# FINANCIAL PERFORMANCE OF PUBLIC SECTOR HEALTH INSURANCE COMPANIES

**Dr. S. Suresh**

Associate Professor of Commerce & Principal

Government Degree College(A) Bodhan

## 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 narrowsense, health insurance refers to an individual or group purchasing health care coveragein 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 thelives 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/surgicalor hospital expenses benefit at the time of accidental condition or illness, in returninsured 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 inIndia.

## 1.6 REVIEW OF LITERATURE

The important studies on this topic are presented as follows:

**Pooja Kansra and Harinder Singh (2021)** inspected the effectiveness andefficiency of health insurance business of public and private general insurance agencies in India. The study wasmade 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 volumeof 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 areselected 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 ofhigh-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 thehour that how public sector retained their financial performance after the liberation andhow 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 ofa 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 InsuranceCompanies in India?

## 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.

## 1.11 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 IRDAwebsite.

### 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, CARAMEL parameters are used to study the financial performance of health insurance companies. For measuring the financial performance of insurance companies on the basis of CARAMEL parameters, the present study employs ratio analysis with the following methodology:

The description of CARAMEL acronym and ratios calculated to test eachacronym 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 – Debitbalance 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 Companiesduring 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 |

*Source: IRDAI*

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. Forcomputing this ratio Equity is divided by Total assets.

Asset Quality Ratio= Equity Share Capital/Total Assets$\times$ 100

Equity Share Capital = Equity share capital

Total Assets = Fixed assets + Current assets + 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:

Ratio = Net Premium/ Gross Premium x 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: IRDAI*

(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,

Risk Retention Ratio: Net Premium/Gross Premium $\times$ 100Whereas

Net Premium = Gross premium – Reinsurance ceded + 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 Detroiter during study period. National showsthe fluctuation ranging from 86.30(2010-11) to 59.09 (2022-23) during research period, as it shows progressive fluctuation upto 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 upto 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 upto 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 upto 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 $\times$ 100Whereas

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 asfollows:

(i) Operating Expenses to Net Premium Ratio= Total Operating Expenses/Total Operating Income $\times$ 100

(ii) Commission to Net Premium Ratio = Net Commission/Net Commission $\times$ 100

(iii) Other expenses to net premium ratio: Other Expenses/Net Premium $\times$ 100whereas

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.

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)**

| Year | National | | New India | | Oriental | | United | |
|---|---|---|---|---|---|---|---|---|
| | 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 241.88percentages (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:

Net Income/Cost of Investment = × 100 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 equityshareholders.

Net Income/ Average Share Holder's EquityWhereas

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 100Whereas

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 lifeinsurance 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 |

**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 iscorrect 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 CARAMEL Model**

| Category | Ratios |
|---|---|
| **Capital Adequacy** | 1. Net premium/ Capital<br>2. Capital/ Total Assets |
| **Asset Quality** | 1. Equities / Total Assets<br>2. Real Estate + Unquoted Equities + Debtors/Total Assets |
| **Reinsurance & Actuarial Issues** | 1. Risk Retention Ratio (Net Premium/ Gross Premium)<br>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)<br>2. Expense Ratio (Expenses / Net Premiums)<br>3. Combined Ratio (Loss Ratio + Expense Ratio)<br>4. Investment Income/ Net Premiums<br>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 CARAMEL 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.

**References:**

1.Bedi, H.S. & Singh, P. (2011), An Empirical Analysis of Life Insurance Industry in India, ZENITH International Journal of Multidisciplinary Research, Vol. 1, Issue 7.

2.Bewa, S.K. & Chatha, S. (2013), Financial Performance of Life Insurers in Indian Insurance Industry, Guru Nanak Dev University Amritsar, PBRI, Vol. 6, Issue 5.

3.Bodla, B.S., Garg, M.C. & Singh, K.P. (2004), Insurance: Fundamentals, Environment & Procedures, Deep and Deep Publications Pvt. Ltd., New Delhi.

4.Brown, M.J. & Kim, K. (1993), An International Analysis of Life Insurance Demand, Journal of R i s k & Insurance, 60(4): 616-34.

5.Charumathi, B. (2012), On the Determinants of Profitability of Indian Life Insurers-An Empirical Study, Proceedings of the World Congress on Engineering, Volume 1, Landon, U.K.

6.Darzi, T, A. (2010), Financial Performance of Insurance Industry in Post Liberalization Era in India , University of Kashmir, Unpublished Ph.D. Thesis.

7.Das, S.U., Davies, N. &Podpiera, R. (2003), Insurance and Issues in Financial Soundness, International Monetary Fund, Working Paper, 03/138: 01-05.

8. Drury, S. (2000), Latin America Insurance: An Emerging Giant in the Insurance Market, Landon, U.K.: Reuters Business Insight.

9.Dr.A.Muthusamy& Jansi Rani. P, "A study on Financial Performance of Private Sector General Insurance Companies in India", RESEARCH REVIEW International Journal of Multidisciplinary, SEP-2018, ICIMP-2018 ISSN: 2455-3085 (Online).

10.Dr.A.Muthusamy& Jansi Rani.P, "A Study on Performance of Micro - Insurance in India", International Journal of Scientific Research in Computer Science Applications and Management Studies IJSRCSAMS, ISSN 2319 – 1953 Volume 7, Issue 4 (July 2018).

11.P.Jansi Rani & Muthusamy A., "Impact of Demonetization on Private Life Insurance Companies in India", International Journal of Scientific Research and Reviews, IJSRR 2018, 7(3), 2178-2186 IJSRR, 7(3) July – Sep., 2018 Page 2178.

12.http://shodhganga.inflibnet.ac.in/bitstream/10603/31398/5/phd%20thesis-shekhar%20srivastava-management-c-5.pdf.

13.Jenita Monteiro & Nijumon K John, "A study on the financial performance of general insurance companies in India", International Journal of Advanced Research and Development, Volume 3; Issue 1; January 2017; Page No. 898-904

14.Mr. Sumit Bodla& Dr. Deepak Tandon, "Profitability Performance of Life Insurance Companies – A Study in Indian Context", International Journal of Computing and Business Research (IJCBR) Volume 7 Issue 3 September - October 2017.

15.www.irdai.gov.in

16.Selected companies website.