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Determinants of Financial Performance – A Comparative Analysis of Public Sector Non-Life Insurers in India

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Abstract

A well-developed and functioning insurance sector is a pre-requisite for an inclusive economy and growth of any country. The insurance sector has been growing steadily and gradually in India. Insurance is an essential financial service because it provides financial security to individuals and business persons. The efficiency of the insurance companies is measured by the techniques such as financial performance, technical, purely technical and scale efficiencies. This research work aims at analyzing the financial performance of public sector non-life Indian insurance companies and the determinants of such performance. Commission, claims incurred, investment income, the net premium earned, management soundness and operating expenses are considered determinants of the financial performance of non-life insurance companies. Data are collected from the financial year 2009-10 to the financial year 2021-22 to determine financial performance. Data were checked for their normality and stationarity using EViews statistical software. Research results convey that New India Insurance Company Limited performs better in financial performance followed by United India Insurance Company Limited. Common determinants of net profit after tax of public sector non-life insurance companies are claims incurred and net premium earned.

Keywords: Financial Performance, India, Net Profit after Tax, Non-life Insurance, Return on Equity
JEL Classifications: G22, L25, N20

1. Introduction

Insurance is a tool of risk management and insurers provide various insurance products and services to business persons and individuals to ensure risk protection and financial security (Krishnamurthy *et al*., 2005). The Indian insurance industry has two categories of insurance such as "life insurance sector and non-life insurance sector". (Mandal and Ghosh Dastidar, 2014). The Indian economy was opened to private players in 1992. After a long policy deliberation, private players were allowed to operate in the Indian market in 2000 through the enactment of the "Insurance Regulatory and Development Authority Act" (Ashraf and Faiz, 2018). Since then the insurance market in India has been growing consistently and contributing to economic development (Chakraborty and Harper, 2017; Sinha, 2007). The number of private players in both life and non-life insurance sectors has also grown significantly (Chakraborty, 2017). Both public and private players operate in insurance market of India. Despite the entry of private with foreign collaborations and investments, the Indian insurance market, both life and non-life, is dominated by public sector insurance companies (Ray *et al*., 2020). Due to COVID–19 pandemic, global economies are slowing down and confronted with inflationary trends (IRDAI, 2022). Slowing growth leads to lower demand for insurance, but higher numbers of claims (IRDAI, 2022). The growth in real insurance premiums at the global level stood at 3.4% in the year 2021. Life insurance and non-life sectors grew at 4.5% and 2.6% respectively. India's life insurance

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sector grew at 8.5% and the non-life sector grew at 5.8% which was more than the world average of 4.5% in life and 2.6% in non-life sectors (IRDAI, 2022). The growth of India's insurance sector can be contributed to the growing awareness among the people towards the need for insurance products, government policies, financial inclusion initiatives and growing financial literacy. India's insurance penetration (percentage of insurance premium to GDP) is 4.2% in the year 2022 and India's Insurance density (ratio of premium to population) is $91 (IRDAI, 2022). A favourable change in the insurance sector poses challenges and opportunities to insurers. Regulators, customers and investors look for efficient insurers and inefficient insurers cannot provide financial security and good insurance products and services (Ilyas and Rajasekaran, 2019). Measurement and analysis of the efficiency of the insurers are important because efficiency measures reveal the competence of the insurance companies to face the challenges (Amanti and Siregar, 2019). Efficiency refers to the choice of alternatives that produce the outputs using given resources (Bhatia and Mahendru, 2021). In simple words, efficiency exhibits the ability of an organization to use its resources in the best possible way in comparison to the most efficient organization in the given industry. Efficiency compares inputs given and outcomes produced and efficiency is a strong indicator of the performance of the insurers (Bhatia and Mahendru, 2021). Operating efficiency is generally measured by technical efficiency (Sinha, 2007). Financial Performance (FP) measures the earnings, profitability and value of a business organization (Mwangi and Murigu, 2015). In the insurance sector, profitability is expressed in terms of premiums earned, profitability in the insurance business, returns on investment and Return on Equity (Mwangi and Murigu, 2015). Insurance companies provide funds to finance long-term projects (Morara and Sibindi, 2021). A sustainable insurance market is vital for economic development and the sustainability is closely related to the financial performance of the insurers (Morara and Sibindi, 2021). Net Profit after Tax, ROE and RONE are the variables that measure profitability, profitability per equity and profit on the capital. This study aims at determining the factors that affect financial performance of public-sector general insurers in India at the overall level and at the company level. Further, this study compares "financial performance of public sector general insurance companies in India".

2. Review of the Existing Research Works

A well-functioning insurance system is prominent for a country's economic development and the insurance sector safeguards businesses against financial risks (Chakraborty and Harper, 2017). The general insurance sector is approximately 30% of the total insurance industry premiums (Ray *et al.,* 2020). Many research works focused on the efficiency of the insurers (Bawa and Ruchita, 2011; Nikita Kumari, 2018; Ofori-Boateng *et al.,* 2022; Siddiqui, 2020; Sinha, 2007). Various efficiencies such as technical, purely technical and scale efficiencies are focused on in the existing research works (Bhatia and Mahendru, 2021). The environmental variables impact the efficiency scores of life insurers (Shieh *et al.,* 2020). "Data Envelopment Analysis" (DEA) and "Stochastic Frontier" are prominent methods of measuring efficiency (Bawa and Ruchita, 2011). There are two concepts of DEA traditional concept and modern concept. The traditional concept does not work with multiple inputs while the modern concept works with multiple inputs (Bawa and Ruchita, 2011). General insurance companies should focus on labor development and technology adoption to achieve better efficiency (Ofori-Boateng *et al.,* 2022). Technical efficiency ignores cost incurred and revenue generated analysis of the insurance companies (Bhatia and Mahendru, 2021). So, many researchers focused on the revenue efficiency of insurance companies (Bhatia and Mahendru, 2021; Morara and Sibindi, 2021; Muthulakshmi, 2018). Revenue efficiency denotes the capability of insurers to provide services to customers with the resources available (Bhatia and Mahendru, 2021). "Constant returns to scale and variable returns to scale" are the measures used to determine the productivity efficiency of the insurers (Mandal and Ghosh Dastidar, 2014). The efficiency of the insurers varies according to the economic conditions (Mandal and Ghosh Dastidar, 2014). The financial performance of the insurers was studied and

it was found that highly leveraged and lowly liquid companies had higher financial performance (Nikita Kumari, 2018). The profitability of general insurance companies depends on internal and external factors. Internal factors are specific characteristics of the insurance companies whereas the external factors are industry features and macroeconomic variables (Mwangi and Murigu, 2015). The size and age of the company, equity capital, underwriting risk, retention ratio and ownership of the insurers are the determinants of the economic performance of the insurers (Mwangi and Murigu, 2015). FP is the subjective measure of the capability of the business organization to use its assets in such a way as to maximize revenues and profits (Morara and Sibindi, 2021). Commission significantly impacts the FP of the insurers and commission is a vital factor that determines the market share of the insurer (Mulchandani *et al.,* 2017). A direct relationship exists between equity capital and the FP of the insurers (Kaur Bawa and Chattha, 2013). Public insurance companies should focus on capital adequacy and reinsurance (Vijay, 2019). The existing research works convey that the performance of the insurers needs to be evaluated as the performance indicates effective utilization of the resources. The performance is measured through various measures such as financial performance analysis, technical analysis, pure technical analysis and scale analysis. Many studies are undertaken to measure the performance of life insurance and non-life insurers in India. But limited works are done on the performance of public sector non-life insurers. So, this study aims at a comparative analysis of the FP of public sector non-life Indian insurers.

3. Research Objectives

The objectives of the study are presented below.

- To measure and analyse the differences in the financial performance of public sector non-life insurers in India at overall level.
- To determine and analyse the factors that affect the financial performance of public sector non-life insurers in India at overall level.
- To determine and analyse the factors that affect the financial performance of public sector non-life insurers in India at overall level.
- To measure and analyse the financial performance of public sector non-life insurers in India and its determinants at company level.
- To compare and analyse the financial performance of public sector non-life insurers in India.

Based on the objectives, the hypotheses are developed and presented.

H_{01}: There is no significant difference in the financial performance of public sector non-life insurers.

H_{02}: Commission does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{03}: The net premium earned does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{04}: Investment income does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{05}: Claims incurred does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{06}: Operating expenses does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{07}: Management soundness does not significantly impact the financial performance of the public sector non-life insurers at the overall level.

H_{08}: Commission does not significantly impact the financial performance of the public sector non-life insurers at the company level.

H_{09}: The net premium earned does not significantly impact the financial performance of the public sector non-life insurers at the company level.

H_{10}: Investment income does not significantly impact the financial performance of the public sector non-life insurers at the company level.

H_{11}: Claims incurred does not significantly impact the financial performance of the public sector non-life insurers at the company level.

H_{12}: Operating expenses does not significantly impact the financial performance of the public sector non-life insurers at the company level.

H_{13}: Management soundness does not significantly impact the financial performance of the public sector non-life insurers at the company level.

4. Research Methodology

The study, being a descriptive study, is based on secondary data. The study has considered all four public sectors non-life insurers such as "National Insurance Company Limited (NICL)", "New India Insurance Company Limited (NIICL)", "The Orient Insurance Company Limited (TOICL)" and "United India Insurance Company Limited (UIICL)" for the FP analysis. The period considered for the study relates to financial years from 2009-10 to 2021-22. The secondary data are collected from "the Insurance Regulatory and Development Authority of India's (IRDAI)" annual reports. Commission, the net premium earned, investment income, claims incurred, operating expenses, management soundness, "Net Profit After Tax" (NPAT), "Return on Net Worth" (RONW) and "Return on Equity" (ROE) are the variables employed in the study to determine and analyse the FP of the chosen insurers. The variables such as commission, the net premium earned, investment income, claims incurred, operating expenses and management soundness are considered determinants of the FP of chosen insurers. NPAT, ROE and RONW are the measures of FP. Variables and their computation are shown in Table 1.

Based on Table 1 measurement, variables of the study such as commission, the net premium earned, investment income, claims incurred, operating expenses, management soundness NPAT, ROE and RONW are computed for each public sector non-life Indian insurance companies for each year from the financial year 2009-10 to the financial year 2021-22. Then, determinants of the FP of each public non-life insurer are identified by employing Ordinary Least Square Regression. Further, this study focuses on differences in the FP of public sector non-life Indian insurers are measured by analysing mean-variance. Regression equation is presented here.

$$Y = \alpha + \beta_1 COM + \beta_2 NPE + \beta_3 II + \beta_4 OE + \beta_5 MS + \varepsilon$$

Where Y = NPAT or ROE or RONW

Table 1. Variables and their measurement

Particulars	Measurement or Computation
Commission (COM)	Commission paid to the agents during a year
Net Premium Earned (NPE)	Insurance premiums underwritten – Reinsurance ceded + Reinsurance accepted
Investment Income (II)	Income raised from the investments in other sources other than insurance
Claims Incurred (CI)	Direct claims + Reinsurance claim paid – Reinsurance claim received
Operating Expenses (OE)	Office and administration expenses and selling, and distribution expenses related to the insurance products
Management Soundness (MS)	Operating expenses incurred divided by gross premium earned
Net Profit after Tax (NPAT)	Operating Profit after tax
Return on Equity (ROE)	Net Profit after tax divided by shareholders' equity
Return on Net Worth (RONW)	Net worth divided by shareholders' equity

Source: Compiled by the authors

5. Results of Data Analysis

The FPs of Indian public non-life insurers at the overall level were first analysed. Descriptive statistics of the variables are in Table 2.

Table 2 depicts descriptive statistics of commission, net premium earned. investment income, claims incurred, operating expenses, management soundness, NPAT, ROE and RONW at the overall level. Descriptive statistics results reveal that operating expenses, management soundness, NPAT, ROE and RONW are negatively skewed and commission, net premium earned. Investment income and claims incurred are positively skewed. Kurtosis values indicate that commission, net premium earned, investment income, claims incurred, operating expenses, management soundness and Return on Equity are negative kurtosis and NPAT and RONW are positive kurtosis. Jargue-bera p-values for commission, the net premium earned. investment income, claims incurred, operating expenses, management soundness, NPAT, ROE and RONW are more than 0.05. So, it can be concluded that commission, the net premium earned, investment income, claims incurred, operating expenses, management soundness, NPAT, ROE and RONW are normally distributed.

It is checked that NPAT, ROE and RONW differ from one public sector non-life insurance company to another public sector non-life insurance company using the test of means for equality. The results are presented in Table 3.

ANOVA results convey that there are significant differences in NPAT, ROE and RONW of public sector non-life insurers. So, null hypothesis of hypothesis is rejected, and it is said that there are differences in NPAT, ROE and RONW of public sector non-life insurers at the overall level. Determinants of overall NPAT, ROE and RONW of public sector non-life insurers are analysed using Ordinary Least Square Regression (Table 4).

OLS regression results reveal that the net profit after tax of public sector non-life insurers is significantly affected by claims incurred, investment income and net premium earned by 92.0%. However, commission,

Table 3. ANOVA

Variable	F Value	P-value
Net Profit after tax	21.511	0.014
Return on Equity	18.203	0.018
Return on Net Worth	705.101	0.001

Source: Computed based on secondary data

Table 4. OLS Regression – Overall

Variable	NPAT P-value	ROE P-value	RONW P-value
Commission	0.0864	0.8685	0.2992
Claims incurred	0.0071	0.0016	0.0204
Investment Income	0.0191	0.0406	0.1525
Management soundness	0.4593	0.2852	0.3501
Net premium earned	0.0268	0.0429	0.2715
Operating expenses	0.7654	0.5920	0.4612
Constant	0.6767	0.3256	0.4462
R^2	0.920	0.947	0.873

Source: Computed based on secondary data

Table 2. Descriptive statistics (in Crores)

Particulars	Mean	Standard Deviation	Skewness	Kurtosis	Jargue-bera	P
Commission	753.227	332.481	.395	-1.160	0.945	0.623
Net premium earned	10137.935	4013.635	.023	-1.274	0.799	0.670
Investment Income	678.746	120.727	.270	-1.577	1.168	0.557
Claims Incurred	9323.907	3920.988	.050	-1.742	1.217	0.544
Operating Expenses	2614.858	864.100	-.008	-1.230	0.763	0.682
Management Soundness	22.2627	2.964	-.329	-.445	0.438	0.802
Net Profit After Tax	110.188	675.491	-1.302	1.167	2.604	0.271
Return on Equity	.3110	4.359	-.849	-.295	1.300	0.521
Return on Net Worth	-49.278	100.840	-1.787	2.212	5.269	0.071

Source: Computed based on secondary data

management soundness and operating expenses do not impact the NPAT of public sector non-life insurers. The Return on Equity of public sector non-life insurers is significantly affected by claims incurred, investment income and net premium earned by 94.7%. However, commission, management soundness and operating expenses do not impact the Return on Equity of public sector non-life insurers. The return on the net worth of public sector non-life insurers is significantly affected by claims incurred by 87.3%. However, commission, investment income, management soundness, the net premium earned and operating expenses do not impact the return on the net worth of public sector non-life insurers. Regression results presented in Table 4 convey that net profit after tax and Return on Equity of all public sector non-life insurers are influenced by their claims incurred, investment income and net premium earned. The determinant of the return of net worth of all public sector non-life insurers is claims incurred.

The FP of each public sector non-life insurer and determinants of NPAT, ROE and RONW of National Insurance Company Limited (NICL) are presented in Table 5.

Net profit after tax of NICL is significantly affected by claims incurred, investment income and net premium earned by 97.2%. However, commission, management soundness and operating expenses do not impact the net profit after tax of NICL. The Return on Equity of NICL is significantly affected by the commission, claims incurred, investment income, management soundness, the net premium earned and operating expenses by 97.7%. Return on the net worth of NICL is significantly affected by claims incurred and investment income, by 73.4%. All other variables insignificantly impact the return on the net worth of NICL.

Determinants of NPAT, ROE, and RONW of New India Insurance Company Limited (NIICL) are presented in Table 6.

Table 6. OLS Regression –NIICL

Variable	NPAT P-value	ROE P-value	RONW P-value
Commission	0.0266	0.6021	0.9359
Claims incurred	0.0034	0.0432	0.3694
Investment Income	0.0825	0.1903	0.9951
Management soundness	0.0349	0.8350	0.3180
Net premium earned	0.0033	0.1343	0.0056
Operating expenses	0.3570	0.6937	0.7597
Constant	0.0155	0.5604	0.1315
R^2	0.969	0.840	0.742

Source: Computed based on secondary data

The net profit after tax of NIICL is significantly affected by the commission, claims incurred, management soundness and net premium earned by 96.9%. However, investment income and operating expenses do not impact the NPAT of NIICL. The Return on Equity of NIICL is significantly affected by claims incurred by 84%. All other variables are insignificant. The return on the net worth of NIICL is significantly affected by the net premium earned by 74.2%. All other variables insignificantly impact the return on the net worth of NIICL.

Determinants of NPAT, ROE and RONW of The Orient Insurance Company Limited (TOICL) are presented in Table 7.

Table 5. OLS Regression – NICL

Variable	NPAT P-value	ROE P-value	RONW P-value
Commission	0.0732	0.0374	0.3416
Claims incurred	0.0128	0.0006	0.0404
Investment Income	0.0052	0.0033	0.0500
Management soundness	0.4341	0.0211	0.4696
Net premium earned	0.0006	0.0006	0.9018
Operating expenses	0.3959	0.0287	0.1356
Constant	0.2824	0.0109	0.5320
R^2	0.972	0.977	0.734

Source: Computed based on secondary data

Table 7. OLS Regression – TOICL

Variable	NPAT P-value	ROE P-value	RONW P-value
Commission	0.8571	0.6553	0.4224
Claims incurred	0.0015	0.0001	0.0374
Investment Income	0.0724	0.3483	0.0301
Management soundness	0.6344	0.0213	0.6789
Net premium earned	0.0022	0.0008	0.4657
Operating expenses	0.0085	0.0038	0.7809
Constant	0.7333	0.0274	0.9561
R^2	0.971	0.985	0.934

Source: Computed based on secondary data

The net profit after tax of TOICL is significantly affected by claims incurred, the net premium earned and operating expenses by 97.1%. However, commission, investment income and management soundness do not impact the NPAT of TOICL. The Return on Equity of TOICL is significantly affected by claims incurred, management soundness, net premium earned and operating expenses by 98.5%. All other variables are insignificant. The return on the net worth of TOICL is significantly affected by the commission and investment income by 93.4%. All other variables insignificantly impact the return on the net worth of TOICL.

Determinants of NPAT, ROE and RONW of "United India Insurance Company Limited" (UIICL) are presented in Table 8.

Table 8. OLS Regression – UIICL

Variable	NPAT P-value	ROE P-value	RONW P-value
Commission	0.4076	0.5360	0.5138
Claims incurred	0.0029	0.0043	0.0500
Investment Income	0.9103	0.7480	0.0756
Management soundness	0.9262	0.0405	0.8334
Net premium earned	0.0087	0.0095	0.5092
Operating expenses	0.8067	0.0241	0.5277
Constant	0.9886	0.0362	0.3107
R^2	0.580	0.933	0.904

Source: Computed based on secondary data

The Net Profit after Tax of UIICL is significantly affected by claims incurred and net premium earned by 58%. However, commission, investment income, management soundness and operating expenses do not impact the net profit after tax of UIICL. The Return on Equity of UIICL is significantly affected by claims incurred, management soundness, the net premium earned and operating expenses by 93.3%. All other variables are insignificant. The return on the net worth of UIICL is significantly affected by claims incurred by 90.4%. All other variables insignificantly impact the return on the net worth of UIICL.

6. Discussions

This study aims at analysing and comparing the FP of public sector non-life insurers in India. The FP of the companies is measured through NPAT, ROE and RONW. Mean scores of NPAT for the chosen non-life insurers convey that NIICL (930.50) and UIICL (150.69) have better NPAT than NICL (-435.60) and TOICL (-204.84). As far as Return on Equity is concerned also, NIICL (3.51) and UIICL (0.316) have better returns on equity than NICL (-1.95) and TOICL (-0.63). In Return on Net Worth, NIICL has a positive score (8.05). NICL (-102.62), TOICL (-13.53) and UIICL (150.69) have negative mean scores. As far as financial performance is concerned, NIICL performs better followed by UIICL. However, NICL and TOICL perform moderately when compared to NIICL and UIICL. The results indicate that there are significant differences in the financial performance of non-life insurers in India. This study confirms the results of a previous conducted by A. Sinha and Bandopadhyay (2015) who have found that there are significant differences in financial performance of private and public general insurers and financial performances differ from one public insurer to another public insurer (A. Sinha and Bandopadhyay, 2015).

Determinants of overall net profit after tax and Return on Equity of public sector non-life insurers are claims incurred, investment income and net premium earned. The overall return on the net worth of public sector non-life insurers is significantly affected by claims incurred. Analysis of determinants of the FP of individual public sector non-life insurers conveys that determinants of financial performance of the public sector non-life insurance companies vary from one company to another company. Common determinants of net profit after tax of public sector non-life insurers are claims incurred and net premium earned. Similarly, common determinants of Return on Equity are claims incurred, the net premium earned, management soundness and operating expenses in predominant cases. Return on Net Worth is influenced by a variety of variables as mentioned in the analysis. This study differs from the findings of the research work done by Morara and Sibindi (2021) which mentions that investment income is one of the determinants of financial performance of insurance companies in Kenya (Morara and Sibindi, 2021). Vital measures that contribute to the FP of the chosen insurers are claims incurred, investment

income, net premiums earned, management soundness, and operating expenses.

7. Conclusions

Insurance is an essential financial service that provides financial security to the holders. In India, the insurance sector is privatized in 2000 and subsequently, many private insurers entered both life and non-life sectors. The Indian insurance sector is at the growth phase. This study aims at analysing and comparing the FP of public sector non-life insurers in India. This study has found that there are significant differences in the FP of public sector non-life insurers. NIICL performs better in financial performance followed by UIICL. Further, this study has found that determinants of financial performance of the public sector non-life insurers differ from one insurer to other. Common determinants of net profit after tax of public sector non-life insurers are claims incurred and net premium earned. Similarly, common determinants of Return on Equity are claims incurred, the net premium earned, management soundness and operating expenses in predominant cases. This study covers the period till 31st March 2022 and the subsequent period data are not considered which are one of the limitations of the study. The scope for future research includes measurement of the financial performance of private sector non-life insurers and comparing their financial performance with the financial performance of public sector non-life insurers during pre-and post-pandemic periods.

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