https://doi.org/10.58419/gbs.v10i1.1012406

A STUDY ON FINANCIAL SOUNDNESS AND COMPARATIVE EFFICIENCY: A COMPARISON OF PUBLIC SECTOR GENERAL INSURANCE COMPANIES IN INDIA USING THE CARAMEL MODEL

Mr. Srinivasa H T
htsrinivasa86@gmail.com
Assistant Professor, Department of Commerce,
Government First Grade College Nagamangala, Karnataka
htsrinivasa86@gmail.com

Dr. Venkidasamy K
Assistant Professor, Department of Commerce
MGR College of Arts and Commerce, Hosur, Tamil Nadu

ABSTRACT
Insurance industry has been transformed to a greater extent after privatisation and enactment of IRDA act where more number of foreign players entered into the insurance market. Competition among the firms has been increased today motto of general insurance companies are nit only booking profits but also serving in the competitive market irrespective of the size of the organization either large or small since then the performance of the general insurance companies has been found relevant thus this research paper shall try to aim at studying the financial soundness and comparative efficiency of 4 general insurance companies operating in india by using CARAMEL model over 15 years data from 2006-07 to 2020-21 has been analysed during the study. The finding of the paper was that the performance was analysed on 6 parameters. The paper shall try to conclude that oriental insurance company is been performing better when compared with the rest of the public sector companies during the study period.

Keywords: *Financial soundness; comparative efficiency; public sector general insurance; CARAMEL Model, etc.*

1. INTRODUCTION

General insurance is a type of insurance that protects individuals and businesses from financial losses arising from unforeseen events. Unlike life insurance, which provides a payout upon the death of the insured, general insurance covers a wide range of non-life risks, such as property damage, liability, and accidental injuries. It acts as a financial safety net, offering peace of mind and financial security in the face of adversity.

2. OBJECTIVE OF THE STUDY

To study the Financial soundness and comparative efficiency of public sector general insurance companies operating in India.

3. RESEARCH METHODOLOGY

3.1. Sources of data

The study has been conducted based on secondary source of data which are collected from the annual reports of IRDAI, Journals and other published sources.

3.2. Sampling Design

Purposive sampling method has been selected where 4 public sector general insurance companies has been selected for the study where the study period is between 2006-07 to 2020-21.

The following is the sample selected general insurance companies which are operating in India:

i. **NICL (National Insurance Company Limited)**
ii. **NIACL (New India Assurance Company Limited)**
iii. **OICL (Oriental Insurance Company Limited)**
iv. **UIICL (United India Insurance Company Limited)**

3.3. Tools for analysis

CARAMEL Model is used as a tool for analysing the Financial Soundness and Comparative Efficiency of public sector general insurance companies operating in India.

Following is the list of abbreviations used in the study:

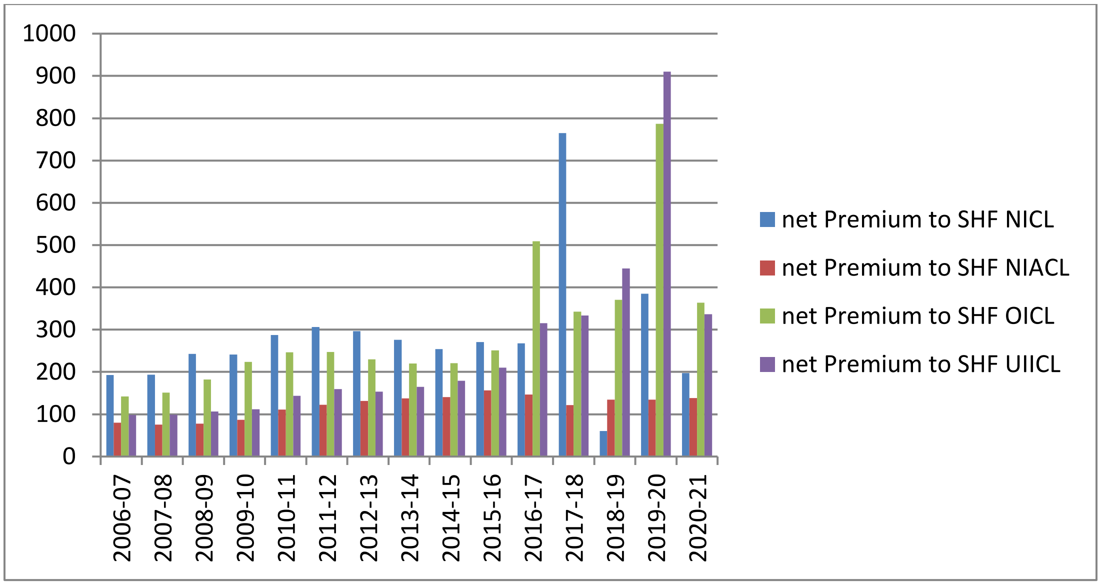
Sl. No.	Ratios	Formula
CA	Capital Adequacy	**1.**Net Premium/Shareholder's Fund **2.**SHF/TA
AQ	Asset Quality	ESC/TA
RIAI	Reinsurance & Actuarial Issues	Net Premium/Gross Premium
MS	Management Soundness	Operating Expenses/Gross Premium
EP	Earnings & Profitability	**1.**Net Claim/Net Premium **2.**Net Commission/Net Premium **3.**Net Income from Investment/Net Premium **4.**PAT/ESC
LIQ	Liquidity	**1.**PAT/Net worth **2.**TA/TL **3.**CA/CL

4. Data analysis and interpretation

A. Capital Adequacy

1. Net Premium to shareholder's fund

Graph 01 Showing Net Premium To Shareholders fund



Source: Annual Reports of IRDAI

NICL (National Insurance Company Limited):

i. Many changes throughout the years.

ii. Significant highs in 2011–12 and 2017–18, a sharp decline in 2018–19, and a rebound in 2019–20.

iii. The business's success seems to be influenced by the state of the market and could have changed strategically.

NIACL (New India Assurance Company Limited):

i. Showed a steady increase in net premiums during the course of the observation period.

ii. Saw a notable uptick in 2019–20, suggesting a promising company trajectory.

OICL (Oriental Insurance Company Limited):

i. Varied over time, showing a notable peak in 2016–17, a fall in 2018–19, and a comeback in 2019–20.

ii. The performance of the company seems to be impacted by both external and internal factors.

UIICL (United India Insurance Company Limited):

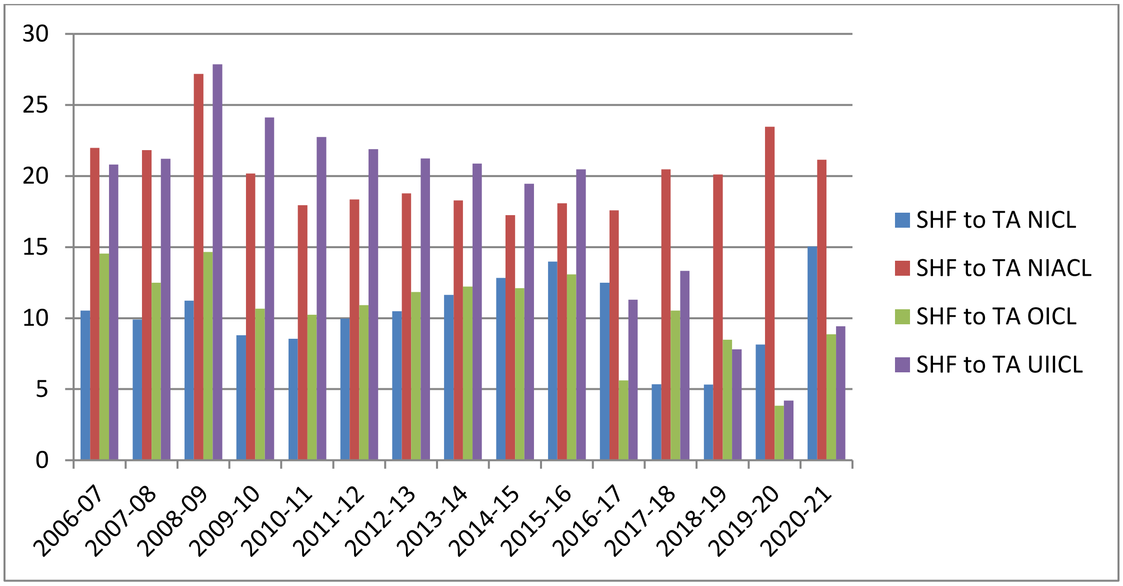
i. Demonstrated consistent annual growth in net premiums.

ii. Saw a significant spike in 2016–17 and continued to climb steadily after that.

iii. Seems to function well and be flexible in response to changes in the market.

2. Shareholder's fund to Total Assets

Graph 02 Showing Shareholder's fund to Total Assets



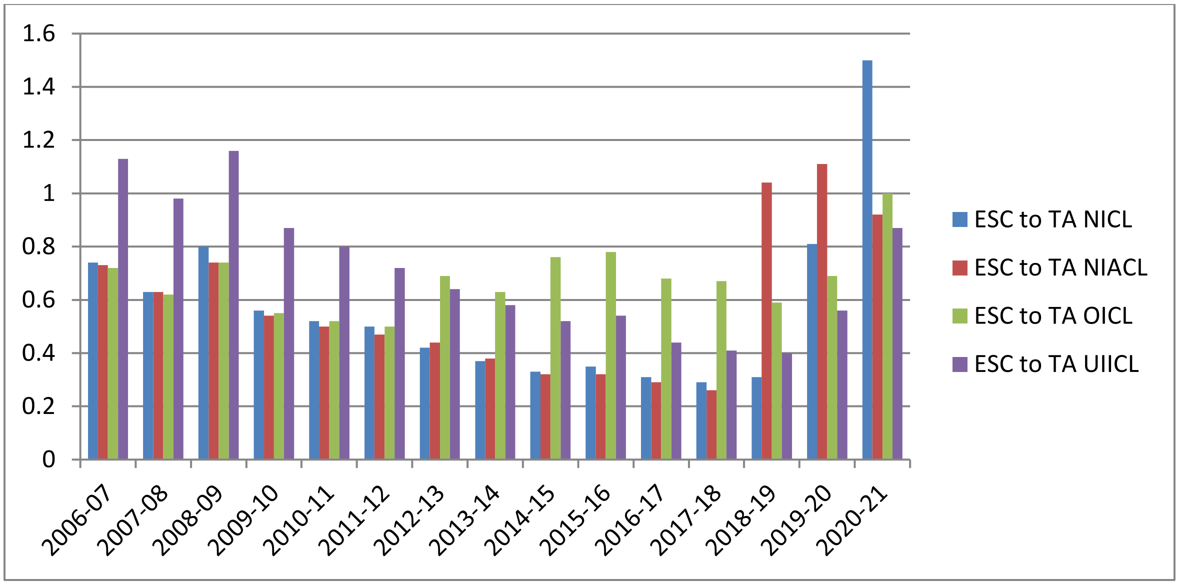
Source: Annual Reports of IRDAI

INTERPRETATION

- **NICL (National Insurance Company Limited):**
- ✓ The SHF to TA ratio varies over time, but it generally exhibits a declining tendency.
- ✓ A significant decline in 2017–18 points to a change in the asset composition.
- **NIACL (New India Assurance Company Limited):**
- ✓ In the previous years, the ratio is comparatively steady; but, in 2019–20, it increases.
- ✓ It appears that NIACL consistently concentrates on State Health Funds.
- **OICL (Oriental Insurance Company Limited):**
- ✓ The ratio varies, showing a notable drop in 2016–17 and a subsequent rise in 2020–21.
- ✓ The makeup of OICL's portfolio seems to have changed over the observed time.
- **UIICL (United India Insurance Company Limited):**
- ✓ The ratio fluctuates, showing a notable decline in 2016–17 and a subsequent rise in those years.
- ✓ The focus of UIICL is on State Health Funds

B. Asset Quality Analysis

Graph 03 Showing Esc To Ta



Source: Annual Reports of IRDAI

NICL (National Insurance Company Limited):

i. Over time, the ESC to TA ratio varies, with a noticeable increase in 2020–21.
ii. Shows differences between earned excess capital and total assets.

NIACL (New India Assurance Company Limited):

i. There are variations in the ratio, with a rise in 2019–20 and a fall in 2020–21.
ii. Makes recommendations for adjustments to the earned surplus capital in relation to total assets.

OICL (Oriental Insurance Company Limited):

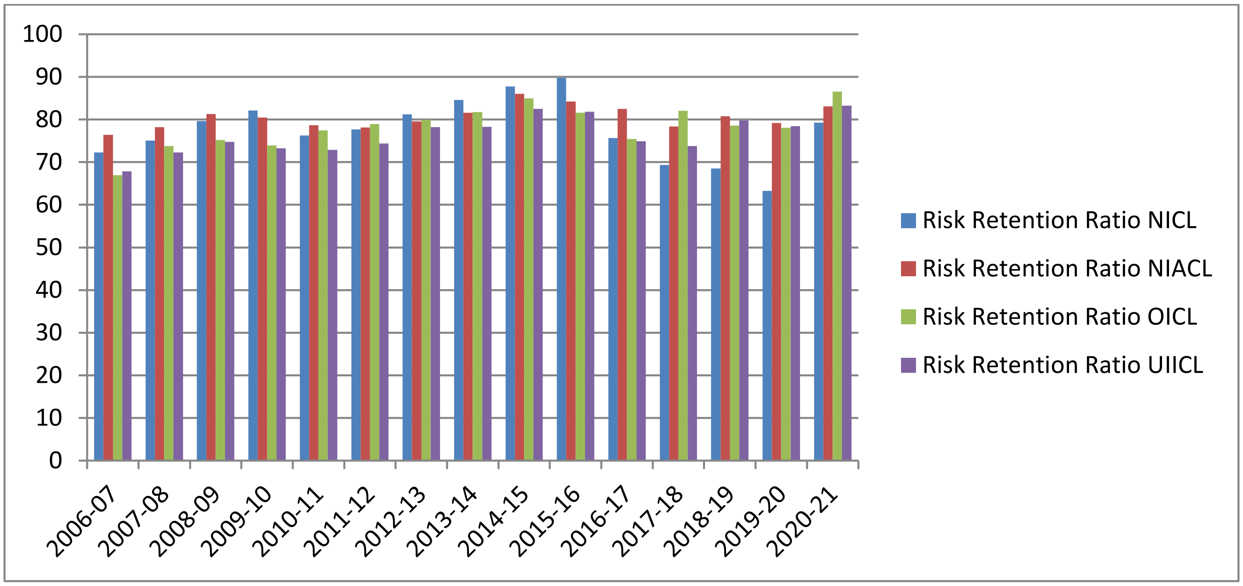
i. Have variations in the ratio, showing a notable rise in 2014–15 and a subsequent fall in 2016–17.
ii. Shows alterations in the position of earned excess capital.

UIICL (United India Insurance Company Limited):

i. The ratio varies over time, showing a noticeable rise in 2020–21.
ii. Highlights differences between earned surplus capital and total assets.

C. Reinsurance & Actuarial Issues (Risk Retention Ratio)

Graph 04 Showing Risk Retention Ratio

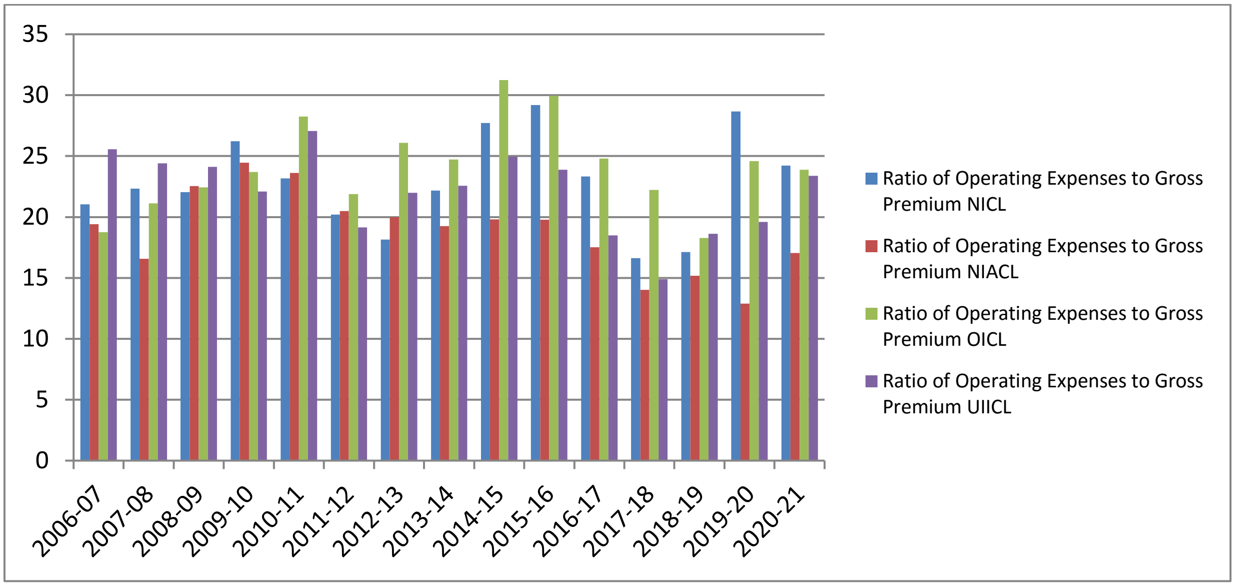


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. The ratio varies, showing a noticeable decline in 2019–20 and a rise in 2020–21.
  ii. Over the years, NICL has demonstrated flexibility in modifying its risk retention.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio varies, declining in 2019–20 and rising in 2020–21.
  ii. Additionally, NIACL has shown alterations in risk retention.
- **OICL (Oriental Insurance Company Limited):**
  i. The ratio fluctuates, with 2020–21 showing a significant increase.
  ii. Risk retention at OICL has changed, with a significant increase in the most recent year.
- **UIICL (United India Insurance Company Limited):**
  i. The ratio fluctuates, showing a rise in 2020–21.
  ii. UIICL has seen shifts in risk retention that are consistent with the pattern observed in the other businesses.

D. Management Soundness

Graph 05 Showing Ratio Of Operating Expense To Gross Premium

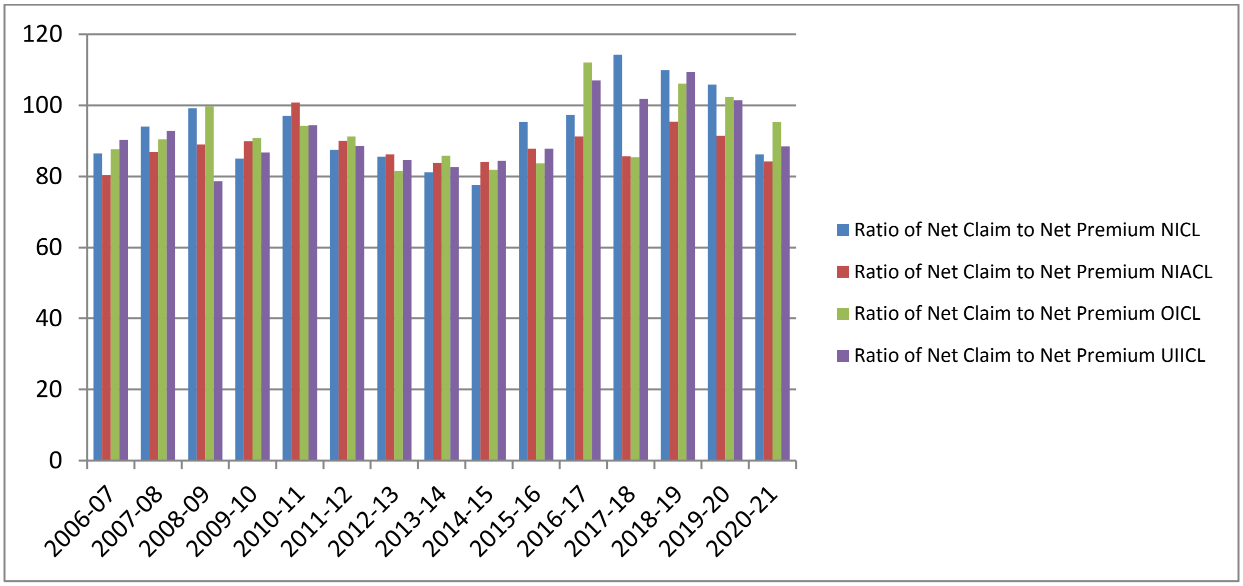


Source: annual reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. Over time, the ratio varies, showing a noticeable rise in 2014–15 and a subsequent decline in 2017–18.
  ii. When it comes to controlling operating costs in relation to gross premiums, NICL exhibits variability.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio fluctuates, with 2019–20 showing a notable decline.
  ii. Over the course of the monitored time, NIACL has seen fluctuations in the effectiveness of its cost management.
- **OICL (Oriental Insurance Company Limited):**
  i. The ratio exhibits variability, with a notable surge in 2014–15 and a subsequent decline in 2017–18.
  ii. Over time, OICL's operating expense management has exhibited fluctuations.
- **UIICL (United India Insurance Company Limited):**
  i. The ratio varies, with a notable decline from 2017 to 2018.
  ii. Over the course of the monitored time, UIICL has shown changes in the effectiveness of cost management.

E. Earnings & Profitability Analysis

Graph 06 Showing Ratio Of Net Claim To Net Premium

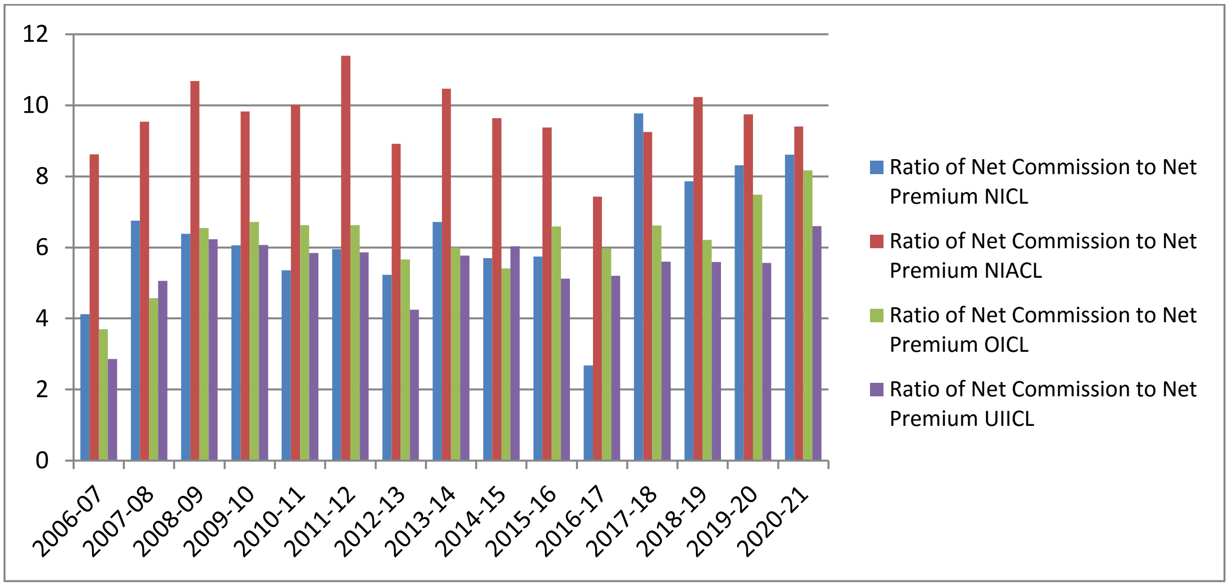


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. With changes in the percentage of net claims to net premium, the ratio varies over time.
  ii. In 2017–18, a notable increase is noted.
- **NIACL (New India Assurance Company Limited):**
  i. There has been a noticeable uptick in the ratio between 2010 and 2011, followed by a decline.
  ii. The connection between net claims and net premium varies for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  i. The ratio varies, showing a notable rise in 2016–17 and a subsequent decline.
  ii. Over the measured period, there are noticeable changes in the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  i. There have been notable changes in the ratio, including a notable spike in 2016–17 and a subsequent decrease.
  ii. The connection between net claims and net premium in UIICL varies.

F. NET COMMISSION TO NET PREMIUM

Graph 07 Showing Ratio Of Net Commission To Net Premium

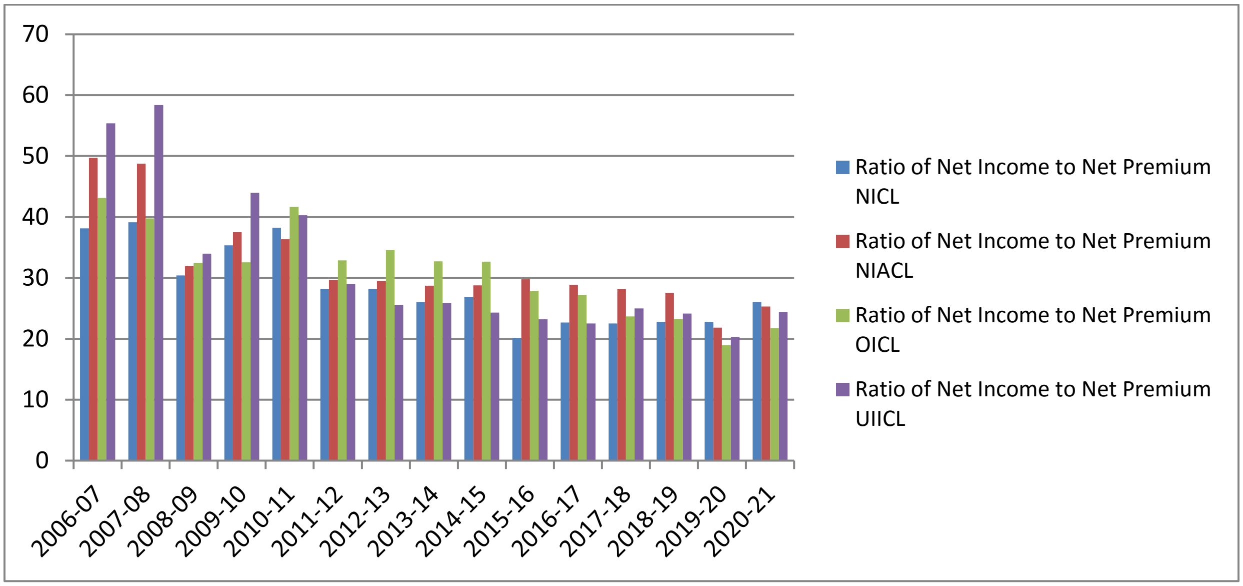


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. The ratio varies over time, showing a notable decline in 2016–17 and a rise in the years that followed.
  ii. The link between net commission and net premium varies, as shown by NICL.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio varies, with 2011–12 showing a significant increase and then some subsequent variations.
  ii. The link between net commission and net premium varies for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  i. The ratio shows oscillations, including a significant decline in 2014–15 and later variations.
  ii. Variabilities over the observed period are seen in the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  i. The ratio varies over time, showing a notable decline in 2016–17 and a rise in the years that followed.
  ii. The link between net commission and net premium is shown to vary by UIICL.

G. INVESTMENT INCOME ANALYSIS

Graph 08 Showing Ratio Of Net Income To Net Premium

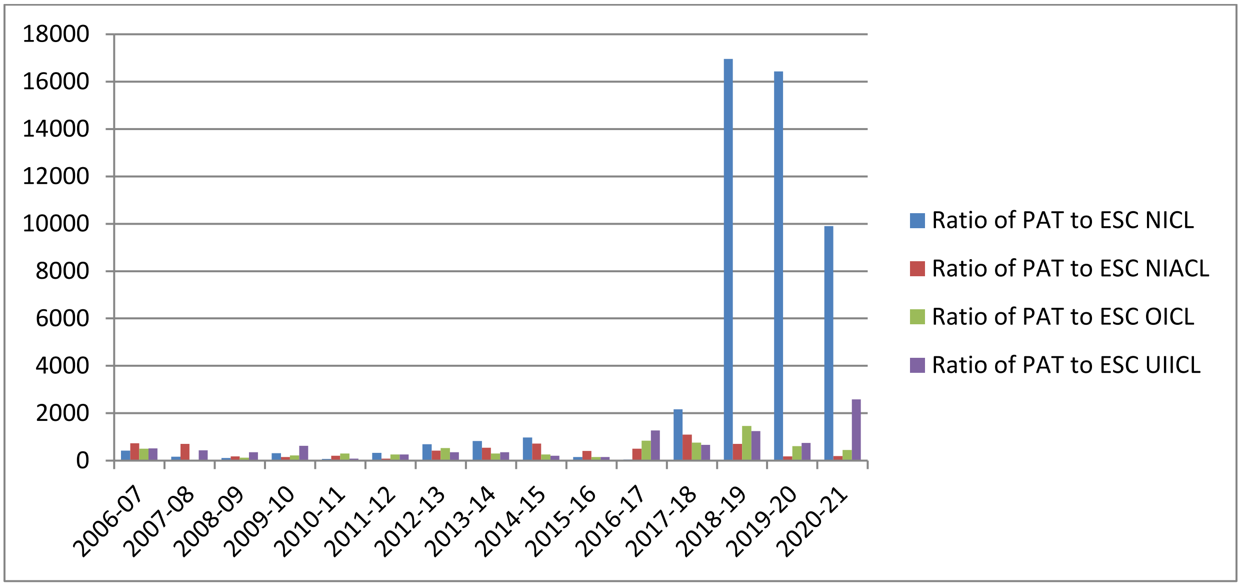


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. The ratio varies with time due to changes in the percentage of net income to net premium.
  ii. There is a discernible decline in 2019–20 and a rise in 2020–21.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio varies, showing a rise in 2020–21 and a reduction in 2019–20.
  ii. The connection between net income and net premium varies for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  i. There are variations in the ratio, showing a decline in 2019–20 and a rise in 2020–21.
  ii. Variabilities over the observed period are seen in the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  i. The ratio fluctuates over the years, with a decrease in 2019-20 and an increase in 2020-21.
  ii. UIICL shows fluctuations in the correlation between net income and Net premium.

H. RETURN ON EQUITY ANALYSIS

Graph 09 Showing Ratio Of Pat To Esc

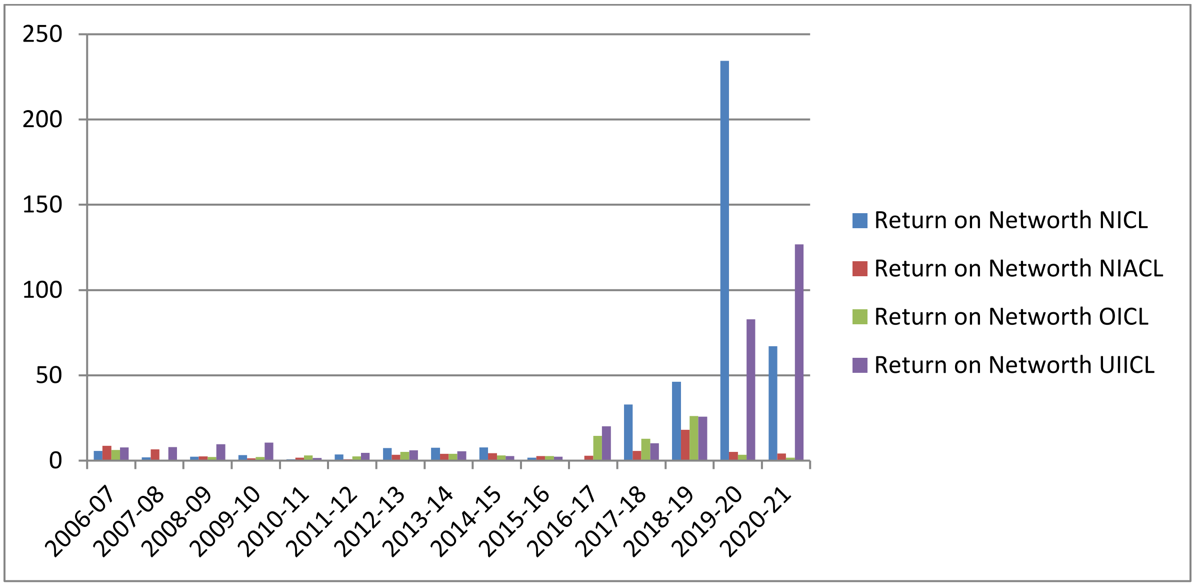


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  - i. The ratio varies with time due to changes in the percentage of net income to net premium.
  - ii. There is a discernible decline in 2019–20 and a rise in 2020–21.
- **NIACL (New India Assurance Company Limited):**
  - i. The ratio varies, showing a rise in 2020–21 and a reduction in 2019–20.
  - ii. The connection between net income and net premium varies for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  - i. There are variations in the ratio, showing a decline in 2019–20 and a rise in 2020–21.
  - ii. Variabilities over the observed period are seen in the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  - i. The percentage varies from year to year, declining in 2019–20 and rising in 2020–21.
  - ii. UIICL shows fluctuations in the correlation between net income and

I. FINANCIAL SOUNDNESS & LIQUIDITY ANALYSIS

Graph 10 Showing Return On Networth

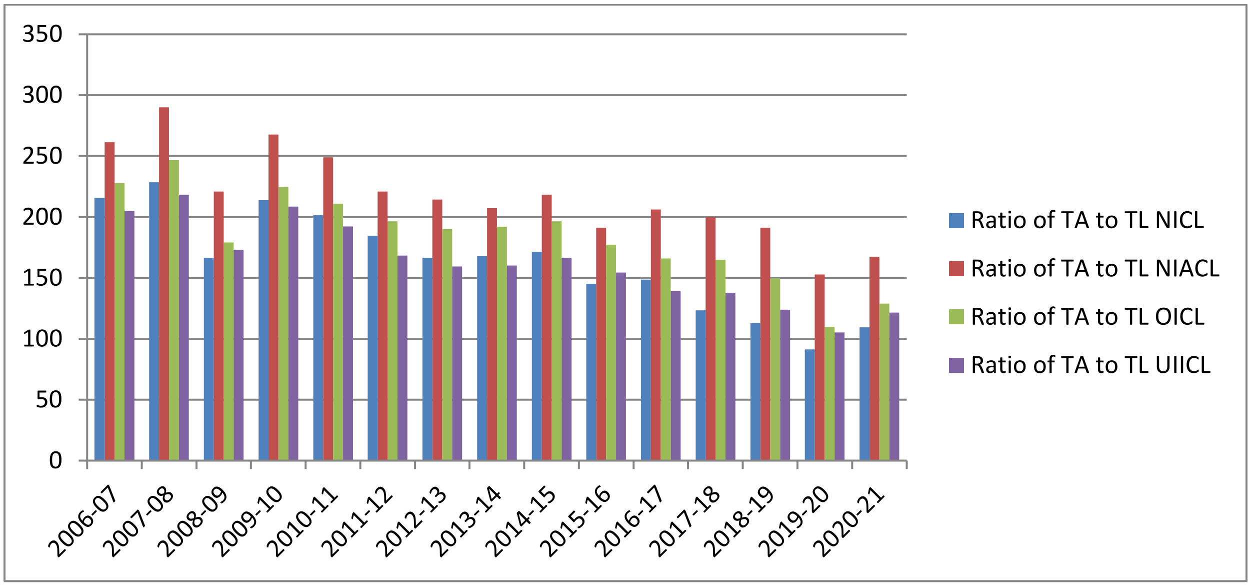


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. There have been variations in the Return on Net Worth across the years, with a notable uptick in 2018–19.
  ii. The link between net income and net worth varies for NICL.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio shows fluctuations, with a notable uptick in 2018–19.
  ii. The link between net income and net worth is not constant for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  i. The ratio varies over time, with a notable uptick in 2016–17.
  ii. Variabilities over the observed period are seen in the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  i. Over time, the ratio varies, with a notable spike in 2020–21.
  ii. The link between net income and net worth varies, as shown by UIICL.

J. TA TO TL

Graph 11 Showing Ratio Of Ta To Tl

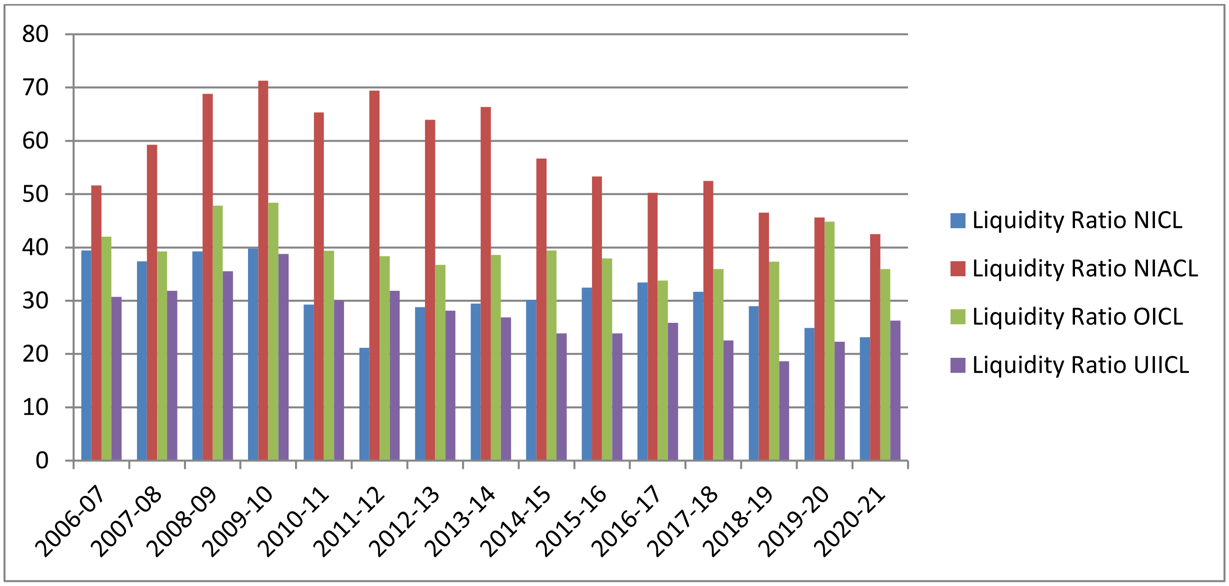


Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  i. There have been variations in the ratio over the years, including a decline in 2017–18 and 2018–19.
  ii. The NICL ratio shows shifts in the proportion of total assets to total liabilities.
- **NIACL (New India Assurance Company Limited):**
  i. The ratio shows variation over the course of the observation period.
  ii. The relationship between total assets and total liabilities varies for NIACL.
- **OICL (Oriental Insurance Company Limited):**
  i. Over time, the ratio varies; in 2018–19, it decreased.
  ii. The relationship between total assets and total liabilities varies, as demonstrated by the OICL ratio.
- **UIICL (United India Insurance Company Limited):**
  i. Over time, the ratio varies; in 2018–19, it decreased.
  ii. Changes in the relationship between total assets and total liabilities are shown by UIICL.

H. LIQUIDITY ANALYSIS

Graph 12 Showing Liquidity Ratio



Source: Annual Reports of IRDAI

- **NICL (National Insurance Company Limited):**
  - i. The ratio demonstrates variations over time, exhibiting a decline in 2011–12 and 2012–13.
  - ii. Over the course of the observation period, NICL's liquidity position changes.
- **NIACL (New India Assurance Company Limited):**
  - i. Variability across the studied period is demonstrated by the ratio, which shows oscillations in liquidity.
  - ii. The ability of NIACL to meet short-term obligations varies.
- **OICL (Oriental Insurance Company Limited):**
  - i. Over time, the ratio varies; in 2019–20, it decreased.
  - ii. Over the examined period, OICL's liquidity position demonstrates variability.
- **UIICL (United India Insurance Company Limited):**
  - i. The ratio fluctuates over the years, with a decrease in 2018-19 and an increase in 2019-20.
  - ii. UIICL experiences changes in its ability to cover short-term obligations.

5. FINDINGS

Financial Health and Efficiency of Public General Insurance Companies in India (2006-2021):

This study analyzes the financial soundness and comparative efficiency of four public sector general insurance companies in India from 2006-07 to 2020-21. Using the CARAMEL model, it investigates various financial ratios to assess each company's performance.

Key Findings:

- **Capital Adequacy:** United India Insurance showed the lowest initial capital adequacy ratio, highlighting the need for improvement in all companies.
- **Asset Quality:** All companies need to increase their share capital to total assets ratio and risk retention ratio.
- **Management Soundness:** Management efficiency appears positive across all companies.
- **Earnings and Profitability:** Earning and profitability ratios are generally healthy, exceeding 100% for most companies.
- **Liquidity:** Current asset ratios suggest efficient asset utilization, but all companies should further improve liquidity management.

6. CONCLUSION

The CARAMEL model, applied to four public sector general insurance companies in India (2006-2021), reveals insights into their financial health and comparative efficiency. While individual findings vary, some overarching conclusions emerge:

- **Areas for Improvement:**
  1. **Capital Adequacy:** Across all companies, capital adequacy needs strengthening. United India shows particular concern, while others can enhance reserves to secure solvency.
  2. **Asset Quality:** Balancing risk and return requires optimizing asset portfolios. Increasing share capital to total assets and risk retention ratios will bolster stability.
  3. **Liquidity Management:** While asset utilization appears efficient, further liquidity improvements are necessary to ensure responsiveness to claims and market fluctuations.
- **Promising Aspects:**

i. **Profitability:** Earnings and profitability ratios exhibit positive trends, exceeding 100% for most companies. This indicates efficient operations and sound revenue generation.

ii. **Management Efficiency:** Management practices seem effective across all companies, contributing to positive financial outcomes.

- **Leadership and Trust:**

Oriental Insurance emerges as the leader, demonstrating exemplary financial performance and solidifying policyholder trust. This highlights the importance of sound financial planning and building consumer confidence.

7. FUTURE OUTLOOK:

Despite promising profitability and management competency, continued improvement in capital adequacy, asset quality, and liquidity remains crucial for all companies. Implementing comprehensive financial strategies informed by the CARAMEL model can ensure sustainability and competitive advantage in the dynamic public non-life insurance landscape.

This conclusion highlights key takeaways from the CARAMEL analysis, focusing on areas for improvement, promising aspects, leadership dynamics, and the future outlook. It balances a critical perspective with encouraging findings, providing a nuanced picture of the public sector general insurance landscape in India.

REFERENCES:

- Eto, H. (1997). Fundamental research on market and its relationship with R&D organisation. *International Journal of Technology Management*, *14*(2/3/4), 362. https://doi.org/10.1504/ijtm.1997.001717

- Marks, M., & Miskec, J. (2023). Costa Rica and El Silencio: a story of economic development for students. *Journal of Economics Teaching*, 24–46. https://doi.org/10.58311/jeconteach/87df60118f294779290f0e3ecf093bac2c16cfa7

- Patel, K., & Patel, P. (2021). Performance of selected life insurance companies – Comparative analysis. *International Journal of Finance and Banking Research*, *7*(2), 51. https://doi.org/10.11648/j.ijfbr.20210702.13
- S, K. (2023). A comparative study of financial performance of select non-life insurance companies. *Indian Scientific Journal of Research in Engineering and Management*, *07*(08). https://doi.org/10.55041/ijsrem25065
- Sharma, V. (2024). Capital Adequacy and Earnings and Profitability Analysis of life insurance Companies: (A comparative study of ICICI Prudential and SBI Life Insurance). *International Journal for Multidisciplinary Research*, *6*(2). https://doi.org/10.36948/ijfmr.2024.v06i02.15177
- Thamaraikannan, M., Balakrishnan, R. G., Deepa, N., Thilagavathi, P., Mallika, S., Kumar, P. S., Kumar, P. A., Rekha, B. J., Tamilselvan, P., Mohan, T., Sivakumar, T., Sivaprakasam, P., Sathya, Nirmala, Raja, Sadhishkumar, V., Saravanagupta, Thamaraikannan, Ramya, R., . . . Sengottuvel, C. (2023). NEW HORIZONS IN BUSINESS: UNDERSTANDING EMERGING TRENDS AND OPPORTUNITIES. In *Jupiter Publications Consortium eBooks*. https://doi.org/10.47715/jpc.b.978-93-91303-48-8
- Upadhyaya, Y. M., Ghimire, R., & Ghimire, S. R. (2023). Determinants of financial performance in Nepalese nonlife insurance companies: A panel data analysis. *Insurance Markets and Companies*, *14*(1), 99–109. https://doi.org/10.21511/ins.14(1).2023.09