Journal of Commerce and Accounting Research
14 (1) 2025, 104-122
http://publishingindia.com/jcar/
doi: https://doi.org/10.21863/jcar/2025.14.1.009

Submitted: 04 May, 2024
Revision: 27 May, 2024
Accepted: 06 June, 2024

DETERMINANTS OF RISK MANAGEMENT DISCLOSURES OF LIFE INSURANCE COMPANIES IN INDIA: AN EMPIRICAL STUDY

Jigyasa Sharma*, Arvind Kumar**

Abstract *The insurance sector, with a focus on life insurance companies, has become an essential component of India's financial landscape. It not only safeguards individuals and families from financial risks but also contributes to the country's economic development by channelling funds into long-term investments. In the pursuit of this mission, they are tasked with managing a diverse spectrum of risks, including market risk, credit risk, morbidity risk, operational risk, persistency risk, and catastrophe risk. Risk management disclosures in life insurance companies are essential for providing stakeholders with a clear understanding of the risks the company faces and how it manages those risks. Keeping in view the certain limitations, the data of major private and public sector players (as a sample) in the field of life insurance has been taken into consideration for the period of 10 years commencing from 2013-14 to 2022-23, and to justify the study, the various statistical methods like coding, ranking, ratio analysis, and pooled regression analysis have been used. The study is an attempt to analyse the impact of risk disclosure on the financial performance of life insurance companies in India because in a sector where trust and financial stability are paramount, prioritising high-quality risk disclosures is crucial for the long-term success and resilience of life insurance companies in India. The findings of this study highlight that the effective risk management is crucial to uphold the life insurers' financial stability, meet policyholders' claims, and maintain solvency.*

Keywords: *Life Insurance Companies, Financial Performance, Risk Management and Risk Disclosure*

INTRODUCTION

The insurance sector in India has witnessed remarkable growth and transformation in recent decades, making it one of the most dynamic and significant parts of the country's financial services industry. The insurance sector, with a focus on life insurance companies, has become an essential component of India's financial landscape. It not only safeguards individuals and families from financial risks but also contributes to the country's economic development by channelling funds into long-term investments. Life insurance companies in India are committed to securing the financial futures of their policyholders while managing a wide array of risks, such as market risk, credit risk, morbidity risk, operational risk, persistency risk and catastrophe risk, they must effectively manage these risks to ensure their solvency and the fulfilment of policyholders' claims. The study is an attempt to analyse the impact of risk disclosure on the financial performance of life insurance companies in India because in a sector where trust and financial stability are paramount, prioritising high-quality risk disclosures is crucial for the long-term success and resilience of life insurance companies in India.

LIFE INSURANCE COMPANIES IN INDIA

Life insurance in India has witnessed a remarkable transformation over the years, evolving from a limited sector to a thriving industry with a broad and diverse range of offerings. Life insurance in India has a rich history dating back to the early 19th century when the first life insurance company was established. The sector saw nationalisation in the mid-20th century, leading to the formation of the Life Insurance Corporation of India (LIC), which became the largest and most prominent insurer in the country. India's life insurance market is one of the fastest-growing in the world. It features a mix of public and private insurers,

* Research Scholar, Department of Commerce, University of Lucknow, Uttar Pradesh, India. Email: jigyasa214@gmail.com
** Professor, Department of Commerce, University of Lucknow, Lucknow, Uttar Pradesh, India. Email: arvindk.lu51@gmail.com

with LIC maintaining a dominant market share. However, private sector players have gained significant traction and market share, offering a wide array of innovative and customer-centric products. The Insurance Regulatory and Development Authority of India (IRDAI) is the regulatory body overseeing the insurance industry in the country. It sets guidelines and regulations for the operation and conduct of life insurance companies to protect the interests of policyholders. Life insurance is a financial contract that provides protection and financial security to policyholders and their beneficiaries in the event of the policyholder's death. A life insurance company is a financial institution that specialises in offering various life insurance products to individuals and groups. These companies collect premiums from policyholders and, in return, provide death benefits, savings, and investment options. In India, as per the Insurance Regulatory and Development Authority of India (IRDAI), there are currently 24 life insurance companies operating in the market. Over the years, there has been a significant increase in awareness about the importance of life insurance in India. This heightened awareness is driven by rising income levels, urbanisation, and an increased focus on financial planning and security.

EFFECTIVE RISK MANAGEMENT IN LIFE INSURANCE COMPANIES - SAFEGUARDING THE FUTURE

Life insurance companies in India face various types of risks, which can significantly impact their financial stability and long-term viability. The major types of risks faced by these companies include:

- *Market Risk:* Market risk includes interest rate risk, equity risk, and currency risk. Fluctuations in financial markets can impact the value of investments and liabilities on the insurer's balance sheet. Asset-liability management (ALM) is used to mitigate market risk by aligning assets with liabilities. This helps ensure that policyholders' payouts remain secure, even during volatile market conditions.
- *Operational Risk:* Operational risk encompasses a wide range of risks associated with internal processes, systems, and human errors. These risks can lead to financial losses, legal liabilities, and reputational damage. Effective operational risk management is essential to prevent such events.
- *Liquidity Risk:* Liquidity risk arises from the mismatch between cash inflows (premiums) and outflows (claims and policyholder defaulters). Life insurance companies manage this risk by maintaining adequate liquidity buffers, reinsurance arrangements, and prudent investment strategies. This ensures they can meet policyholder obligations, even during periods of heightened claims.
- *Persistency Risk:* Persistency risk relates to the likelihood of lapses, surrenders, or non-renewals of insurance policies. High persistency rates are desirable, as they result in more stable cash flows and better long-term profitability. Low persistency rates can affect the insurer's financial performance.
- *Credit Risk:* Credit risk arises from investments in fixed-income securities, where issuers may default on their obligations. Life insurers must manage credit risk effectively to prevent losses from defaults in their investment portfolios.
- *Catastrophe Risk:* Catastrophe risk arises from natural disasters, pandemics, or other catastrophic events. Life insurance companies need to have the financial resources to fulfil their obligations to policyholders in the event of a catastrophe.

Thus, to provide transparency and instill confidence among stakeholders, including policyholders, investors, and regulators, life insurance companies in India are required to make comprehensive risk-related disclosures. Hence, effectively managing and mitigating these various risks is essential for the financial stability and continued success of life insurance companies in India.

LITERATURE REVIEW

Thirupathi and Subhashini (2022) aim to identify the key determinants influencing the financial performance of HDFC Life Insurance Company to uncover the factors that impact the profitability of the selected private life insurance company. The research intends that the liberalisation, privatisation, and globalisation in the insurance sector, driven by increased competition from new private insurers, have led to the introduction of innovative products and customer incentive schemes, and to maintain and attract customers, insurance companies need to be financially solvent and profitable, as profitability is a crucial indicator of their financial performance.

Shahi and Agnihotri (2022) in their research delved into the drivers of profitability for insurance companies operating in India through a multiple linear regression analysis. It examined parameters including liquidity, tangibility, and the scale of firms based on the number of agents in each state. The study's findings highlighted that a combination of liquidity, tangibility, and the scale of business in terms of the number of agents across states significantly influenced the profitability of life insurance companies in India. This suggests that diversifying the range of insurance offerings

and maintaining high liquidity is essential for insurance companies to enhance their profitability and reputation in the competitive market. The study recommended expanding the sample size in future research to enhance analysis accuracy and confidence in generalising findings. Additionally, it underscored the importance of including general insurance companies in similar analyses for more comprehensive insights.

Mohan and Sumathy (2021) had done a comprehensive analysis of the financial performance of public and private life insurance companies in India using various financial ratios. The study concludes that the financial performance of public and private life insurance companies in India is influenced by various factors such as profitability, solvency, and liquidity. The study suggests that the selected life insurance companies should focus on improving their financial performance by optimising their asset utilisation and managing their liabilities effectively.

Suvvari et al. (2019) evaluate the financial performance of 24 Indian life insurance companies from 2013 to 2016. Using GRA, the study ranks these companies based on 14 financial indicators, including capital adequacy, liquidity, operating, and profitability ratios. Shriram Insurance was found to have the highest relational grade, followed by IDBI Insurance, Sahara Insurance, and the Life Insurance Corporation of India. The research highlights the critical role of profitability ratios, including those with negative values, in assessing financial performance. The study suggests that the Indian life insurance industry should focus more on these ratios to improve financial health and underscores the effectiveness of GRA in providing a comprehensive and unbiased analysis compared to traditional methods.

Ramanchi and Satuluri (2019) opined that the life insurance industry in India has remained highly attractive to foreign insurance companies, with significant Foreign Direct Investments flowing into the sector due to the country's low insurance penetration and density. Despite 18 years of private sector involvement and substantial capital deployment, a number of insurance companies are still grappling with accumulated losses. The industry's profitability has proven elusive, with profitability closely correlated with the amount of capital deployed. While there has been notable progress, India lags behind countries like Taiwan, Hong Kong, and South Africa in insurance penetration and density. In recent years, regulators have shifted the industry's focus from top-line growth to bottom-line performance, leading to a cautious approach by insurance companies in terms of capital deployment for expansion. Scalability and increased capital deployment are now seen as essential to drive the industry's growth.

Adhikari and Ghosh (2018) provide a detailed comparative analysis of three private sector life insurance companies in India during the period from 2008-2009 to 2013-2014. The study concludes that private sector life insurance companies in India need to focus on maintaining a robust financial position through effective management of profitability, solvency, and liquidity. This strategic approach is essential for gaining a competitive advantage in the dynamic and competitive insurance market. The research highlights the significant impact of financial sector reforms and the intensified competition in the Indian life insurance market, emphasising the importance of maintaining a sound financial position for competitive advantage.

Hariharan et al. (2017) investigate the reporting practices of Indian life insurance companies concerning risk management and risk governance in their annual reports, evaluating factors such as disclosure quality related to risk management frameworks, risk governance practices, the independence and profile of chief risk officers, the explanation of risk policies, and quality certifications. Despite adhering to the same corporate governance guidelines established by the Insurance Regulatory and Development Authority of India (IRDAI), the study uncovers substantial disparities in the content of their disclosures.

Trivedi (2016) in her study, focusses on the increasing importance of risk analysis and risk management in the Indian insurance sector, particularly within the context of economic liberalisation. It highlights that managing risk is a fundamental challenge for insurance companies, given the inherent nature of the industry. The research is specifically concentrated on life insurance companies in the Indian state of Rajasthan, with a primary focus on their risk management strategies, policies, and internal controls, contributing to a more comprehensive understanding of risk management in the Indian life insurance industry.

Joo (2013) in the study analysed the financial performance of the selected insurance companies using three financial indicators from the CARAMEL model: Earnings and Profitability, Management Soundness, and Liquidity. The analysis includes the use of ratio analysis and statistical tools such as mean, standard deviation, and F-test to test the CARAMEL parameters statistically. The study concluded that the financial stability of Indian non-life insurance companies is influenced by factors such as claim ratio and firm size. The findings suggested that insurance companies should focus on improving their underwriting performance and managing their expenses effectively to maintain solvency.

Kaur Bawa and Chattha (2013) underscore the importance of identifying factors that can enhance the profitability

of insurance companies and benefit investors, ultimately contributing to the growth of the industry and the overall success of the economy. The study revealed that among the Indian life insurers, the public sector company LIC stands out with a strong liquidity position and consistently stable solvency. The study concluded that profitability demonstrates a notable positive correlation with liquidity and company size, while it exhibits a negative association with the capital held by the company.

Kumari (2013) analyses the Indian life insurance industry, both the public and private sectors, with a focus on various parameters such as the number of insurance companies, private sector offices, insurance penetration, density, premium income growth, and the size of the insurance market. The study revealed a substantial enhancement in the overall business performance of the Indian life insurance industry following privatisation. The research paper aims to comprehend the state of the life insurance sector in India and address issues related to competition within the industry. India's robust economic growth, driven by liberalisation policies since the early 1990s, has significantly improved living standards, and the financial sector's opening has played a pivotal role in this process.

International

Rashidi (2024) is of the opinion that risk is fundamental to the existence of the insurance industry. Through insurance contracts, customers transfer their financial uncertainties to insurers in exchange for premiums. Life insurance contracts offer protection against risks such as death, longevity, morbidity, critical illness, and healthcare costs. Other types of insurance provide coverage for property-related contingencies like fire, theft, accidents, and storms. Consequently, an insurer's core operations involve estimating the amount and timing of policyholder payments and determining their present value, considering the future costs of administering these obligations. These activities are inherently risky. It is crucial for insurers to manage the risks embedded in the insurance contracts they underwrite. This paper emphasises the significance of risk management processes for life insurance companies. It explores applied strategies for managing key risks effectively, ensuring that insurers can meet their obligations and maintain financial stability. By implementing robust risk management practices, life insurance companies can better handle the uncertainties associated with their core operations and enhance their overall performance.

Wang (2024) in his study, aims to explore the relationship between financial risk and financial performance within the Chinese life insurance sector over a decade, from 2011 to 2021. China Life Insurance Company is the largest state-owned financial and insurance enterprise in China that plays a pivotal role as an institutional investor in the Chinese capital market. The interconnection between financial risk and financial performance is a critical area of study, particularly for insurance companies that need to balance these aspects to enhance their performance potential. By analysing key financial ratios and employing quantitative methods alongside multiple regression models, this paper uncovers how financial risks influence the performance of Chinese life insurance companies.

Segodi and Sibindi (2022) unearthed that the life insurance industry has grown significantly over the years. This study aimed to identify factors influencing life insurance demand in BRICS countries (Brazil, Russia, India, China, and South Africa) from 1999 to 2020. While previous research primarily focused on demand-side determinants, this study also examined supply-side factors, including financial regulation. Using panel data econometric techniques, the research found that life insurance demand (measured by life insurance density and penetration) is negatively impacted by income, unemployment, interest rates, and inflation. Conversely, economic growth and financial freedom positively influence life insurance demand. The findings suggest that deregulation of the life insurance sector could enhance financial freedom and stimulate demand.

Mazviona, Dube, and Sakahuhwa (2017) examined the factors affecting the performance of insurance companies in Zimbabwe. The authors utilised secondary data from twenty short-term insurance companies for the period from 2010 to 2014. They employed factor analysis and multiple linear regression models to determine the factors affecting performance and identify their impact. The study found that expense ratio, claims ratio, and the size of a company significantly affect insurance companies' performance. The findings suggest that insurance companies in Zimbabwe should focus on reducing their expense ratios and claims ratios to improve their financial performance. Additionally, the study highlights the importance of company size in determining performance, indicating that larger companies tend to perform better. Overall, the study provides valuable insights into the key factors affecting the performance of insurance companies in Zimbabwe, which can inform regulatory and policy decisions aimed at enhancing the financial stability and competitiveness of the insurance sector.

Wani and Ahmad (2015) opined that the insurance companies, by their very nature, engage in risk-taking by writing policies that cover specific and often exotic risks globally. Traditional insurance coverage is evolving into comprehensive risk management, aimed at minimising costs

and ensuring prudent protection. Effective risk management is crucial for insurance companies to achieve robust financial performance. This study investigates the relationship between financial risk and financial performance in Indian life insurance companies, focussing on the period under consideration. Using a multiple linear regression model, the study identifies key determinants of financial performance: capital management risk, solvency risk, liquidity risk, volume of capital, and company size. This research underscores the importance of robust risk management practices in insurance companies and provides valuable insights for enhancing financial performance through strategic risk and asset management.

RESEARCH GAP

The life insurance industry stands as a pillar of financial security for countless individuals, groups, and families. Yet, the sector is riddled with inherent risks that necessitate meticulous risk management. In recent years, life insurance companies operating in India have encountered a shifting landscape characterised by dynamic market forces, regulatory modifications, and heightened competition. In light of these challenges, the critical importance of effective risk management becomes apparent. The extent to which proficient risk management impacts the financial performance of life insurance companies, however, remains a notable research gap which are yet not incorporated in the above literature review and requires exploration. Hence, understanding this relationship is paramount for maintaining investor confidence and ensuring the long-term financial stability of these institutions.

OBJECTIVES OF THE STUDY

The primary objective of the research is to explore and identify the diverse spectrum of risks that confront the life insurance companies operating in India. The study sets out to scrutinise the depth and quality of these risk management practices and their profound influence on the financial performance of these insurers. It also strives to gauge the extent to which these practices are integrated and the degree to which they align with industry best practices and regulatory standards. Thus, by elucidating the interplay between effective risk management strategies and financial outcomes, this research aims to provide valuable insights that can aid in enhancing the financial stability and overall performance of the Indian life insurance industry.

RESEARCH METHODOLOGY

Problem Statement

Determinants of Risk Management Disclosures of Life Insurance Companies in India: An Empirical Study.

RESEARCH DESIGN

This study is underpinned by a research design that combines both descriptive and empirical methodologies, offering a comprehensive approach to investigating the research problem in hand. The descriptive research is focused on describing and summarising a subject without manipulation or hypothesis testing, while empirical research involves testing hypotheses and drawing conclusions based on data collected through direct observation or experimentation. Descriptive research can be a component of empirical research when it involves collecting and describing data for empirical analysis and hypothesis testing.

DATA COLLECTION METHOD

This study predominantly leans on secondary sources of information, encompassing, management reports, annual reports of the selected companies, reports from the Insurance Regulatory and Development Authority of India (IRDAI), published scholarly journals, and pertinent website content, among others.

Sample Profile

The study encompasses a sample of 16 life insurance companies, chosen through a combination of random sampling techniques and judicious selection with careful consideration given to data availability constraints for certain entities in the field of life insurance for 10 years commencing from the financial year 2013-14 to 2022-23.

Statistical Tools and Techniques

The analysis of the collected data has been facilitated through the utilisation of MS-Excel and R software as the analytical tool and a pooled regression analysis technique has been used.

Variables of the Study

The variables of the study include solvency ratio, net NPA ratio, loss ratio, opex ratio, current ratio, persistency ratio, and combined ratio.

Research Equation

The regression equation can be expressed as:

Persistency Ratio =β0 + β1. Net NPA Ratio + β2. Combined Ratio + β3. Loss Ratio + β4. Current Ratio + β5. Solvency Ratio + u_i + ε_{it}

where,

Persistency Ratio is the dependent varible.

Net NPA Ratio, Combined Ratio, Loss Ratio, Current Ratio, and Solvency Ratio are the independent variables.

β0 = Intercept (constant term)

β1, β2, β3, β4, β5 are the coefficients of the respective independent variables.

u_i *= represents the random effects specific to each insurance company;*

ε_{it} *= is the idiosyncratic error term for each observation i at time t.*

Hypothesis of the Study

Hypothesis for the present study is:

- H_{01} **:** There is no significant relationship between the financial performance and risk management disclosures.

Limitations of the Study

Similar to any research endeavour, this study encounters specific constraints, which include:

- This research study functions within a defined timeframe and confines its examination to specific criteria.
- The research depends on secondary data, which comes with inherent limitations.
- All computations are based on the data available as of the respective balance sheet date.
- The day-to-day fluctuations have been excluded from the dataset due to the practical constraints related to the unavailability of granular information for the researcher.
- The study's scope is limited to a subset of life insurance companies, potentially impacting the generalisability of findings to other life insurers within the industry.

DATA ANALYSIS AND INTERPRETATION

Life insurance companies operating in India are dedicated to safeguarding the financial well-being of their policyholders. In the pursuit of this mission, they are tasked with managing a diverse spectrum of risks, including market risk, credit risk, morbidity risk, operational risk, persistency risk, and catastrophe risk. Effective risk management is crucial to uphold their financial stability, meet policyholders' claims, and maintain solvency. Risk management disclosures in life insurance companies are essential for providing stakeholders with a clear understanding of the risks the company faces and how it manages those risks. The ratios associated with the mentioned risks are often used in the insurance and financial industries to assess and manage various types of risks. The chart below presents these risks alongside the corresponding ratios and their respective formulas:

Risk Ratios

Sr. No.	Risk	Ratio	Formula	Target
1.	Market risk	Solvency ratio	Total Assets/ Total Liabilities	Ideal Solvency ratio = 1.50 as per IRDAI Higher the better
2.	Credit Risk	Net NPA ratio	Net NPA/ Net Advances	Lower the better
3.	Morbidity Risk	Loss Ratio	Incurred Claims / Earned Premiums	Lower the better
4.	Liquidity Risk	Current Ratio	Current Asset / Current Liabilities	Ideal ratio 1.33:1
5.	Persistency Risk	Persistency Ratio	Number of Policies in Force at the End of the Period)/ Number of Policies in Force at the Beginning of the Period	Higher the better

Sr. No.	Risk	Ratio	Formula	Target
6.	Operational Risk	Opex Ratio	Operating Expense /Gross Written Premium	Lower the better
7.	Catastrophe Risk	Combined Ratio	(Operating expenses + Commission + Provision for Doubtful debts + Bad debts written off)/Gross written premium)	Lower the better

Source: Compiled by author.

The comprehensive examination of these crucial variables concerning selected life insurance companies for the years 2014-2023 have been conducted using necessary tables and charts.

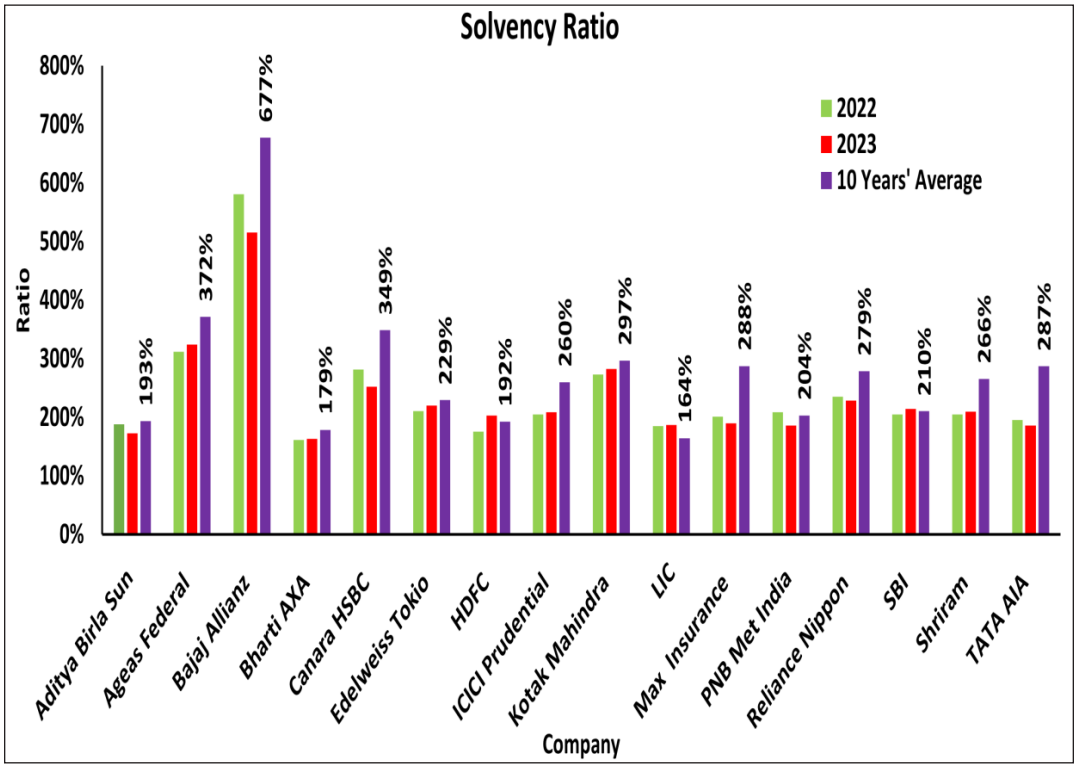
Table 1: Market Risk – Solvency Ratio

Company	Solvency Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	188%	173%	193%	13
Ageas Federal Life Insurance Company Limited	312%	324%	372%	2
Bajaj Allianz Life Insurance Company Limited	581%	516%	677%	1
Bharti AXA Life Insurance Company Limited	162%	163%	179%	15
Canara HSBC Life Insurance Company Limited	282%	252%	349%	3
Edelweiss Tokio Life Insurance Company Limited	211%	220%	229%	10
HDFC Life Insurance Company Limited	176%	203%	192%	14
ICICI Prudential Life Insurance Company Limited	205%	209%	260%	9
Kotak Mahindra Life Insurance Company Limited	273%	283%	297%	4
Life Insurance Corporation India	185%	187%	164%	16
Max life Insurance Company Limited	201%	190%	288%	5
PNB MetLife India Insurance Company Limited	209%	186%	204%	12
Reliance Nippon Life Insurance Company Limited	235%	229%	279%	7
SBI Life Insurance Company Limited	205%	215%	210%	11
Shriram Life Insurance Company Limited	205%	210%	266%	8
TATA AIA Life Insurance Company Limited	196%	186%	287%	6

Source: [1]Compiled from annual report. [2]Author's Computation.

Table 1 provides the comparative analysis of solvency ratios and ranks of various insurance companies in the context of market risk for the years 2022 and 2023, along with their 10 years' average solvency ratios. The solvency ratios represent the companies' financial strength and ability to meet their obligations. It is important to note that the ranks are given in descending order, meaning that a higher rank indicates a higher solvency ratios and all companies in this analysis maintain solvency ratios of more than 150%, as prescribed by IRDAI. Among all the listed companies, Bajaj Allianz Life Insurance Company Limited holds the highest 10 years' average solvency ratio at 677%, followed by Ageas Federal Life Insurance Company Limited at 372%. Conversely, LIC has the lowest solvency ratio, standing at 164%. The ranks indicate the relative financial strength of the insurance companies from 2014 to 2023. It's worth noting that most companies maintained or improved their solvency ratios within this context. Bajaj Allianz Life Insurance Company Limited and Ageas Federal Life Insurance Company Limited claim the top two ranks, signifying their strong financial positions. In contrast, Bharti AXA Life Insurance Company Limited and LIC are ranked 15th and 16th respectively, which suggests a lower solvency ratio compared to others. Kotak Mahindra Life Insurance improved its solvency ratio from 2022 to 2023 and maintained a top position (4th rank), suggesting effective financial management and risk mitigation strategies. PNB Met Life India Insurance Company Limited experienced a significant decline in its solvency ratio and rank from 2022 to 2023 with a 10 years average at 204%, indicating potential financial instability that requires attention. Companies like Bajaj Allianz (Rank 1), Ageas Federal (Rank 2), and Canara HSBC Insurance

(Rank 3) consistently maintain strong financial positions and secure top ranks, indicating their financial stability. Conversely, HDFC Life (Rank 14), Bharti AXA Life Insurance (Rank 15), and LIC (Rank 16) appear to have the most room for improvement, as they rank lower in solvency ratios. Chart 1 showcases the graphical representation of data tabulated in Table 1.



Source: Graphical representation of data using MS-Excel.

Chart 1: Solvency Ratio

The solvency ratio of the sample life insurance companies for the years 2022 and 2023 along with 10 years' average is depicted by green, red, and purple colour, respectively.

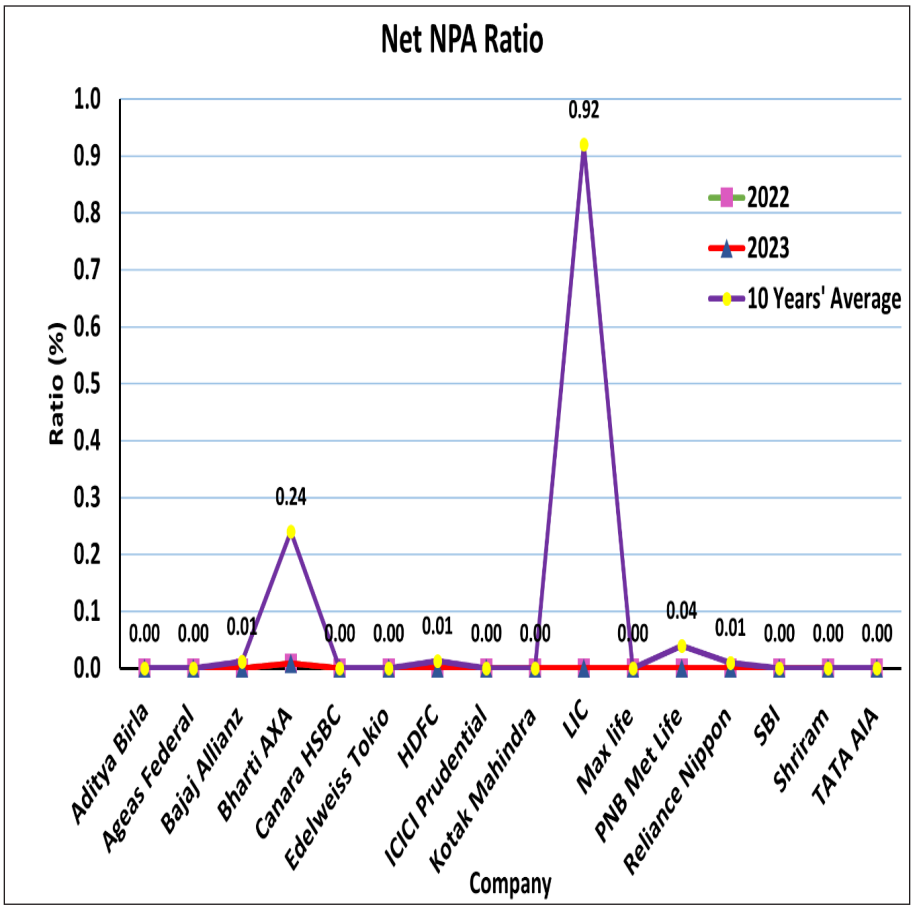
Table 2 : Credit Risk – Net NPA Ratio

Company	Net NPA Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	0.0%	0.0%	0.00%	1
Ageas Federal Life Insurance Company Limited	0.0%	0.0%	0.00%	1
Bajaj Allianz Life Insurance Company Limited	0.0%	0.0%	0.01%	12
Bharti AXA Life Insurance Company Limited	0.9%	0.9%	0.24%	15
Canara HSBC Life Insurance Company Limited	0.0%	0.0%	0.00%	1
Edelweiss Tokio Life Insurance Company Limited	0.0%	0.0%	0.00%	1
HDFC Life Insurance	0.0%	0.0%	0.01%	13
ICICI Prudential Life Insurance	0.0%	0.0%	0.00%	1
Kotak Mahindra Life Insurance	0.0%	0.0%	0.00%	1
Life Insurance Corporation	0.0%	0.0%	0.92%	16
Max life Insurance	0.0%	0.0%	0.00%	1
PNB MetLife India Insurance Company Limited	0.0%	0.0%	0.04%	14

Company	Net NPA Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Reliance Nippon Life Insurance Company Limited	0.0%	0.0%	0.01%	11
SBI Life Insurance Company Limited	0.0%	0.0%	0.00%	1
Shriram Life Insurance Company Limited	0.0%	0.0%	0.00%	1
TATA AIA Life Insurance Company Limited	0.0%	0.0%	0.00%	1

Source: [1]Compiled from the annual report. [2] Author's Computation.

The Net NPA (Non-Performing Assets) ratio is a critical metric for evaluating the credit risk of financial institutions, including insurance companies. It measures the proportion of bad loans or assets that are not generating income in relation to the total assets held by the company. A lower Net NPA ratio indicates a healthier credit risk profile, as it suggests that a smaller portion of the company's assets is at risk of default or non-payment. In the given data, the companies are ranked in ascending order of their Net NPA ratio, this means that companies with a lower Net NPA ratio are in high-ranking order, indicating a better credit risk profile, and vice-versa. The majority of the companies in the study, with only a few exceptions, maintain a Net NPA ratio of 0.00% over a period of 10 years. This signifies that they demonstrate robust credit risk management practices and exhibit a high level of financial stability. These companies are effectively managing their credit risk and performing admirably in this aspect. The 10 years' average net NPA ratio of Life Insurance Corporation is 0.92%, reflecting unsatisfactory risk management practices and an inability to minimise loan defaults and non-performing investments. However, Reliance Nippon (0.01%), Bajaj Allianz (0.01%), HDFC Life (0.01%), PNB Life (0.04%), and Bharti AXA Life Insurance Company Limited (0.24%) have a higher Net NPA ratio compared to the companies with a 0.00% net NPA ratio during the decade, indicating marginal credit risk compared to the others. Chart 2 is the pictorial view of data arranged in Table 2.



Source: Graphical representation of data using MS-Excel.

Chart 2: Net NPA Ratio

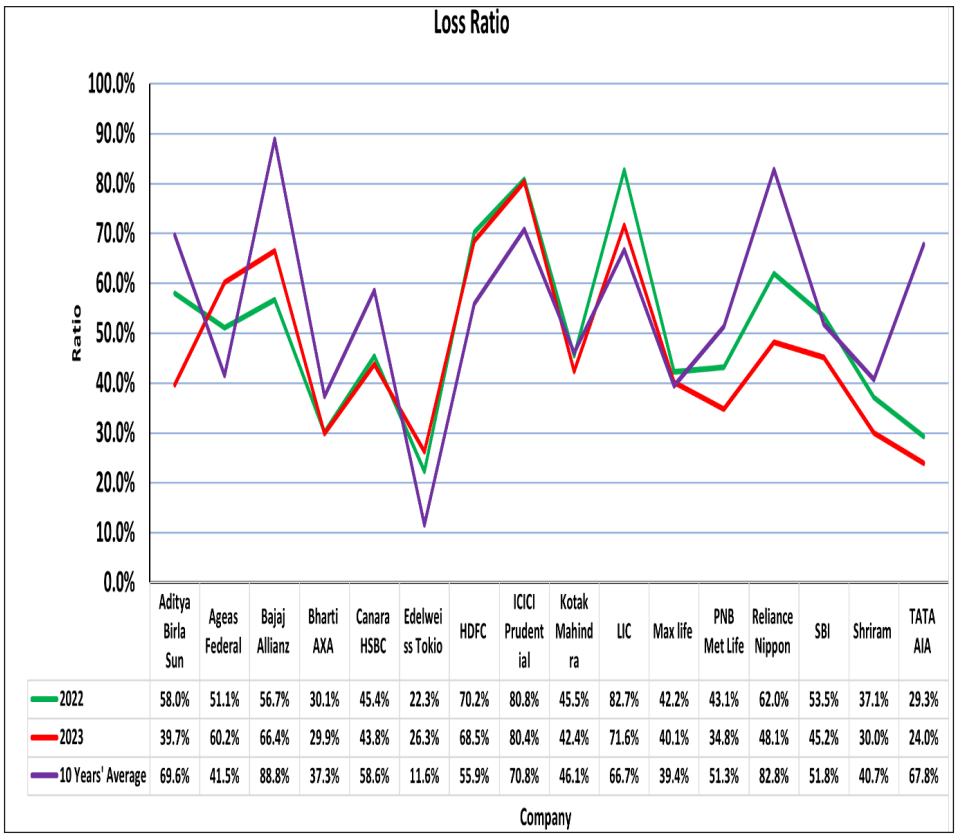
The net NPA ratio of the selected life insurance companies for the years 2022 and 2023, along with 10 years' average net NPA ratio is depicted by green, red, and purple colour, respectively.

Table 3: Morbidity Risk-Loss Ratio

Company	Loss Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	58.0%	39.7%	69.6%	13
Ageas Federal Life Insurance Company Limited	51.1%	60.2%	41.5%	5
Bajaj Allianz Life Insurance Company Limited	56.7%	66.4%	88.8%	16
Bharti AXA Life Insurance Company Limited	30.1%	29.9%	37.3%	2
Canara HSBC Life Insurance Company Limited	45.4%	43.8%	58.6%	10
Edelweiss Tokio Life Insurance Company Limited	22.3%	26.3%	11.6%	1
HDFC Life Insurance	70.2%	68.5%	55.9%	9
ICICI Prudential Life Insurance	80.8%	80.4%	70.8%	14
Kotak Mahindra Life Insurance	45.5%	42.4%	46.1%	6
Life Insurance Corporation	82.7%	71.6%	66.7%	11
Max life Insurance	42.2%	40.1%	39.4%	3
PNB MetLife India Insurance Company Limited	43.1%	34.8%	51.3%	7
Reliance Nippon Life Insurance Company Limited	62.0%	48.1%	82.8%	15
SBI Life Insurance Company Limited	53.5%	45.2%	51.8%	8
Shriram Life Insurance Company Limited	37.1%	30.0%	40.7%	4
TATA AIA Life Insurance Company Limited	29.3%	24.0%	67.8%	12

Source: [1]Compiled from the annual report. [2] Author's Computation.

The loss ratio of life insurance companies is a critical metric, indicating the proportion of premiums paid out as claims or benefits to policyholders, which is used as an indicator of morbidity risk. A lower loss ratio generally suggests that a company is better at managing and pricing its policies, as it pays out a smaller portion of its premiums in claims. In Table 3, the companies are ranked in ascending order of their loss ratio, meaning that higher-ranked companies have lower loss ratios, signifying better financial performance, and conversely, lower-ranked companies have higher loss ratios, indicating poorer financial performance. Edelweiss Tokio Life Insurance Company Limited leads with the lowest 10-year average loss ratio of 11.6%, indicating efficient management of morbidity risk. On the contrary, Bajaj Allianz Life Insurance Company Limited has the highest 10-year average loss ratio of 88.8%, placing it at 16th rank, indicating a larger percentage of policyholders filing claims, which may suggest a higher morbidity risk among their policyholders. Bharti AXA Life, Max Life Shriram Life Insurance, and Ageas Federal Life Insurance Company maintain a reasonably low loss ratio, indicating stable performance and good management of morbidity risk. SBI Life, Bajaj Allianz, Reliance Nipon and Aditya Birla Sunlife insurance companies have significantly improved their loss ratios from 2022. However, ICICI Prudential Life, HDFC Life, and LIC have consistently high loss ratios, suggesting a need to review their underwriting and risk assessment processes. For a better understanding, Chart 3 depicts the data compiled in Table 3.



	Aditya Birla Sun	Ageas Federal	Bajaj Allianz	Bharti AXA	Canara HSBC	Edelweiss Tokio	HDFC	ICICI Prudential	Kotak Mahindra	LIC	Max life	PNB Met Life	Reliance Nippon	SBI	Shriram	TATA AIA
2022	58.0%	51.1%	56.7%	30.1%	45.4%	22.3%	70.2%	80.8%	45.5%	82.7%	42.2%	43.1%	62.0%	53.5%	37.1%	29.3%
2023	39.7%	60.2%	66.4%	29.9%	43.8%	26.3%	68.5%	80.4%	42.4%	71.6%	40.1%	34.8%	48.1%	45.2%	30.0%	24.0%
10 Years' Average	69.6%	41.5%	88.8%	37.3%	58.6%	11.6%	55.9%	70.8%	46.1%	66.7%	39.4%	51.3%	82.8%	51.8%	40.7%	67.8%

Source: Graphical representation of data using MS-Excel.

Chart 3: Loss Ratio

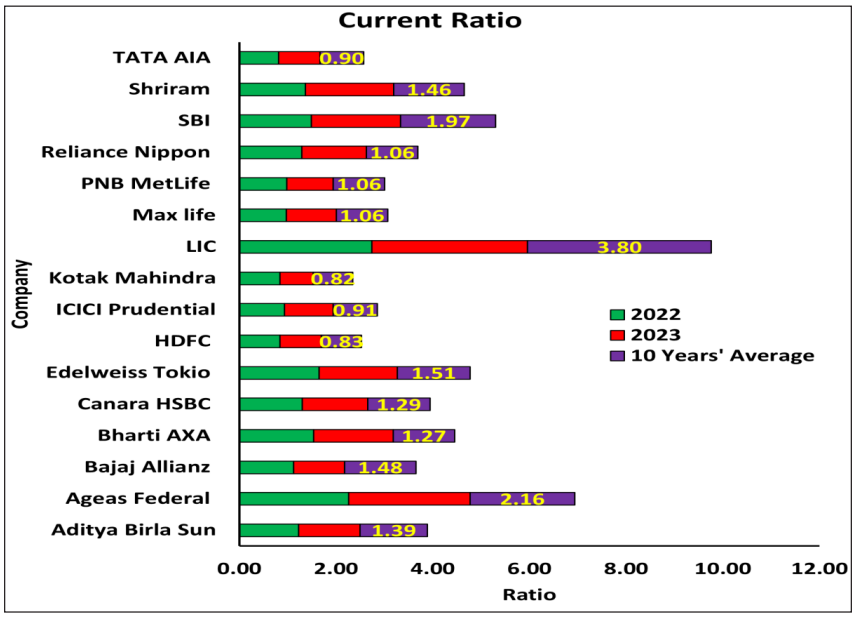
The loss ratio of the life insurance companies under study for the years 2022 and 2023 is depicted by green-, red- and purple-coloured lines, respectively along with a data table for easy comprehension.

Table 4 : Liquidity Risk-Current Ratio

Company	Current Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	1.23	1.27	1.39	7
Ageas Federal Life Insurance Company Limited	2.26	2.51	2.16	2
Bajaj Allianz Life Insurance Company Limited	1.12	1.06	1.48	5
Bharti AXA Life Insurance Company Limited	1.54	1.64	1.27	9
Canara HSBC Life Insurance Company Limited	1.30	1.35	1.29	8
Edelweiss Tokio Life Insurance Company Limited	1.65	1.62	1.51	4
HDFC Life Insurance	0.84	0.86	0.83	15
ICICI Prudential Life Insurance	0.93	1.01	0.91	13
Kotak Mahindra Life Insurance	0.84	0.68	0.82	16
Life Insurance Corporation	2.74	3.22	3.80	1
Max life Insurance	0.97	1.03	1.06	11
PNB MetLife India Insurance Company Limited	0.98	0.97	1.06	12
Reliance Nippon Life Insurance Company Limited	1.30	1.33	1.06	10
SBI Life Insurance Company Limited	1.48	1.85	1.97	3
Shriram Life Insurance Company Limited	1.37	1.82	1.46	6
TATA AIA Life Insurance Company Limited	0.81	0.85	0.90	14

Source: [1]Compiled from the annual report. [2]Author's Computation.

Table 4 presents the current ratios for various life insurance companies in India for the years 2022 and 2023, alongside their 10-year average current ratios and corresponding ranks. The current ratio is a financial metric used to assess a company's liquidity and ability to meet its short-term financial obligations. A current ratio between 1.33:1 and 2:1 is generally considered healthy, indicating that the company has a good balance between current assets and liabilities. A ratio less than 1.33:1 may suggest a lower level of liquidity, while a ratio greater than 2:1 could indicate inefficient asset utilisation or an excess of idle cash. The ranks are assigned in descending order of the current ratio, which means that companies with higher current ratios are ranked at the top, while those with current ratios less than 1.33:1 are ranked lower. Life Insurance Corporation (Rank 1) and Ageas Federal Life (Rank 2) have current ratios above 2:1 with the highest 10-year average current ratio of 3.80 and 2.16, securing the top rank. These companies appear to have a surplus of current assets relative to their current liabilities, indicating they might not be effectively utilising their resources or have a significant amount of idle cash. SBI Life, Shriram Life, Edelweiss Tokio Life, Bajaj, Aditya Birla Sun Life, Canara HSBC Life, and Bharti AXA Life Insurance Company Limited have current ratios within the healthy range, suggesting that they are adequately positioned to meet their short-term obligations without holding excessive idle cash. This reflects a balanced liquidity position. Max Life, ICICI Prudential, PNB MetLife India, Reliance Nippon, HDFC Life, TATA AIA Life, and Kotak Mahindra Life Insurance companies have current ratios below 1.33:1, indicating a relatively lower level of liquidity. This could potentially pose liquidity risk, especially during periods of financial stress, and they might need to review their current asset and liability management strategies. Chart 4 illustrates the data relating to the current ratio arranged in Table 4.



Source: Graphical representation of data using MS-Excel.

Chart 4: Current Ratio

The current ratio for the selected sample of life insurance companies for the years 2022 and 2023, alongside 10 years' average has been illustrated by green-, red- and purple-coloured bars, respectively.

Table 5: Persistency Risk–Persistency Ratio

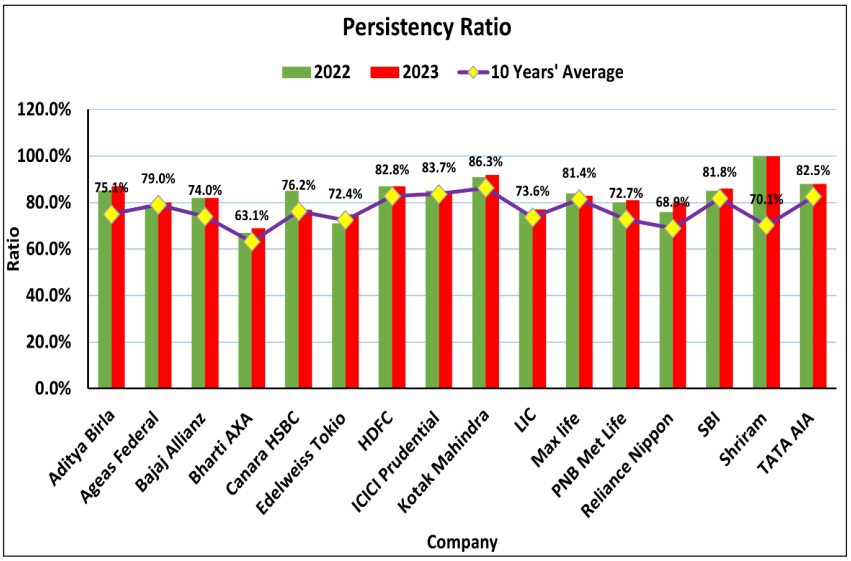
Company	Persistency Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	85.0%	87.0%	75.1%	9
Ageas Federal Life Insurance Company Limited	79.0%	80.0%	79.0%	7
Bajaj Allianz Life Insurance Company Limited	82.0%	82.0%	74.0%	10
Bharti AXA Life Insurance Company Limited	67.0%	69.0%	63.1%	16
Ca3nara HSBC Life Insurance Company Limited	85.0%	77.0%	76.2%	8
Edelweiss Tokio Life Insurance Company Limited	71.0%	75.0%	72.4%	13

Company	Persistency Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
HDFC Life Insurance	87.0%	87.0%	82.8%	3
ICICI Prudential Life Insurance	85.0%	85.0%	83.7%	2
Kotak Mahindra Life Insurance	91.0%	92.0%	86.3%	1
Life Insurance Corporation	76.0%	77.1%	73.6%	11
Max life Insurance	84.0%	83.0%	81.4%	6
PNB MetLife India Insurance Company Limited	80.0%	81.0%	72.7%	12
Reliance Nippon Life Insurance Company Limited	76.0%	80.0%	68.9%	15
SBI Life Insurance Company Limited	85.0%	86.0%	81.8%	5
Shriram Life Insurance Company Limited	100.0%	100.0%	70.1%	14
TATA AIA Life Insurance Company Limited	88.0%	88.0%	82.5%	4

Source: [1]Compiled from the annual report. [2]Author's Computation.

The dataset in Table 5 presents the persistency ratios of selected insurance companies for the years 2022 and 2023, along with the 10 years' average and their respective ranks. Persistency ratio is a critical metric in the insurance industry that measures the ability of insurance companies to retain policyholders and collect premiums over a period of time. Higher persistency ratios are generally more favourable as they indicate a lower risk of policy lapses and better customer retention. The data presents a ranking of insurance companies based on their persistency ratios for the years 2023 and 2022. The rankings are assigned in a descending order, meaning that the company with the high persistency ratio are ranked in the top order while companies with lower persistency ratios are given lower ranks.

Kotak Mahindra Life Insurance Company (Rank 1) achieved the highest 10 years' average persistency ratio with an impressive rate of 86.3%. This indicates a strong ability to retain policyholders, placing it at the top rank. It has not only retained its policyholders effectively but also improved slightly compared to the previous year. On the other end of the spectrum, Bharti AXA Life Insurance Company Limited had the lowest 10 years' average persistency ratio of 63.10%. This suggests that Bharti AXA Life faced challenges in retaining its policyholders, resulting in a persistency ratio significantly lower than other companies in the dataset. ICICIC, HDFC Life Insurance, Tata AIA, SBI Life, and Max Life Insurance Company Limited maintained their positions at the top of the ranks, with minimal changes in their persistency ratios, showcasing their ability to maintain a consistent customer base. Ageas, Aditya Birla, and LIC also remained stable in terms of their rankings, with modest improvements in their persistency ratios. Companies like Canara HSBC and Reliance Nippon Life Insurance Company Limited displayed varying performance with former experiencing a considerable decrease in the ratio and the latter improving its persistency ratio. The pictorial view of data for the years 2022 and 2023 has been depicted in Chart 5.



Source: Graphical representation of data using MS-Excel.

Chart 5: Persistency Ratio

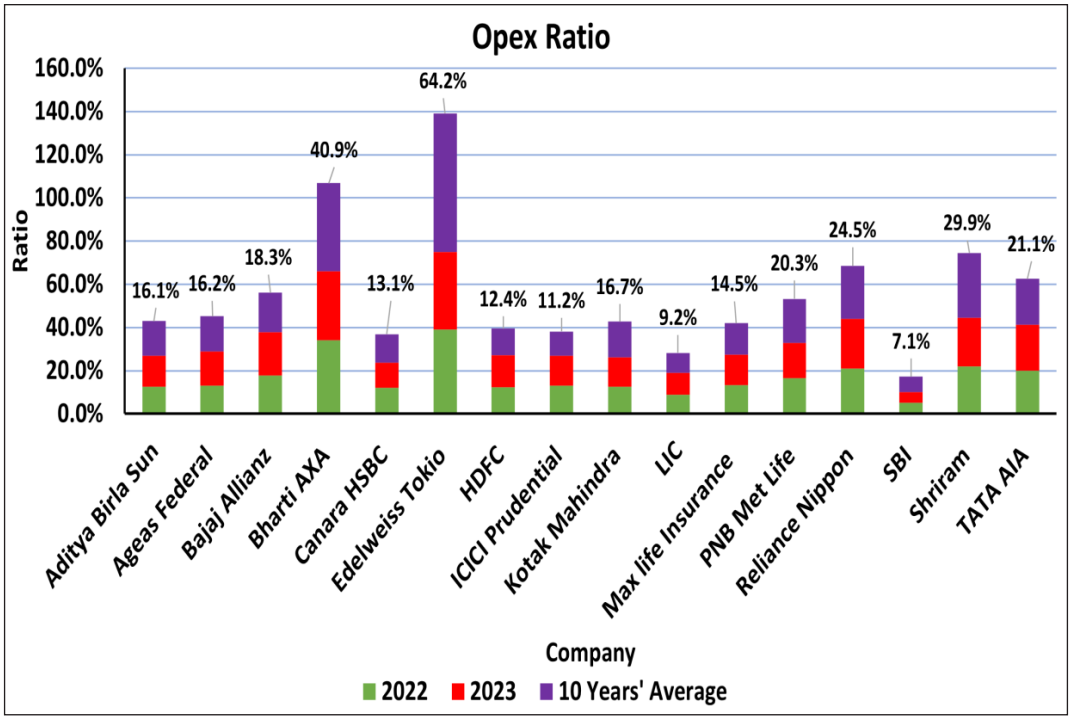
The persistency ratios for the years 2022 and 2023, along with the 10 years' average of the life insurance companies under observation have been exhibited by green, red, and purple color respectively.

Table 6: Operational Risk – Opex Ratio

Company	Opex Ratio[1]			
	2022	2023	10 Years' Average[2]	Rank[2]
Aditya Birla SunLife Insurance Company Limited	12.7%	14.2%	16.1%	7
Ageas Federal Life Insurance Company Limited	13.0%	16.0%	16.2%	8
Bajaj Allianz Life Insurance Company Limited	17.8%	20.0%	18.3%	10
Bharti AXA Life Insurance Company Limited	34.0%	32.0%	40.9%	15
Canara HSBC Life Insurance Company Limited	12.0%	11.8%	13.1%	5
Edelweiss Tokio Life Insurance Company Limited	39.0%	36.0%	64.2%	16
HDFC Life Insurance	12.3%	14.8%	12.4%	4
ICICI Prudential Life Insurance	13.0%	14.0%	11.2%	3
Kotak Mahindra Life Insurance	12.7%	13.4%	16.7%	9
Life Insurance Corporation	8.9%	10.1%	9.2%	2
Max life Insurance	13.3%	14.2%	14.5%	6
PNB MetLife India Insurance Company Limited	16.5%	16.5%	20.3%	11
Reliance Nippon Life Insurance Company Limited	21.0%	23.0%	24.5%	13
SBI Life Insurance Company Limited	5.1%	5.1%	7.1%	1
Shriram Life Insurance Company Limited	21.9%	22.7%	29.9%	14
TATA AIA Life Insurance Company Limited	20.1%	21.3%	21.1%	12

Source: [1]Compiled from the annual report. [2]Author's Computation.

Table 6 provides the data relating to the operating ratio of selected life insurance companies for the years 2022 and 2023, along with the 10 years' average and corresponding ranks. The operating ratio is a key financial metric for assessing operational risk used to measure an insurer's operational efficiency and can indicate its ability to manage costs and generate profits. The ranks assigned in the provided data are based on ascending order of the opex ratio, where companies with lower opex ratios are positioned at the top of the ranking, signifying superior operational efficiency, and conversely, companies with higher opex ratios are ranked lower, indicating lower operational efficiency. In 2023, the company with the highest operating ratio was Edelweiss Tokio Life Insurance Company Limited, with an operating ratio of 36% in 2023 and 39% in 2022. This high operating ratio (64.2%) over the past decade suggests that a significant portion of the company's revenue is being consumed by operating expenses. On the other hand, the company with the lowest operating ratio in 2022 and 2023 was SBI Life Insurance Company Limited, with an impressively low operating ratio of 5.1% in both the years and an average 7.1% in the past 10 years. This indicates that SBI Life Insurance is highly efficient in managing its operational costs and generating profits Bharti AXA and Edelweiss Tokio Life Insurance company has slightly improved its Opex Ratio from 2022 to 2023, ranking at 15th and 16th position respectively. Max Life, Tata AIA and Shriram Insurance are staying at the 6th, 12th, and 14th rank, respectively, with a slight increase in their operating ratio, indicating steady performance. Ageas Federal Life Insurance displayed a significant increase in its operating expense ratio, rising from 13% in 2022 to 16% in 2023, standing at 8th rank on the basis of 10 years' average ratio. Chart 6 gives a picture of the data grouped in Table 6.



Source: Graphical representation of data using MS-Excel.

Chart 6: Opex Ratio

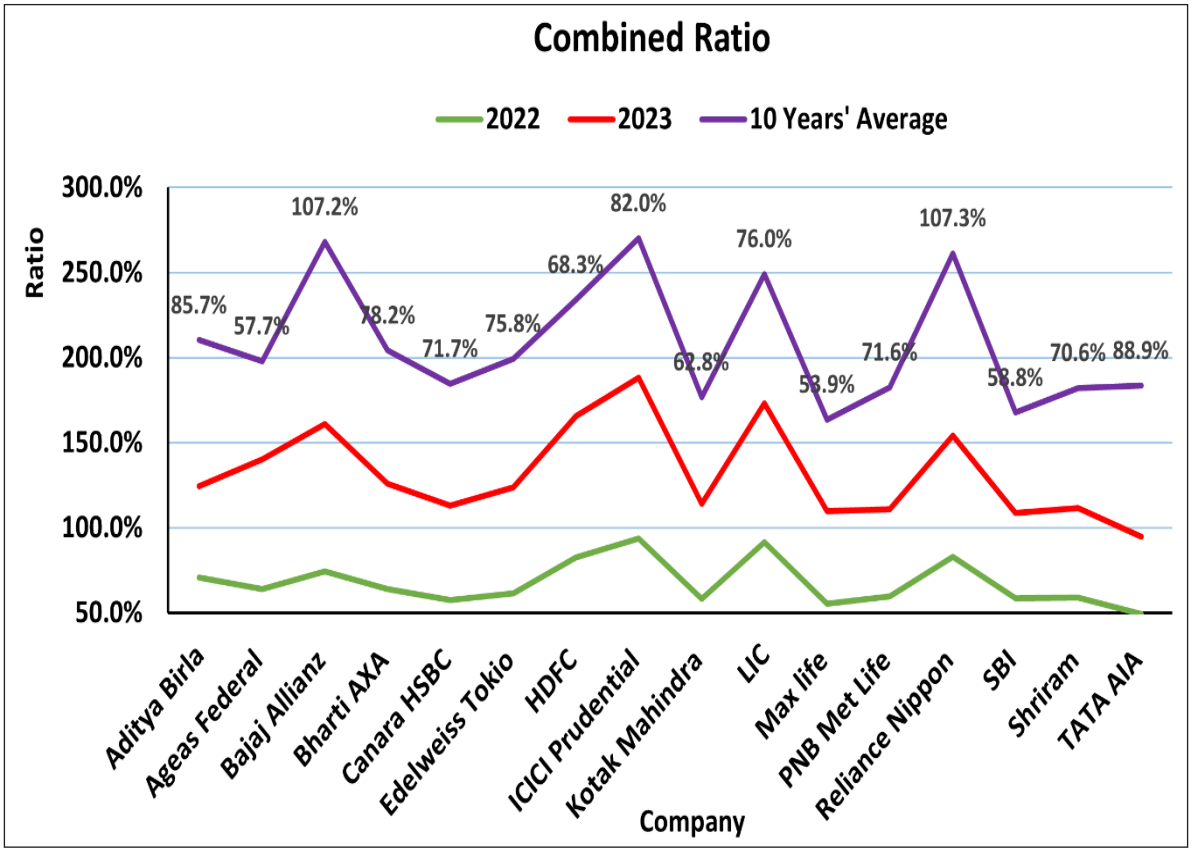
The opex ratio of the life insurance companies under study for the years 2023 and 2022, along with 10 years' average opex ratio is depicted by green, red, and purple colored stacked bars, respectively.

Table 7: Catastrophe Risk-Combined Ratio

Company	Combined Ratio[1]			
	2022	2023	10 Years' Average	Rank[2]
Aditya Birla SunLife Insurance Company Limited	70.7%	53.9%	85.7%	13
Ageas Federal Life Insurance Company Limited	64.1%	76.2%	57.7%	2
Bajaj Allianz Life Insurance Company Limited	74.5%	86.4%	107.2%	15
Bharti AXA Life Insurance Company Limited	64.1%	61.9%	78.2%	11
Canara HSBC Life Insurance Company Limited	57.4%	55.6%	71.7%	8
Edelweiss Tokio Life Insurance Company Limited	61.3%	62.3%	75.8%	9
HDFC Life Insurance	82.5%	83.3%	68.3%	5
ICICI Prudential Life Insurance	93.8%	94.4%	82.0%	12
Kotak Mahindra Life Insurance	58.2%	55.8%	62.8%	4
Life Insurance Corporation	91.6%	81.7%	76.0%	10
Max life Insurance	55.5%	54.3%	53.9%	1
PNB MetLife India Insurance Company Limited	59.6%	51.3%	71.6%	7
Reliance Nippon Life Insurance Company	83.0%	71.1%	107.3%	16
SBI Life Insurance Company Limited	58.6%	50.3%	58.8%	3
Shriram Life Insurance Company Limited	59.0%	52.7%	70.6%	6
TATA AIA Life Insurance Company Limited	49.4%	45.3%	88.9%	14

Source: [1]Compiled from annual report. [2]Author's Computation.

Table 7 provides the combined ratios for various life insurance companies in India for the years 2022 and 2023, along with their 10-year average combined ratios and corresponding ranks. The combined ratio is a crucial metric in the insurance industry, especially for life insurance companies, as it indicates the overall financial health and ability to manage risks, including catastrophe risk. It is primarily used to assess the insurance company's underwriting profitability. A combined ratio below 100% indicates that the company is making an underwriting profit, while a ratio above 100% suggests an underwriting loss. Max Life Insurance Company Limited holds the top position with the lowest 10-year average combined ratio of 53.9%, reflecting its efficient management of losses and expenses. Ageas Federal Life Insurance Company Limited follows closely with an average of 57.7%, placing it second. SBI Life Insurance Company Limited ranks third with a 10-year average of 58.8%. This indicates that the company was highly efficient in managing its expenses relative to its premium income, suggesting a strong financial position and profitability. Kotak Mahindra Life Insurance was another company with a low combined ratio of 62.8% in the past decade, showing good control over their expenses compared to premium income. Bajaj Allianz and Reliance Nippon Life Insurance had a notably high combined ratio in the last 10 years, staggering at 107.2% and 107.3%, respectively. Ageas Federal, Edelweiss Tokio, ICICI Prudential, and Bajaj Allianz Life Insurance experienced an increase in its combined ratios from 2022 to 2023 indicating a similar trend of rising expenses in comparison to premium income. On the contrary, the combined ratio of Aditya Birla, Bharti AXA, Canara HSBC, and Kotak, LIC, Max Life, PNB, SBI Life, Shriram, and Tata AIA Life Insurance Company Limited have dropped slightly, potentially improving their profitability. These companies should maintain their underwriting discipline. Chart 7 graphically illustrates the data recorded in Table 7 for easy comprehension.



Source: Graphical representation of data using MS-Excel.

Chart 7: Combined Ratio

The combined ratio of the selected life insurance companies has been portrayed in the form of a line graph for the years 2023 and 2022 alongside 10 years' average combined ratio by green, red, and purple colour respectively.

Hypothesis Testing

In this study, hypothesis-testing analysis using panel data regression through a pooling model has been conducted. The purpose of this analysis is to examine the impact of various risk management financial ratios on the dependent variable (persistency), which is an indicator of the performance and quality of business of the insurance companies. Specifically, we included Net Non-Performing Assets (NPA), Combined Ratio, Loss Ratio, Current Ratio, and Solvency Ratio as independent variables.

Table 8 presents the statistical results of the regression model, including the estimates, standard errors, t-values, and p-values for each variable. These results provide insights into the significance and effect size of each predictor on the dependent variable. The statistical significance of the coefficients is assessed at conventional levels, and the p-values indicate whether the null hypothesis, which posits that the coefficient is equal to zero, can be rejected.

Table 8: Statistical Results of Panel Data Regression using Pooling Model

	Estimate	Std. Error	t-value	p-value	Remarks
(Intercept)	93.4456	2.2647	41.2620	0.0000***	
Net NPA	-5.5322	2.3773	-2.3271	0.0213*	Rejected
Combined Ratio	-0.3649	0.0381	-9.5849	0.0000***	Rejected
Loss Ratio	0.2264	0.0383	5.9192	0.0000***	Rejected
Current Ratio	-0.0081	0.0082	-0.9846	0.3264	Accepted
Solvency Ratio	-0.0004	0.0048	-0.0751	0.9402	Accepted
R^2	0.975				
F-statistics (Model Fit)	11.881				
p-value	0.000***				

Source: Author's Compilation.

Note: *** indicates a p-value less than 0.001; ** indicates a p-value less than 0.01; * indicates a p-value less than 0.05.

Analysis of Individual Variables and Model Summary

- *Net NPA Ratio:* The coefficient is -4.234, indicating a negative relationship with the dependent variable. The p-value (0.0429) is less than 0.05, which means it is statistically significant at the 5% level. Therefore, we reject the null hypothesis for this variable, indicating that Net NPA Ratio has a significant impact on the dependent variable.
- *Combined Ratio:* The coefficient is -0.286, indicating a negative relationship with the dependent variable. The p-value (1.590e-11) is much less than 0.001, making it highly significant. We reject the null hypothesis for this variable, showing that Combined Ratio is a significant predictor.
- *Loss Ratio:* The coefficient is 0.197, indicating a positive relationship. The p-value (2.164e-07) is also much less than 0.001, making it highly significant. The null hypothesis is rejected for this variable, showing that Loss Ratio significantly affects the dependent variable.
- *Current Ratio:* The coefficient is -0.008, showing a very weak negative relationship. The p-value (0.3271) is greater than 0.1, making it not significant. We fail to reject the null hypothesis for this variable, indicating it does not have a significant impact on the dependent variable.
- *Solvency Ratio:* The coefficient is 0.004, also indicating a very weak positive relationship. The p-value (0.4318) is greater than 0.1, making it not significant. We fail to reject the null hypothesis for this variable, indicating it does not have a significant impact on the dependent variable.

Model Summary

- *R-Squared:* 0.975 indicates that approximately 97.5% of the variance in the dependent variable is explained by the model. This is a very high value, suggesting the model fits the data well.
- *F-Statistic:* 11.8803 with a p-value of 0.000*** (1.212e-09) suggests that the overall model is statistically significant.

Table 8 summarises the significance of individual predictors in the regression model. Predictors with p-values below 0.05 (Net NPA, Combined Ratio, and Loss Ratio) were found to be statistically significant whereas predictors with

higher p-values (Current Ratio and Solvency Ratio) were not statistically significant.

FINDINGS, CONCLUSION, AND SUGGESTIONS

The comprehensive analysis of various financial performance and risk management metrics among different insurance companies strongly supports that the insurance companies with high solvency ratios, low Net NPA ratios, low loss ratios, healthy current ratios, and high persistency ratios consistently exhibit better financial performance and risk management (Wani & Ahmad, 2015). Conversely, companies with lower solvency ratios, higher Net NPA ratios, and operating expense ratios, as well as deteriorating combined ratios, tend to face challenges in maintaining their financial stability and profitability. Mazviona et al. (2017) revealed that both the expense ratio and claims ratio have a significantly negative impact on the performance of insurance companies. The research conducted by Thirupathi and Subhashini; Shahi and Agnihotri (2022) also provides valuable insights into the drivers of profitability for insurance companies, particularly in the Indian context. The study offers valuable perspectives on the challenges and opportunities facing the Indian insurance industry, including issues related to regulatory compliance, risk management practices, and industry performance metrics (Kaur Bawa & Chattha, 2013; Kumari, 2013). The study emphasises the importance of transparency and accountability in risk management disclosures for fostering trust among stakeholders and enhancing the overall financial performance of the insurance industry.

Thus, the empirical evidence strongly supports the rejection of the null hypothesis, which assumes *no significant relationship between financial performance and risk management disclosures.* Instead, the alternative hypothesis, asserting a significant relationship between these factors, is supported by the strong empirical evidence from the analysis of the insurance companies' data. This emphasises the vital role of effective risk management strategies in shaping the financial performance and overall success of insurance companies (Wani & Ahmad, 2015). Hence, by elucidating the interplay between effective risk management strategies and financial outcomes, the objective of this research to testify that the effective risk management disclosures have a profound influence in enhancing the financial stability and overall performance of the life insurance companies has been accomplished.

Suggestions

The suggestions provided aim to enhance the financial stability and performance of insurance companies, particularly in the context of solvency, credit risk, morbidity risk, liquidity, persistency, operational efficiency, and combined ratios. It is suggested that to enhance their overall performance, insurance companies should prioritise specific areas identified through the analysis of various ratios. Strengthening financial resilience emerges as a critical focus; companies like Aditya Birla SunLife could strengthen their solvency ratios, while others, such as Reliance Nippon Life Insurance, might mitigate high combined ratios through improved underwriting and expense management (Joo, 2013). Elevating customer retention rates is imperative; firms like Ageas Federal Life Insurance could augment persistency ratios to cultivate enduring client relationships. Moreover, optimising risk management practices, like reducing loss ratios as recommended for HDFC Life Insurance, and refining liquidity, such as enhancing current ratios for TATA AIA Life Insurance, are essential for ensuring overall stability and competitiveness. Tailoring strategies to address specific challenges and capitalise on strengths will be paramount for sustained profitability and market standing in the insurance industry.

REFERENCES

Abbas, D., Ismail, T., Taqi, M., & Yazid, H. (2021). Determinants of enterprise risk management disclosures: Evidence from insurance industry. *Accounting, 7*(6), 1331-1338. doi:https://doi.org/10.5267/j.ac.2021.4.005

Bhomachiya, G. H. (2022). *Customer satisfaction and growth analysis of selected life insurance companies.* doi:http://hdl.handle.net/10603/408623

Hassan, M. K., & Maroney, N. C. (2019). Determinants of life insurers' risk disclosure in South Asia. *Journal of Insurance Issues, 42*(2), 131-153. Retrieved from https://www.jstor.org/stable/26756326

Hariharan, B., Vedala, S., & Patel, K. (2017). A study of disclosures on risk management of life insurance companies in India. *Indian Journal of Finance.* Retrieved from https://www.researchgate.net/publication/312177131

IGNOU. (n.d.). Retrieved 2023, from www.egyankosh.ac.in: https://egyankosh.ac.in/bitstream/123456789/94956/1/Unit-13.pdf

Insurance Regulatory and Development Authority of India (IRDAI). (n.d.). *Life insurers.* Retrieved from https://irdai.gov.in/life-insurers

Insurance Regulatory and Development Authority of India (IRDAI). (n.d.). *Life reports*. Retrieved from https://irdai.gov.in/life-reports

Joo, B. (2013). Analysis of financial stability of Indian non-life insurance companies. *Asian Journal of Finance and Accounting, 5*(1). Retrieved from https://www.researchgate.net/publication/313798615

Kaur Bawa, S., & Chattha, S. (2013). Financial performance of life insurers in Indian insurance industry. *Pacific Business Review International, 6*(5), 44-52. Retrieved from http://www.pbr.co.in/2013/2013_month/Nov/7.pdf

Chandrashekara, K. (2020). Shodhganga. *Impact of work stress on employee productivity a study with reference to life insurance companies in Dakshina Kannada district of Karnataka* (Thesis, Department of Commerce, Mangalore University). doi:http://hdl.handle.net/10603/380200

Adhikari, K. (2018, February). Financial performance of private sector life insurance companies in India: A comparative study. *EPRA International Journal of Economic and Business Review (JEBR), 6*(2), 23-49. Retrieved June 2024, from https://eprajournals.com/IJES/article/8090

Kumari, T. H. (2013). Performance evaluation of Indian life insurance industry in post liberalization. *International Journal of Social Sciences Arts and Humanities, 1*(1), 7-14. Retrieved from https://www.crdeepjournal.org/wp-content/uploads/2013/06/Vol-1-1-2-IJSSAH.pdf

Mazviona, B., Dube, M., & Sakahuhwa, T. (2017). An analysis of factors affecting the performance of insurance companies in Zimbabwe. *Journal of Finance and Investment Analysis, 6*(1), 1-2. Retrieved from https://www.researchgate.net/publication/317719931

Mohan, S. (2021). Financial performance of public and private life insurance companies in India: A comparative study. *International Journal of Advanced Scientific Research and Management, 4*(3), 156-164. Retrieved from https://www.researchgate.net/publication/354598970.

Patra, S. (2019). *Investment portfolio of life insurance corporation of India LICI and select private life insurance companies a comparative study.* doi:http://hdl.handle.net/10603/315745

Rana, N. (2017). *Corporate governance in life insurance sector in India.* doi:http://hdl.handle.net/10603/207802

Roopa, M. B. (2017). *Financial performance of public and private life insurance companies in India*. doi:http://hdl.handle.net/10603/219102

Ramanchi, R., & Satuluri, R. K. (2019). Analyzing life insurance profitability in India through simple linear regression. *Journal of Emerging Technologies and Innovative Research (JETIR), 6*(3), 289-301. Retrieved from https://www.researchgate.net/profile/Ramesh-Satuluri/publication/332538673_Life_Insurance_Profitability/links/5cbaa1604585156cd7a48065/Life-Insurance-Profitability.pdf

Rashidi, A. (2024). *The importance of risk management in life insurance companies*. Retrieved from https://www.researchgate.net/publication/377306364

Shahi, A., & Agnihotri, M. (2022). Impact of liquidity, tangibility, and size of a firm on the life insurance companies' profitability in India. *Stallion Journal for Multidisciplinary Associated Research Studies, 1*(1), 9-15. doi:https://doi.org/10.55544/sjmars.1.1.2

Segodi, M. P., & Sibindi, A. B. (2022). Determinants of life insurance demand: Empirical evidence from BRICS countries. *Risks, 10*(4), 3. doi:https://doi.org/10.3390/risks10040073

Suvvari, A., S. Durai, R. S., & Goyari, P. (2019). Financial performance assessment using Grey relational analysis (GRA): An application to life insurance companies in India. *Grey Systems: Theory and Application.* ahead-of-print. doi:https://doi.org/10.1108/GS-05-2019-0010; Retrieved from https://www.researchgate.net/publication/335657723

Thakor, K. (2022). *Customer satisfaction and growth analysis of selected life insurance companies.* Retrieved from http://hdl.handle.net/10603/408623

The Institute of Cost Accountants of India. (2017, January). Indian banking sector in transition. *The Management Accountant, 52*(1), 124. Retrieved 2023, from https://shodhganga.inflibnet.ac.in/bitstream/10603/292149/13/13_annexure2.pdf

Thirupathi, T., & Subhashini, S. (2022). An empirical analysis of key determinants affecting the financial performance of HDFC life insurance company. *Journal of Positive School Psychology, 6*(6), 2928-2935.

Trivedi, S. (2016). *A study on risk management tools & techniques in life insurance industry in India* (Doctoral dissertation, University of Kota, Kota). Retrieved from https://www.uok.ac.in/notifications/(15)%20Sonal%20Trivedi.pdf

Wang, S. (2024). *Investigate the relationship between financial risk and financial performance: An insight of China life insurance company.* doi:https://doi.org/10.1007/978-981-97-0523-8_7

Wani, A. A., & Ahmad, S. (2015). Relationship between financial risk and financial performance: An insight of Indian insurance industry. *International Journal of Science and Research, 4*(11), 1424-1433.