

Exploring Factors Influencing the Financial Success of Public and Private Life Insurers in India

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ABSTRACT

Purpose - This research aims to comprehensively explore the factors that impact the financial success of commercial & public life insurers in India. Going beyond conventional metrics, the study incorporates non-monetary indicators such as client centric, growth, and social value. It also delves into often overlooked external factors impacting insurance companies and considers the differences in the functioning of commercial & public life insurers.

Design/Approach - This research adopts a systematic sampling framework, selecting 10 life insurance firms, which comprises the state-owned giant Life insurance corporation of India (LIC) as well as, nine commercial insurers. Data is collected over a five-year period (2015-16 to 2019-20) from various secondary sources, including published literature, annual reports, and regulatory documents. Both descriptive and hypothesis testing including multiple linear regression and correlation analyses, are employed to assess the significance of cash flow/ liquidity, leverage, solvency and workforce size on financial performance.

Findings -Descriptive statistics highlight variations in mean values among the selected variables, emphasizing their significance in determining financial performance. Correlation analyses reveal weak associations among variables, while regression analysis indicates that current ratio and size significantly impact profitability. Notably, public and private insurers show differences in Return on Equity and Expense Ratio, while no significant difference exists in Return on Assets.

Research Limitations - While the study has valuable contribution, it's important to consider its limitations. The analysis relies on secondary data, and the sample size, though systematic, is relatively small. Additionally, the study's findings may not be applicable to life insurers in other regions due to its focus on India.

Practical implication- The findings provide actionable insights for practitioners in the insurance industry, offering guidance on enhancing profitability through attention to liquidity and workforce size. The findings identify the key drivers of profitability for life insurers in the current market. Regulatory bodies can leverage these insights to foster a healthy competitive environment in Indian life insurance companies.

Keywords-- Indian Insurance Sector, Financial Success, Public and Private Insurers, Workforce Size

I. INTRODUCTION

(Choudhary & Upadhyaya, 2021) The Indian insurance sector's growth and performance highlights its vital role in managing risks for individuals and businesses. Insurers offer diverse products ensuring financial security, but they face challenges in attracting and retaining customers. Achieving profitable growth is another major challenge, particularly for private companies striving to develop brand strength. The entry of private insurers following liberalization has significantly altered the competitive landscape. The outcome of insurance companies is important for the industry's growth and the economy's overall success. Studies aim to analyze financial performance using various parameters and ratios, including liquidity, profitability, leverage, and size. This research helps academics, marketers, and policymakers understand the status and performance of life insurance companies in India. (PATEL & DWIVEDI, 2019). The Indian life insurance post-liberalization highlights the sector's evolution, challenges, and performance. There are various factors such as market share, premium income and customer satisfaction to assess the competitiveness and efficiency of the sector. Additionally, studies have focused on the regulatory framework, consumer behavior, and technological advancements in the insurance industry. (Nagendran & Subramanian, 2019) the Indian life insurance sector's growth and performance highlight its significant expansion since 2000, marked by increased offices, agents, policies, and premium income. The industry's capital-intensive nature requires regular capital infusion for new business and infrastructure expansion. Studies often focus on the relationship between company performance and sector growth, viewing insurer success as integral to overall economic prosperity. There's a shared goal within the industry to increase insurance penetration to five percent by 2020, indicating a concerted effort to

deepen market reach. Overall, studies aim to analyze the growth trajectory, performance drivers, and regulatory dynamics shaping the Indian life insurance industry.

II. LITERATURE REVIEW

(Ansari & Fola, 2014) The study employed a comprehensive CAMEL Model to thoroughly analyze the performance of both public and private life insurance companies. This model incorporates key components such as financial strength, portfolio health, secondary insurance and loss reserving, operational effectiveness, profits, and financial flexibility. To test the variables, the study employed ratio analysis, T-tests, and the Mann-Whitney Test. It revealed notable differences between these two sectors in terms of financial strength, portfolio health, secondary insurance and loss reserving, operational effectiveness, profits, and financial flexibility. The study did not identify any substantial differences in Return on Assets and New business premiums between private and public life insurance companies. (Bodla et al., 2017) it explores the profitability of Indian life insurance spanning over a decade, from 2007 to 2016. It compares thirteen private insurers and one public insurer (LIC), focusing on various financial metrics like net premium, investment income, and profit after tax. The study found significant differences in profitability among insurers, with LIC maintaining a dominant market share. Private insurers showed varying trends, including declining underwriting income. It also includes improving underwriting income and expense management for sustained profitability. (Cekrezi, 2015) Used an econometric functional model, utilizing regression analysis, to examine how different factors will affect the return on assets (ROA) of five private insurance companies in India. Cross-sectional time-series data from balance sheets and annual reports were collected through the State Tax Office Database. It examines how factors like insurance leverage, company tangibility, size and risk profile can influence dependent variable ROA. The results shows that the companies with more tangible assets tend to have higher ROA, while debt and risk have the opposite effect. The possibility of future research exploring the influence of key economic indicators like inflation rates and GDP on insurance company performance. The study also gives evidence highlighting the drawbacks associated with high leverage in insurance companies. (Chandrapal, 2019) the effects of deregulation on the operational performance of insurance companies in India. Utilizing data from 552 respondents representing Indian life insurance companies, the study employs Multivariate Analysis of Variance (MANOVA) to assess how liberalization has influenced aspects such as marketing initiatives and plans, customer experience and stratification, and understanding insurance products. It

implies that the opening up of the sector to competition and market forces has led to enhancements in various areas, ultimately improving the overall efficiency of the industry. (Chhatoi & Pattanayak, 2013) delved into the performance analysis of general insurance companies in India, examining both the pre- and post-reforms periods. A sample comprising 19 companies, including four public sector entities and fifteen private companies, was compared based on their gross annual premium collections. Analytical tools such as mean score, moving averages, histograms, and t-tests were employed for the analysis. The study found that both private and public players within the general insurance sector failed to fully capitalize on the favorable reforms enacted. The study showed a significant downtrend in performance among public sector companies following the reforms, compared to their performance before the reforms were implemented. (Dash, 2018) The study explores how post IRDA regulations in India have impacted factors that are influencing life insurance purchasing consideration. Various factors like age, income, education, and job type, using data from rural Odisha. It suggests focusing on younger customers, creating specific policies for certain groups like single mothers, and making insurance plans more flexible and affordable. The Indian life insurance market looks promising, especially in rural areas where there's still a lot of potential for growth. (De May, 2009) utilized a conceptual research approach to examine performance reporting requirements against the backdrop of the 2008 financial crisis. Secondary data was sourced from published literature and news articles. The analysis revealed the necessity for a reporting framework adaptable to various stakeholder needs, encompassing the firm's risk appetite and worst-case scenarios. Furthermore, the research emphasized Economic value added (EVA) as a key metrics for measuring financial performance of life insurance companies. It emphasized the necessity for a reporting system that is cohesive both internally and externally. Furthermore, the study suggested that enhancing the quality of reporting could be achieved through forward-looking reporting statements. (Ezirim et al., 2018) The factors that are emphasising on the profitability of life insurance companies in Nigeria over a decade, using data from 19 listed insurance firms. The research employed various analytical methods and found a long-term equilibrium among the variables, indicating their interconnection. Significant causality was observed from factors such as workforce size, exposure levels, and premium escalation to profitability. However, variables like liquidity, leverage, and tangibility were not found to have a significant impact on profitability in the short term the research suggests enhancing revenue generation methods, streamlining claims processing, and leveraging intangible resources to enhance profitability within.

Nigeria's insurance industry (Gairola, 2016) analyzing the performance of both public and private life insurance firms in India from 2000-01 to 2015-16, it is evident that LIC dominated the market until the entry of private insurers following the Malhotra Committee's advice in 1993 and the formation of IRDA in 1999. Private insurers' entry spurred competition, prompting LIC to enhance its offerings and customer service. Private insurers gained market share, although there were fluctuations in new policies and premium income. India's life insurance sector shows promise due to its large population and untapped market. Liberalization attracted both domestic and foreign insurers, fostering competition, innovation, and improved services. (Hussanie & Joo, 2019) The various factors examine the evolving profitability patterns of life insurance firms over a period of 2005 to 2015 using panel data analysis. Out of 12 insurers studied, the certain factors like liquidity, loss ratio, return on investment, profitability ratios, premium escalation, and tangibility considerably impact financial health of companies, which are measured by return on assets (ROA). Factors like leverage, commission ratio, and size don't seem to have a significant impact. The analysis of descriptive statistics reveals differences in profitability and investment performance among the insurers. The study includes optimizing asset utilization, reducing operating costs, and revising investment regulations to enhance returns. It underscores the importance of regulatory adaptability and insurer independence in investment choices for improving profitability. (Ilyas & Rajasekaran, 2019) the Indian insurance sector had significant transformations in the last two decades has increased by private life insurance companies. Currently 62 insurance companies operate in India including life, non-life, and health insurers. State-owned insurers face challenges from private competitors, prompting mergers and reforms to improve efficiency. Despite India's economic growth, insurance penetration remains low compared to global averages. An analysis of non-life insurers from 2005 to 2016 reveals low total factor productivity (TFP) with improvements primarily in scale-mix efficiency. Policy implications include focusing on optimal scale and output mix to enhance productivity. (Ishtiaq & Siddiqui, 2019) It examines both internal (like liquidity and net premium) and external factors (such as GDP and market share) through panel regression analysis. Findings reveal that while certain factors like liquidity and underwriting risk positively influence performance, others like market share and GDP have less significant or negative effects. The slow growth of the sector is attributed to factors like low awareness and religious considerations, with the introduction of Takaful insurance in 2008 facing hurdles in public knowledge and technological adaptation. (Ismail, 2013) the study explores the factors that are impacting the financial success of general takaful and

insurance companies in Malaysia during the period of 20024 -20027 mainly focusing on the factors like workforce size, solvency and retakaful dependence. Through panel data analysis. The findings reveal similarities in the drivers affecting both takaful and insurance firms. The study suggests strategies like business expansion, robust risk management, and prudent investment practices to enhance financial performance. Despite data limitations in the takaful sector, the results offer valuable insights for policymakers, regulators, and industry players in optimizing performance within Malaysia's insurance market. (Kumar et al., 2021) the banking and insurance industries in India emphasizes their significant impact on capital inflow and investments. The sector enhances individual savings opportunities, safeguards futures, and contributes to a large pool of assets. The Life Insurance Corporation of India (LIC) has been a key player in the sector since its inception in 1956, maintaining significant surpluses and expanding its reach across the country. The presence of various life insurance companies, both in the government and private sectors, has contributed to the sector's growth and development, offering a wide range of products to cater to diverse customer needs. (Kumari, 2013) The transformation of India's insurance sector following liberalization, mainly focus on the affect on the life insurance companies during 2001-2010. It outlines the surge in private participation, evident in increased insurers, premium income, and market reach. Financial metrics like assets utilization and investment income exhibit positive trends, affirming the hypothesis of liberalization's significant influence. Recommendations stress transparent operations, skilled workforce, and efficient complaint resolution, especially for rural and marginalized communities. Despite progress, challenges persist in delivering effective customer service and catering to the uninsured population. (Malik, 2011) utilized a multiple regression model, complemented by descriptive statistics, correlation, and regression analysis, to explore the determinants of profitability within the Life Insurance industry in Pakistan. The analyses shows that in developing economy like Pakistan play a crucial role in identifying the key determinants of profitability within the Life Insurance sector. (Panchal, 2018) This study compares private life industries with performance of LIC which highlights the sector's crucial role in the economy through savings mobilization and capital market development. Despite LIC's historical dominance, private insurers have gained ground post-liberalization, driven by innovative products and strategies. Understanding customer needs, especially in rural areas, and effective distribution channels are emphasized for sustainable growth. Although private insurers have increased their market share, LIC remains a major player, indicating untapped potential for both public and private insurers in India's life insurance sector.

(Petchsakulwong & Jansakul, 2018) The composition of board directors relates to the financial performance of Thai non-life insurance companies. between 2000 and 2012. It discovers that having a larger board tends to boost profitability, echoing previous studies suggesting that a diverse range of perspectives from more board members can enhance business strategies. Larger companies might experience lower profitability, possibly due to the higher costs associated with overseeing larger operations. These findings offer valuable insights for Thai insurers, suggesting that they should carefully consider the size and meeting frequency of their boards to maximize profitability. (Saad & Idris, 2011) used Data Envelopment Analysis (DEA) to assess the efficiency changes within Life Insurance companies operating in Malaysia and Brunei. The efficiency level was measured using the Malmquist Index. It was identified that the efficiency increase is partly due to the technical progress. The study highlighted the potential for enhancing efficiency in these insurance firms through the utilization of information technology and by offering improved customer services. (Siddiqui, 2021) it examines how efficiently Indian life insurance companies have been operating between 2012 and 2017 using a tool called the Malmquist index. The data is taken from 24 insurance firms and finds that overall productivity has increased by about 27.6%. This improvement is mainly because these companies have become better at using their resources and adopting new technologies. Specifically, companies like ICICI Prudential and Birla Sunlife have made significant strides in efficiency. It also recommends that other insurers learn from the successful strategies of leading firms, especially in combining life and general insurance operations to become more productive. (Sinha & Chatterjee, 2009) delved into the cost efficiency of Indian Life Insurance companies by utilizing a non-parametric linear programming tool known as Data Envelopment Analysis (DEA). Initially, there was an upward trend indicating improved cost efficiency among the insurers and during the alter years this trend was reversed, showcasing a decline in cost efficiency during the later years. (Worku et al., 2024) There are various factors that are influencing the financial performance of Ethiopian insurance companies over the period 2011 and 2020, focusing on nine selected firms out of a total of 17 using purposive sampling. Through a causal research design and quantitative analysis, classical linear regression models were applied to discern the impact of various variables on profitability.

III. RESEARCH GAPS

The research gaps identified in the study are as follows:

- a) Evaluating financial success extends beyond conventional metrics to include non-financial

indicators like customer orientation, growth, and societal impact.

- b) Many prior studies overlook the external factors affecting insurance companies.
- c) The variances in operations between public and commercial life insurers are not fully explored in existing research.

IV. OBJECTIVES OF THE STUDY

The main aim of this study include:

- a) This research aims to assess the relationship between solvency ratios, leverage ratios, liquidity ratios and workforce size with the profitability of Indian life insurance companies.
- b) The aim is to compare the financial success of public and commercial life insurers operating in the life insurance industry in India.

V. HYPOTHESIS OF THE STUDY

The literature review in this study indicates that liquidity, solvency and workforce size are significant factors influencing a firm's profitability as measured by Return on assets (ROA) metric. The following hypotheses have been formulated:

H01: There exists no significant correlation between liquidity and ROA.

H02: There is no correlation between solvency and ROA.

H03: There is no statistical association between company's use of debt (leverage) and ROA.

H04: There is no substantial link between workforce size and ROA.

VI. METHODOLOGY

Sampling Size and Sampling Techniques

The research study was conducted through systematic sampling approach to select a sample population based on defined parameters. In this case, the selection of samples was selected by factors such as data availability and the comparable size of each element within the sample. The study mainly focused on 10 life insurance firms, among which Life insurance corporation (LIC) being the only public sector within the life insurance company. The remaining nine companies were selected from the private segment, taking into consideration their comparable size and the availability of data. These nine private life insurers include Aviva India, Bajaj Allianz Life Insurance, HDFC Standard Life Insurance, ICICI Prudential Life Insurance, IDBI Federal Life Insurance, Kotak Life Insurance, Max Life Insurance, MetLife Insurance & SBI Life Insurance.

Data Collection Method

Data collected for this study relied on a secondary data collection method, it involves gathering information from diverse sources such as journal articles, newspaper reports, websites, published literature, national and international databases. Specifically, data for this study was obtained from secondary sources including published literature, annual reports of individual life insurance companies, official websites of life insurance companies, IRDA (Insurance Regulatory and Development Authority) annual reports, and the RBI (Reserve Bank of India) website. The data was gathered for the five-year period between 2015-16 to 2019-20.

Tools and Techniques Used

The research utilized both descriptive and inferential statistical methods to analyze the financial health of ten chosen Indian life insurance. Multiple linear regression was utilized to quantify the impact of liquidity, solvency, leverage, and size on financial performance, specifically Return on Assets (ROA). Correlation analyses were conducted to evaluate the strength and direction of relationships between these determinants and the financial performance metrics.

The study follows a deductive approach to ascertain the impact of independent variables such as liquidity, solvency, leverage, and workforce size on the dependent variable ROA, which measures profitability. Furthermore, a comparative analysis between private and public life insurers was carried out.

An econometric model was employed to analyse the factors of profitability within the insurance companies. Descriptive statistics summarized sample characteristics, while correlation analyses assessed associations between independent and dependent variables. Multiple linear regression was used to analyze the impact of the independent variables on ROA. Furthermore, Mann-Whitney/Wilcoxon Tests were utilized to compare public and private insurers based on various financial metrics including return on investment, efficiency ratio, and cost ratio.

VII. RESULTS & DISCUSSION

Descriptive Statistics

Descriptive statistics plays a significant role in the analysis by providing a comprehensive overview of the variables under scrutiny. This method provides a summary of the main characteristics of both the study population and the relationships among factors influencing financial performance and the actual outcomes of Indian life insurance companies. The descriptive statistics specifically summarize the key traits of the 10 selected Indian life insurance companies.

The analysis considered the results of tests regarding differences in mean across all variables adopted in the econometric model. The findings of the descriptive statistics test conducted on these variables are presented in the table below:

Table 1: Descriptive Statistics

Variables	Mean	Minimum	Maximum	Std. Dev	Jarque Bera Prob.	ADF Test at Level
Current Ratio	4.45	2.42	8.55	1.36	0.00	0.06
Solvency Ratio	15.72	8.98	26.81	5.39	0.03	0.05
Insurance Leverage	0.94	0.00	4.53	1.37	0.02	0.00
Log (workforce Size)	12.38	10.25	17.72	1.48	0.00	0.04
ROA	-1.73	-11.88	1.68	3.54	0.00	0.24

Note: Result from EViews

The results show the differences in the averages of all the variables that is encompassed in the financial performance econometric model employed in the study, which includes both dependent and independent variables. Upon reviewing the table, it's noted that mean values range from a minimum of -1.73 for Return on Assets to a maximum of 12.38 for size. The Return on Assets (ROA) indicates a slight negative trend, with a standard deviation

of 3.51. The current ratio demonstrates moderate differences around its mean of 4.45, with a standard deviation of 1.36. Solvency, measured with a mean value of 15.72, exhibits significant variations with a standard deviation of 5.39. Leverage, with a mean of 0.94 and a standard deviation of 1.37, and size, with a mean of 12.38 and a standard deviation of 1.48, both show positive

values, emphasizing their crucial roles in influencing the financial performance of Indian life insurance companies. The normality testing using the Jarque-Bera probability value is conducted, with variables considered normal at a 5% significance level. However, the size variable is normalized by taking the logarithm. Unit root tests such as Augmented Dickey Fuller test are utilized to analyse the Stationarity. The remaining variables exhibit stationarity at the level. Auto-correlation testing is done using the Durbin-Watson statistic, yielding a value of 1.87, indicating the lack of auto correlation within the dataset.

Furthermore, correlation between the variables was determined using a correlation matrix. This analysis, explores into understanding the relationship between independent variables & their influence on the dependent variable, which helps in comprehending how these variables contribute to explaining the financial performance of life insurance companies in India. The correlation matrix is presented in the table below:

Table 2: Correlation Matrix

	CR	SR	IL	SIZE	ROA
CR	1.00	0.41	0.42	-0.56	-0.06
SR	0.41	1.00	0.07	-0.30	0.15
IL	0.42	0.07	1.00	0.12	0.28
SIZE	-0.56	-0.30	0.12	1.00	0.20
ROA	-0.06	0.15	0.28	0.20	1.00

Note: Result from EViews

The correlation matrix table presents the degree of correlation among variables, with values ranging from 0 to 1. Higher values indicate stronger correlations. In this case, since the values are below 0.5, it indicates that there is no notable correlation between the dependent variable and the independent variables. The correlation matrix table reveals very weak and negative correlations among the variables.

Subsequently, regression analysis was performed to evaluate how the independent variables impact the dependent variable. i.e. Return on assets. Additionally, the values of F-statistics and Durbin-Watson Test were considered to draw conclusions. The results of the regression analysis are presented in the table below:

Table 3: Regression Analysis

Independent Variables	Dependent Variable	Beta Coefficient	Std. Error	T-Stats	Sig. Value
CR	ROA	42.59	0.56	1.91	0.09
SR		-0.21	0.24	-0.85	0.37
D(CR)		1.51	0.84	1.80	0.08
IL		1.43	0.91	1.51	0.15
SIZE		3.35	1.74	1.90	0.07
R squared				0.47	
Adjusted R squared				0.41	
F statistics				1.32	
Prob (F stats)				0.02	
Durbin Watson Stats				1.87	

Note: Result from EViews

The summary table of the regression model provides valuable insights into how the dependent variable, Return on Assets (ROA), relates to various independent

variables such as solvency ratio, current ratio, and leverage ratio and workforce size.

With an adjusted R-squared value of 41%, it indicates that 41% of the variability in ROA can be accounted for by the variations in the independent variables considered in the model. The overall R-squared value of 47% suggests that 47% of the fluctuations in ROA can be ascribed to changes in these independent variables. This R-squared value represents the proportion of the dependent variable's variation explained by the independent variables, and it has the potential to increase with the addition of supplementary variables.

The statistical analysis highlights that, at a 10% significance level, both the current ratio and workforce size show a significant relationship with profitability. There's a positive correlation between ROA and both these variables. However, neither the solvency ratio nor insurance leverage demonstrate any statistical significance, suggesting no substantial relationship with ROA.

The F-test probability value of 0.02 is significant, indicating a linear relationship among the variables in the model. Moreover, the regression coefficients and constant term in the table signify the expected change in the dependent variable when independent variables are at zero. For instance, a coefficient of 1.51 for the current ratio suggests that a 1% increase in the current ratio leads to a 151% increase in ROA. This indicates that companies with robust liquidity positions tend to yield higher returns on assets. Similarly, the other coefficients indicate the impact of a 1% change in the respective independent variables on ROA.

VIII. MAJOR FINDINGS

The findings of the study span across two dimensions such as market development and academics. Thus, the findings are illustrated below:

1. Market Development

The findings clearly indicate that profitability stands out as a primary concern for many private life insurers in India, as evidenced by their Return on Assets ratio. This emphasis on profitability is closely tied to the premium income generated by these insurers. Enhancing premiums will consequently lead to improved profitability for the firms. The analysis findings indicate that there is an impact of workforce size on profitability and financial performance demonstrating a positive relationship between two variables. This variable size reflects the quantum of company assets. Therefore, it is quite important to increase the assets of the company to achieve above par profitability and financial performance. Another reason for the importance of this factor is because it influences the competitive power of the company. This is much evident in large markets where small players find it difficult to compete with big players and so the workforce size matters a lot.

2. Intellectual Development

The results obtained through the study confirms the findings of many previous studies conducted in the same field of research. The results also helped in bridging many research gaps of the previous studies. The study's outcomes affirmed the hypotheses formulated regarding the influence of four independent variables and one dependent variable. Specifically, it was found that the current ratio and workforce size significantly affect the profitability of Indian life insurance firms. This finding was helpful in validating the conceptual framework of insurance profitability which also indicated the prominent impact of these factors on profitability. The analysis revealed a statistically significant difference in the Return on Equity and Expense ratio between public and private insurers. However, there was no significant disparity observed in Return on Assets. This suggests that the profitability of both public and private insurers impacts each other, while their earnings do not exhibit a reciprocal influence.

IX. CONCLUSION

The study assessed the financial effectiveness of life insurance firms by analyzing various metrics including liquidity, solvency, return on assets, and insurance leverage.

Public insurer LIC demonstrated robust liquidity, while private players like IDBI, ICICI, HDFC, and SBI Life also displayed sound liquidity positions. Aviva, Bajaj Allianz, IDBI, Max Life, Kotak, and ICICI outperformed others in solvency. Bajaj Allianz, HDFC, and ICICI Prudential exhibited stable return on assets. LIC surpassed private players in leverage analysis. The regression analysis revealed a significant positive correlation among profitability, liquidity, and the scale of the company. The study emphasized the importance of identifying factors for enhanced profitability. Comparisons between private and public insurers revealed significant differences in Return on Equity and Expense Ratio, while there was no significant difference in Return on Assets, indicating that the profitability impact of private and public players is primarily driven by Return on Assets.

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