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Unveiling the Financial Divide: Earnings and Profitability in Public Sector and Private Sector Non-Life Insurance Firms

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Abstract

The insurance business plays a pivotal role in financial interpretation, serving as a vital conduit through which funds from small investors are mobilized and channeled into productive economic activities. It comprises two principal segments: Life Insurance and General Insurance, with the latter commonly referred to as the Non-Life Insurance sector. This sector is instrumental in supporting economic resilience and fostering long-term growth by mitigating a wide range of risks. The present research delves into a relative analysis of the earnings and profitability of public sector and private sector Non-Life Insurance companies in India. By examining key financial indicators such as underwriting results, net profit margins, investment income, and claim settlement ratios, the study seeks to uncover performance differentials and strategic financial management practices across the two segments. The objective is to assess the efficiency, sustainability, and competitive positioning of these firms within an evolving regulatory and market environment. This analysis not only contributes to understanding institutional performance but also provides insights for policymakers, investors, and industry stakeholders regarding the operational dynamics and fiscal health of the Non-Life Insurance landscape.

Keywords: Earnings Analysis, Financial Performance, General Insurance, Insurance Sector, Profitability, Public and Private Insurance Companies.

Introduction

The insurance industry functions as a critical pillar of modern economies, providing financial security, risk mitigation, and investment mobilization. It not only protects individuals and businesses against unforeseen risks but also plays an essential role in capital formation and the broader financial system. Life and non-life insurance are its two main business segments. Because it covers assets, health, and liabilities, the non-life insurance industry also referred to as general insurance assumes a particularly dynamic role, directly promoting infrastructural development and economic resilience (1). In emerging economies like India, the non-life insurance industry has experienced rapid evolution in recent decades, driven by liberalization, regulatory reforms, and increased consumer awareness. Following the entry of private players in the wake of the Insurance Regulatory and Development Authority Act (IRDA Act) of 1999, the industry has transformed from a state-dominated sector into a competitive marketplace with both public and private firms vying for market share (2). This shift has raised critical questions about the relative efficiency, profitability, and financial strategies of public versus private non-life insurers. Profitability remains a key indicator of financial health and operational success in the insurance sector, influenced by a variety of factors such as underwriting efficiency, investment performance, claim management, and regulatory compliance (3). A comparative analysis of earnings and profitability across public and private insurers is therefore essential to understand how market dynamics, ownership structures, and managerial practices affect performance. Previous studies have highlighted gaps in operational efficiency and customer service between public and private firms (4), but limited research has focused specifically on a detailed financial performance comparison using robust indicators. This study aims to bridge that gap by conducting an in-depth analysis of selected public and private non-life insurance companies, focusing on earnings patterns, profitability metrics, and strategic financial performance. By evaluating critical indicators such as underwriting profits, claim settlement ratios, and investment income, this research seeks to provide insights for industry

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stakeholders, policymakers, and investors alike. It also contributes to the broader discourse on how institutional structure influences financial outcomes in a liberalized insurance environment. The insurance sector has been widely studied in the context of economic development, financial performance, and institutional efficiency. Several researchers have explored the financial health and profitability of insurance companies, recognizing their role as financial intermediaries and risk managers in an increasingly complex economic landscape. One of the most discussed topics in insurance research is the performance differential between public and private sector firms. Profitability in the insurance industry is influenced by variables such as company size, leverage, underwriting risk, and liquidity. His study of Pakistani insurance companies revealed that private insurers often exhibit better performance due to higher efficiency and strategic investment decisions (5). Similarly, a comparative study of public and private non-life insurers in India and concluded that private players were more aggressive in market penetration and customer acquisition, resulting in superior financial outcomes. Underwriting efficiency remains a critical determinant of profitability in non-life insurance companies (6). They highlighted that private insurers often perform better in underwriting due to more advanced risk assessment tools and flexible pricing strategies. Public insurers, on the other hand, face legacy operational challenges and policyholder obligations that affect underwriting results and expense ratios. While profitability is a key concern, claim settlement ratios also influence customer retention and overall financial stability (7). They emphasized that public sector insurers tend to have higher claim settlement ratios, a reflection of their social responsibility and government-mandated service mandates. However, this sometimes comes at the cost of profitability, as public insurers are less likely to reject claims for strategic cost-saving. Post-liberalization, the Indian insurance industry has seen structural changes that have reshaped the competitive landscape (8). Regulatory reforms and the entry of foreign joint ventures in private insurance have led to better capital management, innovation in product design, and enhanced profitability. Nonetheless, public insurers still hold a significant portion of market share due to their trust factor. Using a range of financial criteria, numerous studies have looked at the efficiency and profitability disparities between public and private insurers (9). Bureaucratic decision-making, antiquated legacy systems, and inflexible organizational structures are the main reasons why public sector insurers in India typically lag behind private companies in terms of operational efficiency (10). Private insurers, on the other hand, gain from flexible management, performance-based rewards, and the use of state-of-the-art technology, all of which improve service quality and cost effectiveness. Private insurers in India and around the world routinely exhibit superior technical and scale efficiency, according to empirical research employing Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA) (11, 12). Additionally, private businesses frequently have higher Return on Equity (ROE) and Return on Assets (ROA), especially in markets that are deregulated and competitive (13). Public insurers may be disproportionately impacted by these profitability criteria, which are additionally influenced by business size, market share, and regulatory circumstances. In the insurance industry, the effectiveness of claims processing is a key metric for evaluating service quality. Private insurers in India typically achieve lower claim repudiation rates and faster claim settlement ratios, particularly in the health and auto insurance segments (14, 15). Customer-centric service models and strong digital claim management systems are responsible for these results. On the other hand, although being slower, public insurers frequently have greater claims paid rates in high-risk and rural areas, which reflects their compliance with social insurance regulations. Studies on customer satisfaction highlight the gap even further. Customers of private insurers express more satisfaction with responsiveness, openness, and grievance redressal procedures (16). But according to the same study, public insurers perform better in terms of perceived dependability and brand trust, particularly among policyholders in tier-2 and tier-3 cities. The same IRDAI standards apply to both public and private insurers in terms of regulatory compliance. However, public sector insurers frequently have to answer to both the government and the regulator, which might impede their ability to innovate and

make decisions (17). Despite being more agile, private insurers have occasionally come under fire for engaging in pushy sales tactics and misrepresenting their products (18). As a result, the regulatory burden varies in institutional context and responsiveness rather than form. From a theoretical perspective, Principal-Agent Theory describes how private firms better match management incentives with shareholder goals, while Public Choice Theory contends that public firms may perform poorly because of a lack of competitive forces and lax budgetary limitations (19). These frameworks serve as the foundation for several empirical studies and are pertinent when analyzing sectoral disparities seen in the Indian setting.

The non-life insurance sector in India has undergone significant transformation in the post-liberalization era, marked by the entry of private players and increased competition. Despite operating in the same regulatory environment, public and private non-life insurance companies have demonstrated varied performance in terms of earnings, profitability, operational efficiency, and customer service delivery. Public sector insurers, with their legacy infrastructure and social obligations, often prioritize reach and inclusivity, while private insurers leverage technology, innovation, and aggressive marketing strategies to optimize performance. However, there exists a persistent ambiguity regarding which sector public or private demonstrates superior financial performance, particularly in terms of profitability and earnings sustainability. Most previous studies have either been too broad or have focused on isolated financial indicators, failing to present a comprehensive and comparative financial assessment. Moreover, stakeholders such as policymakers, investors, and customers require a clear understanding of the operational efficiency and financial soundness of these companies to make informed decisions. Given this context, there is a pressing need to evaluate and compare the earnings and profitability of public and private non-life insurance companies using robust financial metrics. This will not only help in identifying sectoral strengths and weaknesses but also contribute to framing strategies that enhance competitiveness and ensure long-term sustainability in the insurance industry.

The Indian general insurance sector is a critical component of the financial system, offering protection against diverse risks and contributing to capital formation. With the rapid growth of the insurance market post-liberalization, the coexistence of public and private players has introduced competitive dynamics that demand rigorous evaluation. As public insurers carry the legacy of social responsibility and wide outreach, private firms have introduced innovation, efficiency, and customer-centric strategies to improve financial performance. In this evolving landscape, understanding how public and private non-life insurance companies differ in terms of earnings and profitability is essential for several reasons. First, it provides insights into how ownership structure influences operational efficiency and financial outcomes. Second, it aids policymakers and regulators in designing frameworks that ensure balanced growth and financial sustainability across the sector. Third, for investors and stakeholders, such an analysis highlights which companies are better positioned for long-term value creation. Despite the sector's significance, limited comparative research exists that holistically examines the financial performance of both public and private insurers using multiple profitability indicators. This study addresses that gap by providing a systematic and comparative financial analysis, thereby contributing to the academic literature and offering practical implications for strategic decision-making in the insurance industry.

This study utilizes a conceptual framework focused on institutional and operational dimensions affecting financial performance in public and private non-life insurance firms to understand the differences in earnings and profitability.

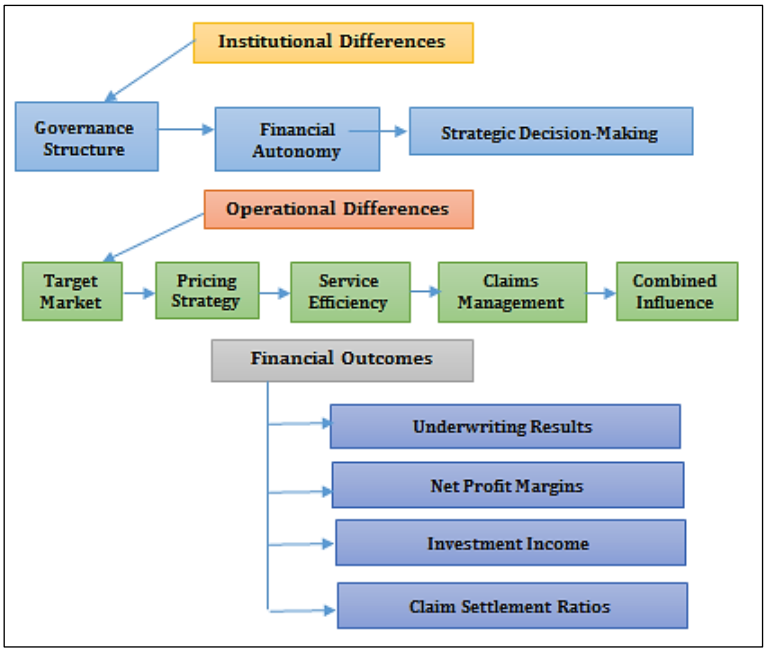

Figure 1: The Conceptual Framework for Examining Profitability Differences

This framework shows in Figure 1, suggests that institutional characteristics (such as ownership structure and governance mechanisms) and operational strategies (including pricing models, service quality, and claims processing efficiency) collectively impact key financial outcomes.

Institutional Differences

Governance Structures

Public insurers function under government ownership and regulation, with decision-making often influenced by bureaucratic layers. Their board structure, leadership roles, and accountability mechanisms are linked to public sector standards, which can sometimes restrict agility. Private insurers, on the other hand, demonstrate corporate governance practices characterized by greater board independence and accountability to shareholders. This enables faster strategic shifts and innovation (20).

Funding Sources

Insurers in the public sector are frequently funded by government resources and can obtain sovereign backing during times of financial strain. This arrangement provides them with systemic stability, but also imposes strict fiscal limits. private insurers depend on market-based funding sources such as equity, reinsurance arrangements, and strategic partnerships, which facilitate a greater risk appetite and growth initiatives (21).

Flexibility in Decision-Making

Private entities usually operate under decision-making models that are decentralized and centered on consumers. This enables them to adjust products and pricing based on market signals. Public insurers encounter procedural and compliance-related limitations that can reduce operational speed and responsiveness (22).

Operational Differences

Customer and Target Market Segmentation

The flexibility of premium pricing may be limited by the fact that public insurers frequently serve mass-market segments, rural populations, and social welfare-linked programs (such as PMFBY and Ayushman Bharat). Contrarily, private insurers aggressively divide up the urban and wealthy markets and provide tailored products, which boost profits and distinguish their brands.

Approach to Pricing

Government policy or socioeconomic mandates may have an impact on public insurers' pricing, which frequently leads to low-margin products. In order to achieve risk-adjusted profitability, private businesses use data-driven and actuarial approaches for dynamic pricing (23).

Digital Integration and Service Delivery

To increase consumer interaction, private insurers have used omnichannel strategies and tech-enabled distribution (such as chatbots, AI-driven underwriting, and mobile apps). Although public sector businesses are becoming more digitally savvy, they still trail behind in terms of user experience and ICT infrastructure (24).

Processing Claims

Profitability is greatly impacted by effective claims processing. For quicker processing, private insurers frequently use digital documentation, automated systems, and fraud analytics. Manual or antiquated systems provide operational and reputational problems for public insurers, leading to longer turnaround times and claim leakage.

The objective of the study is to gain a comprehensive understanding of the structure, role, and significance of the non-life insurance sector in India, including its contribution to economic growth and financial risk management and also to assess the profitability performance of selected public and private non-life insurance companies operating in India, using key financial indicators such as underwriting results, investment income, and claim settlement ratios. To conduct a comparative analysis of the profitability and earnings efficiency between public and private sector non-life insurers, identifying trends, strengths, and performance differentials. Finally, to draw a meaningful conclusion and offer actionable recommendations for enhancing the financial performance and operational effectiveness of the selected insurance companies based on the findings of the study.

Methodology

The research methodology outlines the systematic approach adopted to achieve the objectives of the study. This section details the research design, data sources, sampling technique, period of study, and tools used for analysis.

Research Design

This study follows a descriptive and analytical research design. The descriptive component aims to provide a clear understanding of the structure and functioning of the non-life insurance sector in India. The analytical aspect focuses on evaluating and comparing the financial performance of selected public and private non-life insurance companies.

Nature and Source of Data

The study is based on secondary data, which has been collected from reliable and authentic sources, including:

- Annual reports of the respective insurance companies.
- Publications and statistical handbooks of the Insurance Regulatory and Development Authority of India (IRDAI).
- Industry reports from reputed financial research agencies (e.g., Swiss Re, IBEF).
- Relevant financial databases and websites.

Sampling Technique and Sample Size

A purposive sampling technique has been employed to select the insurance companies for the study. The sample includes a mix of public and private sector non-life insurance companies based on criteria such as market share, availability of consistent financial data, and operational history.

Sample Composition

The sample for this study has been selected based on the market capitalization and operational significance of the insurance companies within the Indian non-life insurance sector. A total of eight insurance companies have been chosen, comprising an equal representation from both the public and private sectors, covering four public sector insurers and four private sector insurers. This balanced selection ensures a meaningful comparison between the two segments of the industry. The selected companies are listed below:

Public Sector Insurance Companies

- General Insurance Corporation of India (GIC)
- The New India Assurance Company Ltd. (NIACL)
- United India Insurance Company Ltd. (UIICL)
- The Oriental Insurance Company Ltd. (TOICL)

Private Sector Insurance Companies

- Bajaj Allianz General Insurance Company Ltd.
- Reliance General Insurance Company Ltd.
- TATA AIG General Insurance Company Ltd.
- IFFCO-TOKIO General Insurance Company Ltd.

Study Period

The period of research study covers a 10-year period, from 2014-15 to 2023-24, to capture the recent financial trends and performance patterns in a post-liberalization and post-pandemic context.

The Structure of Datasets

Ten top non-life insurance companies 4 from the public and 4 from the private sectors were sampled for the study using panel data gathered over a ten-year period 2014-15 to 2023-24. Annual reports from insurers, publications from the Insurance Regulatory and Development Authority of India (IRDAI), and validated financial databases like Capitaline and CMIE Prowess are some examples of data sources.

The final dataset has an imbalanced panel arrangement. Due to mergers, the arrival and exit of more recent private companies, or the lack of comprehensive financial records for specific years, an imbalanced panel was adopted even though a balanced panel provides statistical simplicity (25). The sample size would have been drastically decreased and market representation would have been skewed if these observations had been excluded. Therefore, without adding systematic bias, the imbalanced structure permits the integration of all available, valid observations.

Handling Missing Values

The majority of missing data points were found in certain disclosure components (e.g., segment-wise underwriting data) or in the early years of newer private insurers. The following procedures were put in place to deal with these:

- When important factors like net profit, underwriting outcome, or claim ratios were absent, list wise deletion was used. By doing this, biases from incomplete observations were prevented and analytical consistency was guaranteed.
- In order to maintain the firm's relative position within its peer group, mean imputation was employed for non-critical variables or isolated gaps (such as missing investment income statistics for a single year) within firm groupings (public/private).
- Due to the possibility of autocorrelation in financial panel data, no forward or backward filling was used (26).

Normalization of Profitability

- Normalizing financial performance metrics was essential because public and private insurers operate on different scales, especially when it comes to gross written premium (GWP), total assets, and market share.
- Return on Equity (ROE), which relates net income to shareholders' equity and automatically accounts for firm size, was the main measure of profitability.
- In order to provide a uniform underwriting margin metric, underwriting profit/loss was additionally normalized by net earned premium (NEP).
- Furthermore, investment income could be compared regardless of the size of the portfolio because it was expressed as a ratio of average investment assets.
- This multi-layered normalization method made sure that efficiency and strategy, rather than company size or market dominance, distorted performance comparisons (27).

Instruments and Methods for Analysis

In order to evaluate and compare the financial performance of the selected companies, the following financial ratios and tools are employed:

- Profitability Ratios**:** Net Profit Margin (NPM), Return on Equity (ROE), Return on Assets (ROA).
- Underwriting Profit/Loss
- Claim Settlement Ratio
- Investment Income Ratio

Additionally, the data is interpreted over time using trend analysis and comparative analysis. Bar charts and line graphs are examples of visual tools that can be used to better represent the results.

The study's limitations Include

- The study only uses secondary data, and the validity of public material determines how accurate the findings are.
- The analysis is limited to selected companies and may not represent the entire sector comprehensively.

Table 1: The Variables and Operational Definitions used in the Study to Analyze the Profitability Position

Variable	Definition/Calculation	Purpose
ROE	Net Profit / Shareholders' Equity	Measure of profitability
Underwriting Margin	Underwriting Result / Net Earned Premium	Operational efficiency
Investment Return Ratio	Investment Income / Average Invested Assets	Asset efficiency
Claim Settlement Ratio	Claims Paid / Claims Reported	Customer service & claims efficiency
Market Share	GWP of Firm / Total GWP of Market	Competitive positioning

- Regulatory or market disruptions during the study period may have influenced profitability trends.

Study Hypotheses

- **Null Hypothesis (H_0):** The earnings and profitability ratios of non-life insurance companies in India's public and private sectors do not differ statistically significantly.
- **Alternative Hypothesis (H_1):** The profits and profitability ratios of non-life insurance companies in India's public and private sectors differ statistically significantly.

Table 2: The Important Financial Factors in Order to Assess and Contrast the Profitability of the Chosen Public and Private Non-Life Insurance Companies:

Variables	Formula
Return on Equity (ROE)	(Net Income / Shareholders' Funds) × 100
Return on Total Assets (ROA)	(Net Income / Total Assets) × 100
Earnings per Employee	Net Income / Total Number of Employees
Expense Ratio	(Operating Expenses / Net Premium) × 100
Loss Ratio	(Net Claims Incurred/Net Premium Earned) x 100
Combined Ratio	Loss Ratio + Expense Ratio
Underwriting Ratio	Net earned premium-Net incurred claims-Net Commission-Operating Expenses (Before adjusting transfer to Profit and loss account as per Section 40C)- Premium Deficiency

Table 2 showing the important financial factors in order to assess and contrast the profitability of the chosen public and private non-life insurance companies. A comparison analysis between the chosen public and private non-life insurance companies is carried out in order to satisfy the research objective. To ascertain whether there is a statistically significant difference in profitability between the two groups, the average values for each financial variable are calculated, and the hypothesis is tested at a 5% level of significance using a t-test.

Results

Any empirical research study is built on the foundation of data collection, presentation, analysis, and interpretation. Meaningful insights and conclusions are constructed on the basis of accurate and pertinent data. To assess the financial performance of a few public and private non-life insurance businesses in India, a thorough earnings and profitability analysis has been conducted for the purposes of this study. The analysis aims to compare the profitability indicators of the two groups of insurers over a period of the last ten years. To ensure robustness and objectivity in the interpretation of results, two widely recognized statistical tools have been employed:

- **F-Test (ANOVA):** Used to determine whether there are significant differences in the mean values of the selected financial indicators across multiple companies or groups.
- **t-test:** Applied to compare the mean values of financial ratios between public and private sector insurers, thereby testing the hypothesis concerning differences in earnings and profitability.

This statistical approach enables a rigorous comparison and supports the derivation of valid and reliable conclusions regarding the financial health and performance dynamics of the selected general insurance companies that are operating in India.

Regulatory Implications on Competitiveness

There are two implications of these patterns from a regulatory perspective. First, by maintaining businesses that are not market-efficient, state insurers' inefficiencies especially with regard to profitability volatility can skew market competitiveness and may discourage private investment and innovation in the industry. Public insurers, on the other hand, stabilize inclusive coverage by frequently financing high-risk markets or government-sponsored programs that private companies might steer clear of for business reasons.

In order to achieve a balance between equity and efficiency, regulators like IRDAI must improve transparency, encourage operational reform in public companies, and make sure that the public sector's presence does not unintentionally subsidize or crowd out inefficiencies at the expense of competitive neutrality. Regulatory

instruments such as outcome-linked funding, governance reform, and periodic performance assessment could enhance alignment with market discipline while upholding social mandates.

The yearly average Return on Equity (ROE) ratios for general insurance companies in the public and private sectors throughout the ten-year period from 2014–15 to 2023–24 is shown in Table 3. Understanding the consistency of returns across the two sectors is made easier by the data's inclusion of squared deviations and deviations from the mean. Significantly, higher squared deviations indicate that the public sector was more volatile.

Table 3: The Average of Return on Equity Ratio (ROE) during 2014-15 to 2023-24

Year	Public Sector ROE (%)			Private Sector ROE (%)		
	Mean	$(x - \bar{x})$	$(x - \bar{x})^2$	Mean	$(x - \bar{x})$	$(x - \bar{x})^2$
2014-15	9.965	3.335	11.122	4.363	-4.826	23.289
2015-16	2.603	-4.027	16.218	-7.615	-16.804	282.371
2016-17	-2.41	-9.04	81.723	-2.203	-11.392	129.775
2017-18	16.363	9.733	94.729	13.803	4.614	21.29
2018-19	13.945	7.315	53.508	18.740	9.551	91.224
2019-20	12.668	6.038	36.456	13.048	3.859	14.893
2020-21	9.413	2.783	7.745	11.278	2.089	4.364
2021-22	-6.223	-12.853	165.202	16.615	7.426	55.147
2022-23	25.2	18.57	344.841	13.340	4.151	17.232
2023-24	-15.223	-21.853	477.558	10.520	1.331	1.772
Total	66.301		1289.102	91.889		641.357

Interpretation

As observed in Table 3 there is a decadal comparison of Return on Equity (ROE) for non-life insurance companies in India's public and private sectors, covering the years 2014–15 through 2023–24, is shown in Table 1. Together, the data's yearly ROE values, squared deviations $[(x - \bar{x})^2$, and departures from the mean $(x - \bar{x})$ offer insight into volatility and long-term financial stability. The ROE of the public sector insurers showed significant volatility, with squared deviations of 477.56 and 344.84 for 2023–2024 and 2022–2023 showing very large swings. Significant financial stress was indicated by a sharp decline in 2023–2024, when the sector recorded a negative ROE of –15.2%, and again in 2021–2022, when it reported a negative ROE of –6.22%. Despite these declines, the industry saw a robust but brief recovery in 2022–2023, with a high ROE of 25.2%. The public sector's overall cumulative squared deviation was 1289.102, indicating increased financial irregularity and instability over the course of the decade.

On the other hand, non-life insurers in the private sector showed a more resilient and steady performance trend. Despite a significant decline in 2015–16, when the sector's ROE was –7.615%, as indicated by the greatest squared deviation of 282.37, ROE values generally leveled out in the years that followed. This pattern is consistent with research by the author who highlighted the adaptable tactics and operational flexibility used by Indian private insurers. Private insurers' total squared deviation was 641.357, roughly half that of the public sector. This indicates better risk management skills and higher financial discipline, a pattern also noted in comparative insurance research.

These findings support previous research showing that private companies, which are typically motivated by competitive market strategies and performance-linked structures, typically maintain more stable profitability than public companies, which are typically impacted by strict governance frameworks and socioeconomic obligations.

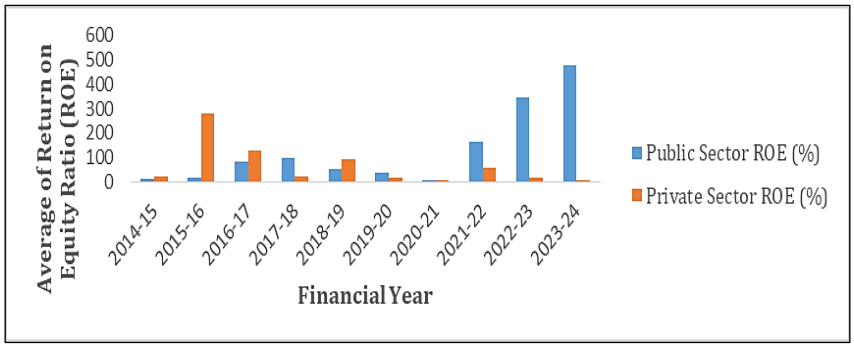

Figure 2: The Average of Return on Equity Ratio (ROE) during 2014-15 to 2023-24

A graphical comparison of the ROE trends for insurers in the public and private sectors over the same time period is shown in Figure 2. It draws attention to the wide variations in public sector performance, especially in 2022–2023 and 2023–2024, and the higher constancy of private sector returns.

A t-test was used to statistically compare the average Return on Equity (ROE) of public sector general insurance businesses with their benchmark. At the 5% level, the findings, which are shown in Table 4, determine if the observed average ROE is statistically significant.

Table 4: The Summary of t-test Statistics for Average of Return on Equity (ROE)

Name of Sector	Mean	Standard Deviation (SD)	Degrees of Freedom (DF)	't' Calculated	't' Table Value(5%)
Public Sector General Life Insurance Companies	6.6301	10.3561	18	0.5524	2.1009

Interpretation

As shown in Table 4, Critical insights into sectoral performance dynamics can be gained from the t-test study that compares the average Return on Equity (ROE) for non-life insurance companies in India's public and private sectors over a ten-year period (2014–15 to 2023–24). The test evaluates the alternative hypothesis (H_1), which holds that there is a significant difference between public and private insurers in ROE, against the null hypothesis (H_0), which states that there is no statistically significant difference.

Since the calculated t-value of 0.5524 is significantly less than the critical t-value of 2.1009 at a 5% significance level, the null hypothesis cannot be rejected. This suggests that rather than being the result of innate structural or operational efficiency, the observed variations in mean ROE between the two sectors may have happened by accident and are not statistically significant. These results are in line with previous research, which found slight statistical differences in financial indicators between public and private insurers. These discrepancies were frequently ascribed to volatility rather than long-term performance disparities.

The lack of statistical significance emphasizes the significance of not over-interpreting graphical or trend-based observations in isolation, even though visual trends and year-over-year fluctuations indicate that private sector firms generally perform better especially with more consistent ROE levels (28). Additionally, the public sector ROE standard deviation (10.3561%) is significantly higher than the private sector's, indicating more financial unpredictability and variability. Excessive return volatility might undermine investor confidence and necessitate stronger governance and strategic supervision changes (29).

Broader structural limitations like bureaucratic decision-making, social policy mandates, and less flexibility in risk management factors frequently emphasized in empirical studies on the performance of the insurance sector may be connected to this variability in the public sector.

The average Return on Total Assets (ROTA) for general insurance companies in the public and private sectors from 2014–15 to 2023–24 is shown in Table 5. Deviations from the mean and squared deviations are also included in the table to aid in evaluating the consistency and volatility of asset usage efficiency in both sectors.

Table 5: The Average of Return on Total Assets Ratio (RTA) during 2014-15 to 2023-24

Year	Public Sector			Private Sector		
	ROTA (%)	$(x - \bar{x})$	$(x - \bar{x})^2$	ROTA (%)	$(x - \bar{x})$	$(x - \bar{x})^2$
2014-15	4.005	2.014	4.058	4.348	-4.667	21.785
2015-16	0.958	-1.033	1.066	-7.615	-16.63	276.57
2016-17	-0.515	-2.506	6.278	-5.14	-14.155	200.375
2017-18	5.815	3.824	14.626	13.823	4.808	23.113
2018-19	5.103	3.112	9.687	18.63	9.615	92.441
2019-20	4.088	2.097	4.399	16.855	7.84	61.459
2020-21	3.688	1.697	2.881	11.09	2.075	4.304
2021-22	-6.258	-8.249	68.039	15.76	6.745	45.49
2022-23	8.695	6.704	44.949	12.433	3.418	11.68
2023-24	-5.673	-7.664	58.731	9.97	0.955	0.911
Total	19.906		214.715	90.154		738.128

Interpretation

As seen in Table 5, one important metric for assessing how well insurance businesses use their whole asset base to produce a profit is the Return on Total Assets (ROTA). Table 3's analysis of data from 2014–15 to 2023–24 reveals significant differences in the performance of general insurers in India's public and private sectors.

Over a ten-year period, the average ROTA for public sector insurers is 19.906, while the average ROTA for private sector companies is significantly higher at 90.154. In line with earlier empirical findings that link private sector performance to stronger operational autonomy and market-driven strategies, this significant difference implies that private insurers have shown noticeably better asset utilization efficiency.

Public sector insurers show a total squared deviation of 214.715 in terms of variability, indicating comparatively steady asset returns over time. The total squared deviation of 738.128 for the private sector, on the other hand, indicates more volatility and may indicate aggressive investment methods and a higher level of market sensitivity. This volatility suggests greater risk exposure and sensitivity to economic cycles, even if it may also indicate potential for large gains (30). These dynamics are better demonstrated by specific years. For example, the public sector had a significantly negative ROTA of -6.258 in 2016–17, which led to a 68.039 divergence. Unfavorable underwriting results or macroeconomic factors like inflation, spikes in claims, or changes in regulations could be to blame for this. However, the ROTA of 18.63 and the significant deviation of 92.441 for private insurers peaked in 2018–19, indicating a period of lucrative underwriting and effective asset usage, maybe fueled by consumer segmentation tactics and digital innovation.

But by 2023–2024, both sectors reported falling or negative ROTA values, which are probably due to broader economic headwinds that affect both public and private participants equally, like inflationary pressures, catastrophic losses, or investment downturns. Overall, the results indicate that public sector insurers have lower returns overall, but maintaining more constant asset returns. The traditional trade-off between stability and development potential in competitive financial markets is highlighted by the fact that private insurers, on the other hand, outperform in average profitability but experience more volatility. To find out if the average Return on Total Assets (ROTA) differential between general insurance companies in the public and private sectors is statistically significant, a t-test was used. Table 6 provides a summary of the findings. Figure 3 makes it evident how the two sectors' performance paths differed throughout the course of the decade.

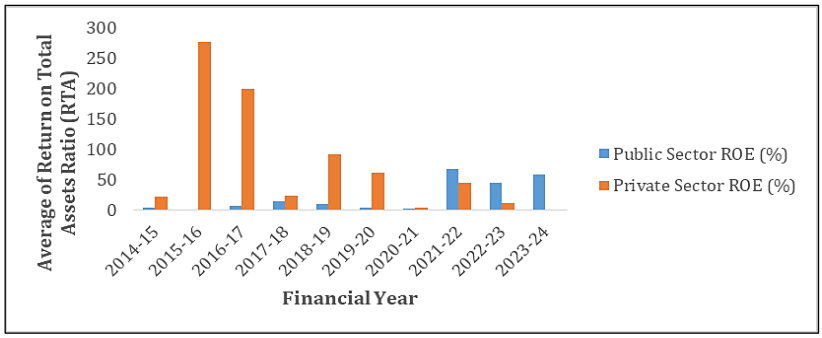

Figure 3: Average of Return on Total Assets Ratio (RTA) during 2014-15 to 2023-24

Table 6: The t-test Statistics for Average of Return on Total Assets (ROTA) Ratio

Name of Sector	Mean	Standard Deviation (SD)	Degrees of Freedom (DF)	't' Calculated Value	't' Table Value (5%)
Public Sector General Insurance Companies	1.9906	7.2757	18	2.1589	2.1009
Private Sector General Insurance Companies	9.0154				

Interpretation

As shown in Table 6, to determine whether there is a statistically significant difference in the average asset utilization efficiency between public and private sector non-life insurance companies in India over the ten-year period from 2014–15 to 2023–24, the Return on Total Assets (ROTA) hypothesis test was used. The following theories served as the foundation for the test's design:

- Null Hypothesis **(H_0):** The average ROTA for insurers in the public and private sectors does not differ significantly.
- Alternative Hypothesis **(H_1):** The average ROTA for the two sectors differs significantly.

The computed t-value (2.1589) is greater than the crucial value from the t-distribution table (2.1009) at a 5% level of significance. The alternative hypothesis that there is a statistically significant difference in average ROTA between state and private non-life insurers throughout the observed period is thus supported by the rejection of the null hypothesis.

This result suggests that, compared to their public sector counterparts, private sector insurers have generally shown more efficiency in using total assets to generate profits. According to earlier studies, private insurers frequently face greater competition, implement cutting-edge technology, and use performance-driven management approaches, all of which increase asset productivity.

The results also support the larger understanding in insurance economics that operational efficiency is influenced by governance structures and organizational structure. Limited autonomy, outdated systems, and bureaucratic monitoring can all be obstacles to public sector companies' ability to use resources as efficiently as possible. The higher ROTA figures of private insurers, on the other hand, are a result of their increased strategic flexibility and profit-driven decision-making (31).

All things considered, this statistical validation of sectoral variations in asset use provides insightful information for stakeholders, regulators, and policymakers, especially when assessing performance and directing reforms in the Indian insurance system. The earnings per employee (RONW) ratio average for general insurance firms in the public and private sectors during a ten-year period are shown in Table 7. It gives information on the differences in performance between the two sectors and includes squared deviations and deviations from the mean.

Table 7: Average of Earning per Employees Ratio during 2014-15 to 2023-24

Year	Public Sector RONW (%)	$x - \bar{x}$	$(x - \bar{x})^2$	Private Sector RONW (%)	$x - \bar{x}$	$(x - \bar{x})^2$
2014-15	1.025	0.119	0.014	0.008	-0.051	0.003

2015-16	0.586	-0.321	0.103	-0.033	-0.092	0.009
2016-17	-1.278	-2.185	4.772	-0.022	-0.081	0.007
2017-18	1.29	0.384	0.147	0.038	-0.021	0
2018-19	1.125	0.219	0.048	0.083	0.024	0.001
2019-20	1.323	0.417	0.173	0.155	0.096	0.009
2020-21	1.303	0.397	0.157	0.067	0.008	0
2021-22	1.343	0.437	0.191	0.118	0.059	0.003
2022-23	1.463	0.557	0.31	0.093	0.034	0.001
2023-24	0.885	-0.022	0	0.085	0.026	0.001
Total	9.065		5.915	0.593		0.033

Interpretation

From Table 7, it is evident that there is a significant disparity between the public and private sectors are revealed by comparing the Return on Net Worth (RONW) of Indian general insurance businesses over a ten-year period. On average, public insurers produced better returns on shareholders' equity over the period under consideration, as seen by their mean RONW of 0.9065, which is far higher than the private sector average of 0.0593.

However, a great deal of variability tempers this apparent profitability benefit. With a matching standard deviation of 0.8108 and a RONW variance of 5.915, the public sector exhibits significant annual variations. Private sector insurers, on the other hand, perform far more consistently, with a variance of just 0.033 and a standard deviation of 0.0605. This stark contrast implies that, even while public insurers might offer better profits, these come with more risk and volatility, which could be caused by operational inefficiencies, policyholder duties, or regulatory pressures.

For example, in 2011–12, public sector insurers recorded a negative RONW of -1.278%, which may have been caused by claim settlements or underwriting losses. However, they demonstrated the ability to recover well in the years that followed. A risk-averse approach and greater control over equity deployment are suggested by the more modest but consistent performance of private sector insurers.

These results are indicative of more general trends in the insurance market in India. Public insurers may employ tactics that put market reach or subsidized coverage ahead of immediate profits, frequently driven by social goals and legislative mandates. Private companies, on the other hand, use risk management and capital allocation strategies that promote steady performance since they are driven by shareholder returns and competitive pressures.

This discrepancy suggests that, from a policy or investment standpoint, investors who want stable, low-risk returns may favor private insurers, while those who want bigger returns may think about public insurers despite the volatility involved. The findings highlight the necessity for regulators to strike a balance between the public sector's developmental function and profitability expectations. They also recommend that non-financial metrics, such as customer outreach and claim settlement efficiency, be included in performance reviews.

Figure 4 shall illustrate how earnings per employee have changed over time for both sectors and the Average of Earning per Employees Ratio during 2014-15 to 2023-24. To determine whether there are significant differences in the average Earnings per Employee (RONW) ratio between general insurance businesses in the public and private sectors between 2014–15 and 2023–24, a t-test was used. Table 8 presents the findings.

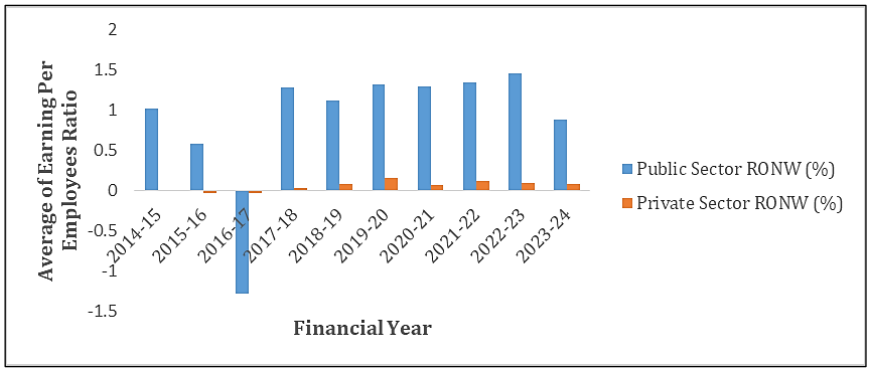

Figure 4: Average of Earning per Employees Ratio during 2014-15 to 2023-24

Table 8: The Average Earnings per Employee Ratio t-test Statistics

Name of Sector	Mean	Standard Deviation (SD)	Degrees of Freedom (DF)	't' Calculated Value	't' Table Value (5%)
Public Sector General Insurance Companies	0.9065	0.5748	18	3.2958	2.1009
Private Sector General Insurance Companies	0.0592				

Interpretation

As shown in Table 8, The Earnings per Employee Ratio statistical hypothesis test determines if employee productivity in India's public and private non-life insurance companies differs significantly during a ten-year period (2014–15 to 2023–24). The alternative hypothesis (H_1) contends that there is a significant difference in average earnings per employee between the two sectors, whereas the null hypothesis (H_0) maintains that there isn't. With 18 degrees of freedom and a two-tailed t-test at the 5% significance level, the computed t-value is 3.2958, above the crucial t-table value of 2.1009. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected. Therefore, the data offer statistically substantial proof that, throughout the studied period, there is a meaningful difference in employee productivity between non-life insurance companies in the public and private sectors.

The underlying managerial and structural differences between the sectors are probably reflected in this discrepancy. Utilizing technology innovations, merit-based incentive schemes, and shorter organizational hierarchies, private insurers frequently work in a performance-driven setting that can boost individual productivity. On the other hand, despite being widely available and generally stable, public-sector insurers may have difficulties such inflexible employment regulations, bureaucratic procedures, and outdated operational systems that might restrict worker flexibility and efficiency.

Additionally, in order to reduce the productivity gap and improve service delivery, the IRDAI's annual reports continuously stress the necessity of HR changes and capacity-building in public sector insurance companies. The results of this hypothesis test offer empirical backing for these reforms, indicating that funding for human resource modernization, digitization, and training could increase the effectiveness of the public sector.

In summary, this finding not only supports sectoral performance disparities but also provides policymakers and insurance executives with practical advice on how to resolve productivity gaps and improve industry-wide operational results. The operating expenses ratio average for general insurance companies in the public and private sectors over a ten-year period is shown in Table 9. It provides a comparative perspective of cost-efficiency trends across the sectors by include both the squared deviations and the deviation from the mean.

Table 9: The Average of Operating Expenses Ratio

Year	Public Sector (Mean)	$x - \bar{x}$	$(x - \bar{x})^2$	Private Sector (Mean)	$x - \bar{x}$	$(x - \bar{x})^2$
2014-15	23.36	2.449	5.999	33.23	3.979	15.83
2015-16	26.138	5.227	27.324	33.298	4.047	16.376
2016-17	20.133	-0.778	0.605	30.028	0.777	0.603
2017-18	21.503	0.592	0.351	27.273	-1.978	3.914
2018-19	20.598	-0.313	0.098	26.555	-2.696	7.27
2019-20	22.428	1.517	2.302	27.948	-1.303	1.699
2020-21	22.295	1.384	1.916	30.813	1.562	2.439
2021-22	19.893	-1.018	1.036	32.868	3.617	13.081
2022-23	16.375	-4.536	20.573	25.79	-3.461	11.981
2023-24	16.385	-4.526	20.483	24.71	-4.541	20.623
Total	209.108		80.686	292.513		93.815

Interpretation

Table 9 reveals that when comparing private sector non-life insurance companies in India to their public sector counterparts, the examination of Net Premium per Employee over a ten-year period (2014–15 to 2023–24) shows a consistent and notable performance advantage. The private sector's average net premium per employee is ₹29.25 lakhs, which is significantly more than the ₹20.91 lakhs that public sector companies report. This discrepancy suggests that the private sector has higher operational productivity and human resource efficiency (32).

Private insurers performed the best over the first two years of the period under review, specifically 2014–15 and 2015–16, with per-employee premiums of ₹33.23 lakhs and ₹33.30 lakhs, respectively, compared to ₹23.36 lakhs and ₹26.14 lakhs for public sector companies. These preliminary findings point to the advantages of performance-based workforce management techniques and agile organizational structures, which are frequently seen in private insurance firms.

However, as the decade draws to a close, a downward tendency in public sector performance becomes apparent. Public insurers recorded their lowest values in 2022–2023 and 2023–2024, at ₹16.375 and ₹16.385 lakhs, respectively, which was much less than the industry average. In the meantime, the private sector also showed symptoms of stress, with its lowest level (₹24.71 lakhs) in 2023–2024, which perhaps reflected structural changes in the industry or larger market worries.

In terms of volatility, the private sector shows a little greater variance of 93.815 than the public sector, which shows 80.686. This suggests that although private companies are more productive, they are also more susceptible to both internal and external changes, including changes in regulations, market conditions, and digital transformation projects. Despite their occasional relative stability, public sector companies are on a concerning downward track, which emphasizes the need for strategic reforms to boost operational performance and the use of human resources.

In conclusion, the results demonstrate the efficiency advantage of private insurers in producing premium income per worker, which is ascribed to their innovative, competitive, and leaner operations. The public sector's diminishing numbers, meanwhile, point to the necessity of focused staff training, technology adoption, and productivity-boosting reform initiatives. Figure 5, showing the yearly fluctuations in operating expense ratios for both sectors. A t-test was used to determine if the average Operating Expenses Ratio of general insurance businesses in the public and private sectors differs statistically significantly. Table 10 provides a summary of the findings.

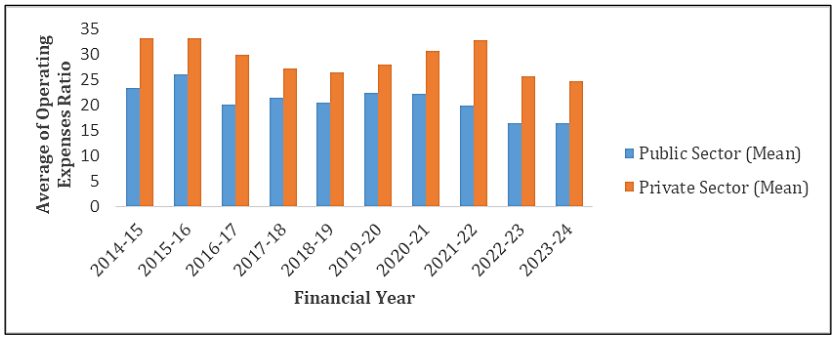

Figure 5: The Average of Operating Expenses Ratio

Table 10: The t-test Statistics for Average of Operating Expenses Ratio

Name of Sector	Mean	SD	DF	't' Calculated Value	't' Table Value
Public Sector General Insurance Companies	20.9108	3.1136	18	5.9898	2.1009
Private Sector General Insurance Companies	29.2513				

Interpretation

As shown in Table 10, a statistically significant difference in cost efficiency between the public and private sectors is revealed by the hypothesis testing of the Operating Expenses Ratio between non-life insurance businesses in India over a ten-year period (2014–15 to 2023–24). The alternative hypothesis (H_1) suggested that there is a substantial difference between public and private non-life insurers' average operating expenses ratios, while the null hypothesis (H_0) maintained that there is no significant difference. The calculated t-value, 5.9898, significantly surpasses the crucial t-value of 2.1009 at the 5% significance level with 18 degrees of freedom, as per the findings of the independent samples t-test. The alternative hypothesis is accepted in place of the null hypothesis since the computed t-value is higher than the crucial threshold.

In the Indian general insurance market, this result validates a statistically significant difference in operational cost structures between public and private insurers. In particular, data suggests that private insurers have somewhat lower operating costs in comparison to the premiums they collect, indicating improved cost effectiveness and better control over administrative and operational costs. On the other hand, legacy systems, higher administrative costs, and regulatory requirements may limit public sector insurers, increase their expense ratios and decrease their overall effectiveness.

This finding has important ramifications for strategic managers and regulatory agencies alike, as it emphasizes how the public sector must invest in digital transformation, embrace leaner operational models, and maximize worker utilization in order to stay competitive. The necessity of reforms and efficiency-driven measures in public insurance firms is shown by this scientifically proven discrepancy.

Table 11: The Loss Ratio of Selected Public Sector and Private Sector General Insurance Companies during 2014-15 to 2023-24

Year	Public Sector	Private Sector
2014-15	80.9	70.4
2015-16	82.7	68.5
2016-17	86.4	56.8
2017-18	87.5	54.8
2018-19	90.2	62.5
2019-20	87.8	70.5
2020-21	82.7	71.6
2021-22	84.9	76.8

2022-23	87.6	78.5
2023-24	88.7	79.9

The loss ratios for a selection of general insurance companies in the public and private sectors during a ten-year period are shown in Table 11. A crucial metric for evaluating underwriting performance is the loss ratio, which calculates claims paid as a percentage of premiums received.

Interpretation

Table 11 shall try to present that there is a consistent difference between general insurance companies in India's public and private sectors, according to the examination of the loss ratio from 2014–15 to 2023–24. From 80.9% in 2014–15 to 88.7% in 2023–24, public sector insurers continuously recorded greater loss ratios during this time, showing an increasing proportion of claims paid in comparison to premiums generated. Private insurers, on the other hand, continued to maintain comparatively lower loss rates, beginning at 70.4% in 2014–15 and rising more gradually to 79.9% by 2023–24. The public sector's continually higher loss rates point to issues with pricing, risk selection, and underwriting procedures that may be caused by legacy portfolios and social responsibilities (33). In contrast, the private sector seems to be more effective at managing risks and controlling claims, as seen by their generally lower ratios, particularly from 2015–16 to 2018–19, when loss ratios dropped as low as 54.8%. However, the disparity has recently narrowed, especially after 2020, which suggests that there is more competition and possibly more alignment in the sectors' claims experiences. Figure 6 showing the Loss Ratio of selected public sector and private sector general insurance companies during 2014-15 to 2023-24.

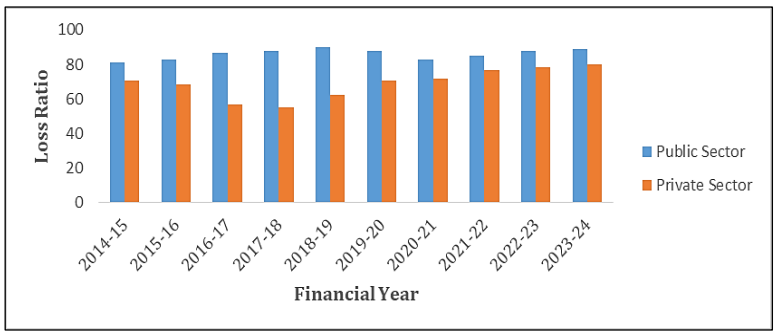

Figure 6: The Loss Ratio (%) of Selected Public and Private Sector General Insurance Companies (2014–15 to 2023–24)

Table 12: The Combined Ratio of Selected Public Sector and Private Sector General Insurance Companies during 2014-15 to 2023-24

Year	Public Sector	Private Sector
2014-15	125.6	95
2015-16	117	125
2016-17	111.6	115
2017-18	110.6	110
2018-19	114.2	108
2019-20	117.6	112
2020-21	122	114
2021-22	113.9	117
2022-23	119.3	118
2023-24	122.6	120

The combined ratios of a few public and private general insurance companies over the previous ten years are shown in Table 12. The overall underwriting profitability is reflected in the combined ratio, which is computed as the sum of the expense and loss ratios. Underwriting losses are indicated by a ratio greater than 100%.

Interpretation

Table 12 outlines the operating effectiveness of general insurance businesses in India's public and

private sectors differs noticeably, according to the combined ratio statistics from 2014–15 to 2023–24. Throughout the time, public sector insurers' total spending (claims + running costs) exceeded their premium income, as evidenced by their regular reports of combined ratios above 110%, which peaked at 125.6% in 2014–15 and 122.6% in 2023–24. This ongoing underwriting loss highlights systemic inefficiencies, including increased administrative costs and claims payouts. Conversely, private sector insurers showed greater volatility, peaking at 125% in 2015–16 after beginning at a favorable 95% in 2014–15, indicating potential changes in strategy brought on by expansion or price adjustments. Even with this volatility, private insurers showed some consistency and better cost control in the years that followed, keeping ratios between 110 and 120%, which is still better than their public counterparts. Even while public insurers are still less efficient overall, the recent convergence of combined ratios (e.g., 122.6% vs. 120% in 2023–24) indicates increased competition and closing operational performance disparities. Figure 7 showing the Combined Ratio of selected public sector and private sector general insurance companies during 2014-15 to 2023-24

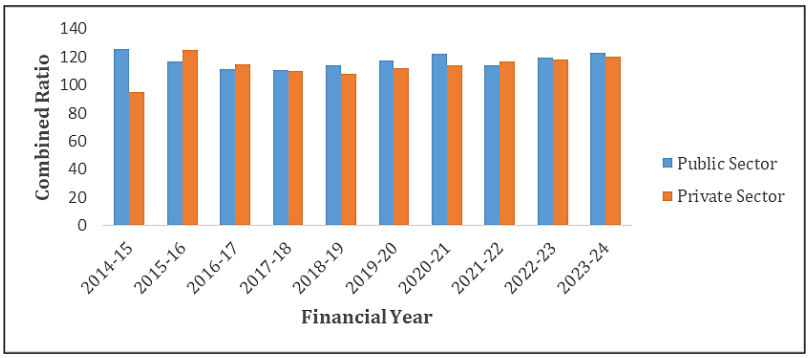

Figure 7: The Combined Ratio (%) of Selected Public and Private Sector General Insurance Companies (2014–15 to 2023–24)

Table 13: Underwriting Ratio of Selected Public Sector and Private Sector General Insurance Companies during 2014-15 to 2023-24

Year	Public Sector	Private Sector
2014-15	-24	-16
2015-16	-26	-17
2016-17	-23	-18
2017-18	-20	-15
2018-19	-10	-05
2019-20	-08	-06
2020-21	-12	-15
2021-22	-20	-14
2022-23	-25	-12
2023-24	-25.5	-16

The underwriting ratios for a selection of general insurance companies in the public and private sectors from 2014–15 to 2023–24 are shown in Table 13. Underwriting profitability is reflected in the underwriting ratio; losses from core insurance operations are indicated by negative numbers.

Interpretation

Table 13 presents the underwriting ratios of selected public and private sector general insurance companies between 2014–15 and 2023–24, the underwriting balance ratio for general insurance companies in India shows a consistent downward trend for insurers in the public and private sectors, but to differing degrees. Underwriting losses were generally higher for public sector insurers; the ratio ranged from -24 percent in 2014–15 to a low of -25.5% in 2023–24. This pattern demonstrates their ongoing difficulties with pricing, risk selection, and cost control, which are frequently made worse by legacy portfolios and social responsibilities. Private sector insurers, on the other hand,

performed comparatively well; underwriting deficits decreased from -16% in 2014–15 to as low as -5% in 2018–19, however there was a little reverse in subsequent years, reaching -16% in 2023–24. Although the overall negative data highlight systemic pressure in the sector, the brief turnaround, particularly around 2018–19, demonstrates good underwriting methods and risk management among private companies. The industry's need on investment income to sustain overall profitability, especially in the public sector, is highlighted by these persistent underwriting losses. Figure 8 shall present the visuals of the underwriting ratios of selected public and private sector general insurance companies for the period 2014–15 to 2023–24.

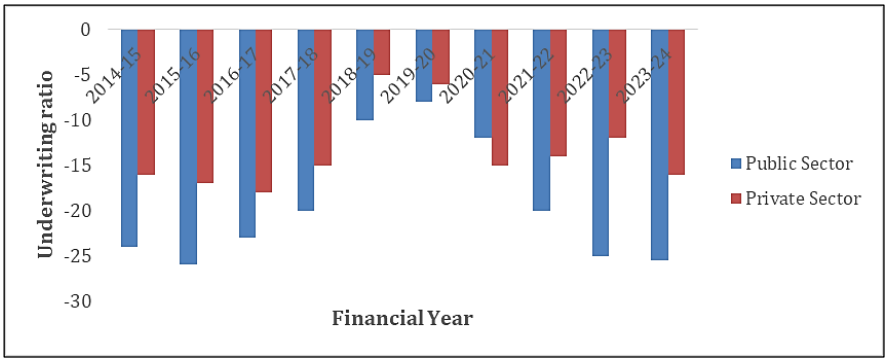

Figure 8: Underwriting Ratio of Selected Public Sector and Private Sector General Insurance Companies during 2014-15 to 2023-24

Discussion

The financial performance of India's public and private non-life insurance companies is compared, yielding insightful information with significant ramifications for future government engagement in the insurance industry. Although the two ownership structures' Return on Equity (ROE) did not differ substantially, indicating similar overall profitability, the private sector outperformed the public sector in terms of other important metrics like Return on Total Assets (ROTA), Earnings per Employee, and Operating Expenses Ratio. According to these results, private insurers are better able to control operating expenses, manage staff efficiency, and make use of assets in the current market.

The data does not conclusively support the full privatization of public insurers in light of these results. Rather, it proposes a well-rounded policy strategy that keeps the public sector in place while enacting operational and structural changes to improve performance. Public insurers are still essential for promoting financial inclusion, assisting with rural penetration, and underwriting high-risk policies associated with government programs like PMFBY and Ayushman Bharat tasks that private companies may not always find lucrative. Withdrawing public insurers could therefore jeopardize social protection objectives and increase the disparity in insurance coverage in underprivileged areas.

However, there is an urgent need to expand the standards for assessing performance beyond conventional financial measures in order to support ongoing public investment and subsidies. Non-financial indicators like coverage depth, customer happiness, claims settlement efficiency, and social impact indices should be included in performance evaluations of future policy frameworks. Creating a Composite Social Efficiency Score (CSES), for instance, may make it easier to evaluate how well insurers support national development goals.

Among the Policy Suggestions are

- Public insurers' institutional reorganization to increase managerial accountability and autonomy.
- Focused initiatives to improve digital capabilities and human capital.
- Incentive-based funding schemes, in which social outreach and financial stability are connected to budgetary support.
- To encourage openness and well-informed policy intervention, public and private insurers regularly benchmark their performance.

The findings, taken together, urge a strategic reevaluation of the government's position as a social insurer and market stabilizer rather than as a rival to private companies. In India's vibrant non-

life insurance market, public insurers must be strengthened through reforms rather than replaced in order to concurrently accomplish the twin objectives of social equality and market efficiency.

Conclusion

For both industry participants and regulatory agencies, this ten-year comparative study of the financial performance of public and private non-life insurance businesses in India provides vital insights. The study found notable efficiency benefits in the private sector, especially in areas pertaining to resource utilization, operational cost control, and workforce productivity, by analyzing metrics like operating expenses ratio, earnings per employee, return on total assets (ROTA), and return on equity (ROE). It's interesting to note that the absence of a statistically significant difference in ROE implies that wider structural and strategic considerations may have an impact on ownership-level profitability rather than just sectoral affiliation.

These results highlight the significance of performance benchmarking and ongoing operational optimization for insurance companies. To imitate the agility and customer-centric tactics of their private counterparts, public insurers in particular should give priority to strategies like staff upskilling, digital transformation, and decentralization of decision-making. Actionable feedback loops to improve internal accountability and profitability can be created by implementing Key Performance Indicators (KPIs) linked to staff production, asset efficiency, and claim turnaround time. The report offers proof in favor of specific reforms in the public insurance industry from a regulatory and policy standpoint. To encourage innovation while upholding the social welfare role of public insurers, these could involve implementing performance-based budgeting, rewarding independent management structures, and encouraging public-private collaborative frameworks. To further encourage openness and market discipline, legislators have to think about requiring frequent third-party audits and disseminating comparative performance dashboards.

Lastly, these findings provide a blueprint for differentiated oversight for regulators like IRDAI, wherein public and private insurers are evaluated on efficiency, customer happiness, and solvency performance in addition to compliance. Public insurers' capacity to compete sustainably in a quickly changing insurance market can be improved by promoting the use of enterprise risk management (ERM) procedures and fortifying digital infrastructure. In order to create a more competitive, robust and balanced market environment, the report essentially urges a comprehensive recalibration of strategy, governance, and evaluation methods throughout the non-life insurance sector.

Abbreviations

EER: Earnings per Employee Ratio, IRDA: Insurance Regulatory and Development Authority, ROE: Return on Equity, ROTA: Return on Total Assets.

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None.

Author Contributions

Srinivasa H T: conceptualized the study, conducted the research, prepared the manuscript under the supervision of Dr. K. Venkidasamy, who provided continuous academic guidance. Dr. Venkidasamy: also played a key role in strengthening the methodological framework by guiding the selection and application of statistical tests and validating the data analysis using SPSS. Both authors reviewed and approved the final version of the manuscript.

Conflict of Interest

The authors declare that there are no conflicts of interest that could have influenced the findings or interpretations presented in this study.

Ethics Approval

This research was conducted in accordance with ethical standards. Informed consent was obtained from all participants involved in the study.

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References

1. Swiss Re Institute. World Insurance Report 2022. Zurich: Swiss Re; 2022. Report No.: 1385. https://www.swissre.com/institute/research/sigma-research/2022/world-insurance.html

2. Insurance Regulatory and Development Authority of India (IRDAI). Annual Report 2022–23. Hyderabad: IRDAI; 2023. https://irdai.gov.in
3. Hussain M, Pasha AG. Efficiency of insurance firms and its determinants: A study of insurance sector in Pakistan. J Bus Econ. 2011;3(1):37–52.
4. Kumar S, Bansal A. Performance evaluation of public and private sector insurance companies: A comparative study. Int J Manag Stud. 2020;7(1):58–67.
5. Malik H. Determinants of insurance companies' profitability: An analysis of insurance sector of Pakistan. Acad Res Int. 2011;1(3):315–21.
6. Tripathi V, Agrawal V. A comparative analysis of financial performance of public and private non-life insurers in India. Pac Bus Rev Int. 2015;7(11):37–47.
7. Kumar R, Singh A. A study on underwriting performance of Indian general insurance companies: A comparison of public and private sector. J Insur Risk Manag. 2020;8(2):15–26.
8. Mishra S, Das S. Claim settlement practices and performance of public and private general insurers in India: An empirical comparison. Indian J Finance Econ Manag. 2017;4(1):34–42.
9. Rao RK, Bhaskar M. Impact of liberalization on the financial performance of Indian insurance companies. J Econ Policy Res. 2019;14(1):74–88.
10. Ray S, Das A. Efficiency of Indian general insurance firms: A stochastic frontier analysis. Int J Bank Risk Insur. 2010;1(2):25–42.
11. Cummins JD, Weiss MA. Analyzing firm performance in the insurance industry using frontier efficiency methods. Philadelphia: The Wharton School Center for Risk Management and Decision Processes; 2000. https://doi.org/10.2139/ssrn.236964
12. Kaur P, Kapoor S. Technical efficiency of Indian general insurance sector: A DEA approach. Eurasian J Bus Econ. 2012;5(10):85–98.
13. Barros CP, Barroso N, Borges MR. Evaluating the efficiency and productivity of insurance companies with a Malmquist index: A case study for Portugal. Geneva Pap Risk Insur Issues Pract. 2008;33(1): 125–38.
14. Ghosh A, Choudhury A. Claim settlement efficiency of Indian insurers: A comparative study. Indian J Econ Dev. 2015;11(2):349–55.
15. Insurance Regulatory and Development Authority of India (IRDAI). Annual Report 2019–20. Hyderabad: IRDAI; 2020. https://www.irdai.gov.in
16. Chakrabarty A, Sengupta S. Customer satisfaction in Indian insurance industry: A comparative study of public and private sector insurers. Int J Manag Stud. 2018;5(3):90–101.
17. Mathur N, Aggarwal R. Public sector insurance companies in India: Challenges and opportunities. J Public Adm Policy Res. 2019;11(4):45–52.
18. KPMG. Insurance industry trends in India: Growth, challenges, and future outlook. KPMG India; 2023. https://home.kpmg/in
19. Tullock G. The politics of bureaucracy. Washington, DC: Public Affairs Press; 1965. https://oll.libertyfund.org/title/tullock-the-politics-of-bureaucracy
20. Deloitte. The future of insurance: A path forward for digital transformation 2022. https://www2.deloitte.com
21. KPMG. India Insurance Report: Charting the course for 2030. 2021. https://home.kpmg/in
22. PwC India. Insurance sector in India: Disruptions and innovation. 2020. https://www.pwc.in
23. Ernst & Young. Reimagining India's insurance sector: Innovation and inclusion. Mumbai: EY India; 2022. https://www.ey.com/en_in/financial-services/reimagining-india-s-insurance-sector-innovation-and-inclusion
24. NITI Aayog. Digital transformation in insurance: Opportunities and challenges. New Delhi: Government of India; 2021. https://www.niti.gov.in/sites/default/files/2021-11/Digital-Transformation-in-Insurance_0.pdf
25. Baltagi BH. Econometric analysis of panel data. 6th ed. Cham: Springer; 2021. https://doi.org/10.1007/978-3-030-53953-5
26. Little RJA, Rubin DB. Statistical analysis with missing data. 3rd ed. Hoboken (NJ): Wiley; 2019. https://doi.org/10.1002/9781119482260
27. Beasley MS, Branson BC, Hancock BV. The state of risk oversight: An overview of enterprise risk management practices. Raleigh (NC): ERM Initiative at NC State University; 2020. https://erm.ncsu.edu/library/article/2020-state-of-risk-oversight
28. Jong PD, de Ruiter M. Investment behavior and volatility in the insurance sector: A comparative analysis of public and private insurers. J Risk Financ Manag. 2020;13(6):123–35.
29. Insurance Regulatory and Development Authority of India (IRDAI). Annual Report 2018–19. Hyderabad: IRDAI; 2019. https://irdai.gov.in/document-detail?documentId=1243110
30. Tennyson S. Efficiency, competition and market failure in insurance markets. In: Dionne G, editor. Handbook of Insurance. New York: Springer; 2007: 605–32. https://doi.org/10.1007/978-0-387-34163-6_22
31. Kumari R, Dhingra S. Financial performance of Indian non-life insurance companies: A comparative study of public and private sector. Int J Res Commerce Econ Manag. 2012;2(7):85–9.
32. Kumar M, Bakshi S. Comparative performance evaluation of public and private insurance companies in India. J Manag Res Anal. 2020;7(2):67–73.
33. Insurance Regulatory and Development Authority of India (IRDAI). Annual Report 2023–24. Hyderabad: IRDAI; 2024. https://irdai.gov.in