissolvability proportion is one of the different proportions used to gauge the capacity of an organization to meet its long haul obligations. Also, the dissolvability proportion evaluates the measure of an organization's after duty pay, not including non-money devaluation costs, as differentiated to the complete obligation commitments of the firm. Likewise, it gives an evaluation of the probability of an organization to keep congregating its obligation commitments.

Table no.18

Solvency Ratio of Selected Public Sector Non-Life Insurance Companies during the Period from 2010-11 to 2022-23 (In Percentage)

Year	National	New India	Oriental	United
2010-11	1.30	2.90	1.34	2.89
2011-12	1.37	2.0	1.33	2.71
2012-13	1.50	2.50	1.51	2.52
2013-14	1.50	2.61	1.64	2.54
2014-15	1.52	2.44	1.68	2.36
2015-16	1.26	2.30	1.59	1.91
2016-17	1.90	2.19	1.11	1.15
2017-18	1.55	2.58	1.67	1.54
2018-19	1.04	2.13	1.57	1.52
2019-20	0.02	2.11	0.92	0.30
2020-21	0.62	2.13	1.52	1.00
2021-22	1.30	1.66	1.51	0.51

2022-23	0.48	1.87	0.56	-0.29
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Result

Analysis of solvency test by considering IRDA report figures It indicates that standards solvency margin must falls minimum 1.5% in the given case National insurance show ratio ranging between 1.30% (2010-11) to 0.48 % (2022-23). New India insurance shows ratio ranging between 2.90% (2010-11) to 1.87% (2022-23). Oriental insurance shows ratio ranging between 1.34% (2010-11) to 0.56% (2022-23) ratio of the company goes below 1.5 percent during first year of research period. While, United insurance shows ratio ranging between 2.89% (2010-11) to -0.29% (2022-23) ratio of the company goes below 1.5 percent during first year of research period.

Claims Analysis: The standard is an important indicator of whether their pricing policy is correct or not. It reflects the quantum of claims in the premiums earned. The ratio prescribed for this analysis is Net Claims Incurred to Net Premium.

Expense Analysis: Expense analysis indicates the expenditure incurred by the management while carrying on insurance business, greater the expenditure, lesser will be the profit margin. The ratio prescribed for this purpose is Management Expenses to Net Premium Earned.

Combined Ratio Analysis: Combined ratio is blend of claims and expense ratio. The ratio explains the probability of profitability in insurance operations. The ratio for this standard is Claim Ratio plus Expense Ratio to Net Premiums.

Investment Income Analysis: Investment income ratio quantifies the income earned on investments. The ratio prescribed is Investment Income to Net Premiums.

ROE Analysis: Return on Equity is the measure of return to shareholders and the ratio is Profits to Equity.

Liquidity (Liquidity Analysis): Liquidity crises may turn to be serious in the concerns, where obligations are of short duration nature, similarly for non-life insurers, the ratio is an important standard and is current assets to current liabilities.

Table 1.3: List of Ratios under CAMEL Model

Category	Ratios
Capital Adequacy	1. Net premium/ Capital 2. Capital/ Total Assets

Asset Quality	1. Equities / Total Assets 2. Real Estate + Unquoted Equities + Debtors/Total Assets
Reinsurance & Actuarial Issues	1. Risk Retention Ratio (Net Premium/ Gross Premium) 2. Net Technical Reserves/Average of Net Claims paid in last three years
Management Soundness	1. Operating Expenses/ Gross Premiums
Earnings and Profitability	1. Loss Ratio (Net Claims/ Net Premiums) 2. Expense Ratio (Expenses / Net Premiums) 3. Combined Ratio (Loss Ratio + Expense Ratio) 4. Investment Income/ Net Premiums 5. Return on Equity (ROE)=PAT/Equity
Liquidity	1. Current Assets/ Current Liabilities

CONCLUSION

The review manages monetary execution of chosen four public area, non-life coverage organization during a long time from 2010-11 to 2022-23 to assess the monetary proficiency of each organization quantities of proportions have been seen by applying CAMEL model for this review. Optional wellspring of information is ordered from the IRDA yearly reports distributed on the site of the IRDA for this review. Further, the investigation uncovers that the resource base has been expanding and the guaranteeing misfortunes are being met through the acknowledgment of credits and advances. Public area safety net providers are over the long haul back up plans have laid out in late past many years. As all the chose research unit appearing lower pattern during research period which shows that all the exploration unit are seriously zeroing in on more on resource base in contrast with value share capital base during research period, Public area back up plan are having more Resource Quality standards. All the chose public area insurance agency appearing less than ideal standards of hazard maintenance during the exploration time frame as well as it shows the by and large descending pattern in risk maintenance standards while all the chose public area insurance agency have been showing great moderate gamble maintenance proportion during the examination time frame.

The entire chosen public area insurance agency appearing sub optimal standards of The executives proficiency during the examination time frame as well as it shows the generally speaking lower pattern in Working Cost control the board. All business for chose public area back up plan shows over 100% for a few times during research period. Premium valuing depends on guarantee the executives of the guarantor. As case in unadulterated dubious while premium can be characterized on the previous experience however hazard and vulnerability is the superb condition for any business so that while characterizing valuing strategy following deductively logical disposition towards guarantee management is fundamental. The specialist has thought about four boundaries for the estimation of monetary sufficiency and liquidity investigation. As talked about before, there are various pointers for monetary adequacy yet of which most dependable and most actually apparatuses regarding the protection business is considered for this review. It doesn't imply that other FSI (Monetary Adequacy Pointers) are less strong or it has no utilization by any means. In any case, protection is a unique sort of business, particularly non-life coverage area, consequently exceptional consideration is taken in picking such sort of monetary sufficiency pointers. From this examination, it is reasoned that the whole exploration unit for characterizing FSI shows normal results in contrast with standard standards of monetary apparatuses of general businesses.

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