



International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A Comparative Analysis of Financial Performance: LIC, SBI Life, and HDFC Life Insurance Companies in India

Prof. Abhay Upadhyaya¹, Rita Choudhary²

¹Head, Department of A.B.S.T., University of Rajasthan, Jaipur

²Research Scholar, University of Rajasthan, Jaipur

ABSTRACT

The Life Insurance Corporation of India (LIC) commenced its journey on September 1, 1956. Upon successfully integrating more than 245 life insurance companies, the LIC of India showcased remarkable achievement in fulfilling various nationalisation objectives. Up until 1972, the non-life insurance industry experienced significant growth and success within the private sector. Their engagements were primarily focused on structured trade and industrial activities within prominent urban centres. In 1972, the general insurance sector underwent nationalisation. As a result of this process, approximately 107 insurers came together and were consolidated into four main companies: National Insurance Company, New India Assurance Company, Oriental Insurance Company, and United India Insurance Company. The entities in question were subsidiaries of the General Insurance Company (GIC). For many years following that period, insurance remained a government monopoly. However, with the liberalisation of the Indian market, various other companies began to establish their presence in this sector. This is the moment to reflect on the performances of life insurance companies in the aftermath of the COVID pandemic. This study utilises secondary data from three companies: LIC, SBI, and HDFC Life Insurance. The analysis utilises data from 2014 to 2021, focussing on the relationship between the Commission Expense Ratio and the Asset Quality Ratio. The analysis of the data was conducted using the ANOVA test, and the findings are shared at the conclusion of the research.

Keywords- Performance, Insurance Sector, India.

INTRODUCTION

Insurance serves as a safeguard against unexpected losses and unforeseen events. This approach to risk management aims to safeguard against a range of unforeseen losses. Insurance represents a mutual agreement between two parties, where one commits to protecting the other from unforeseen events and potential losses. The initial party is an insurance company or insurer that pledges to protect and compensate the other party for any damages incurred. Another type is the insured or insurance policyholder, who benefits from the protection offered by an insurance policy in return for a premium that they are required to pay to the insurer on a regular basis. At its core, insurance serves as a safeguard against potential losses. When individuals choose to purchase an insurance policy, they often find a way to align their personal interests with the benefits provided by the coverage. Any loss incurred by the insured individuals is compensated through the premiums contributed to the insurance company by these policyholders (Antoun et al., 2018). Insurance serves as a valuable tool for mitigating potential losses by allowing individuals to transfer or share those risks with others. It boosts individuals' confidence and acts as a vital source of support by providing financial assistance during challenging times. Insurance plays a vital role in the economic growth of the country by channelling individuals' savings into investments through various insurance policies. Insurance companies take the funds they collect and reinvest them across a range of investment avenues to create a return. This study also emphasises the significance of financial performance, as it evaluates the performance of three life insurance companies from 2014 to 2021, utilising two ratios as a sample for analysis. This paper examines the secondary data of the chosen companies and evaluates the financial performance of LIC, SBI Life, and HDFC Life insurance companies.

LITERATURE REVIEW

Parida (2022) revealed that the Life Insurance Corporation (LIC) stands as the sole public sector entity, in contrast to the 23 private enterprises operating in India. Even as the oldest insurance company, the Life Insurance Corporation of India continues to hold the largest market share in the country. From 2000 to 2002, a significant number of private enterprises began their operations in India. This study seeks to evaluate financial performance through the lens of the CAMEL model. Four samples were examined: LIC stands out as the sole public enterprise, whereas Bharti Axa, HDFC Standard, and Max Life Insurance represent private sector organisations. To assess the hypothesis, we employed the Mann-Whitney U-test, complemented by an analysis that included descriptive statistics. The research draws upon data sourced from secondary materials. The investigation showed that LIC and private life insurance companies have nearly comparable financial positions.

Shieh et al. (2022) demonstrated that this research assesses and examines the operational efficiency of insurance firms in Taiwan and mainland China, providing valuable strategic and competitive insights. In our study, we employ a two-stage DEA approach combined with a bootstrapped truncated regression method to evaluate the overall efficiency of insurance companies operating in Taiwan and mainland China during the period from 2005 to 2011. Research shows that factors such as the savings rate, the percentage of elderly individuals, and the level of business freedom contribute positively to the managerial efficiency of life insurance companies in Taiwan and mainland China. Conversely, elements like GDP growth rate, inflation rate, corruption index, and climate risk tend to have a negative effect on their managerial efficiency.

Mazviona et al. (2017) indicated that the study sought to explore the factors affecting the performance of insurance companies in Zimbabwe. We gathered secondary data from a group of twenty short-term insurance firms. The data covered the years from 2010 to 2014. We employed factor analysis along with multiple linear regression models to uncover the factors that influence performance and to assess their impacts. Our findings suggest that the spending ratio, claims ratio, and size of the firm negatively influence the performance of insurance companies. The interplay between leverage and liquidity plays a significant role in enhancing performance. We encourage insurance companies to consider implementing strategies to reduce operating costs, including the adoption of automated systems.

Wanjohi and Ombui. This study explores how risk management impacts the profitability of insurance companies, drawing insights from data collected in 2013. The research took place in Nairobi, specifically at AIG Insurance Company, where most of the participants are employed. AIG has dedicated resources to individuals, processes, and technology to reduce business risk. Traditionally, these high-risk investments have focused primarily on ensuring financial oversight and complying with regulations. This research aimed to explore how risk management impacts the performance of insurance companies. Fifty-one participants were identified through random sampling. The main research instruments employed included a set of questions directed at the participants. The collected data has been shared through descriptive methods, such as frequency distribution tables, pie charts, and bar graphs. The findings of the study suggest that the underlying factors contributing to operational risk losses may not be readily apparent in the context of operational risk management. Determining the exact sequence of events that led to the loss can be quite difficult. Additionally, one cause can be linked to multiple events, or an event might stem from several causes (such as cascading control failures), resulting in different types of losses that may be addressed by various insurance policies. This discussion focusses on governance risk management through training and related activities aimed at improving understanding of the importance of Enterprise Risk Management (ERM). It will clarify roles and responsibilities while highlighting the benefits that ERM brings to organisations. The findings highlight the importance of prioritising risk governance, as they underscore the need for relevant and timely information regarding risks and responsibilities. The decrease in corporate IT support and financial resources, coupled with the increasing ease of technology installations, has led to the rise of numerous "shadow IT" entities within organisations. Shadow organisations frequently overlook established control protocols.

Torbati and Sayadi (2018) stated that the aim of this study is to develop a fuzzy expert model to assess the performance of the insurance sectors in Iran. The aim is to examine the standards used to evaluate the performance of insurance divisions, drawing insights from expert perspectives. We have developed our methodology by integrating the Best-Worst Method (BWM) alongside the Fuzzy Inference System (FIS). BWM serves to determine the importance of each criterion, while FIS is employed to evaluate and rank the various insurance sectors. This research involved collecting data from the management teams of 52 Dana insurance firms located in Iran. An examination of the questionnaire data highlighted several key factors that senior executives consider essential when evaluating the performance of Dana Insurance Company. These include insurance costs, administrative expenses, general and personnel costs, premium income, deferred claims, marketing and advertising expenditures, market share in issued insurance policies, customer satisfaction levels, employee education, investment amounts, employee benefits, educational costs, research and development expenditures, and workforce skills. Additionally, the findings from the BWM revealed that the criterion related to insurance costs holds the greatest importance compared to the other criteria. The results show that the proposed model outperforms earlier methods found in the literature in terms of both convenience and accuracy.

In their 2014 study, Fu and Deshpande illustrated how structural equation modelling (SEM) was employed to explore both the direct and indirect relationships between a caring environment, job satisfaction, organisational commitment, and job performance among 476 employees at a Chinese insurance company. The SEM results revealed that a supportive environment plays a crucial role in enhancing work satisfaction, fostering organisational commitment, and improving job performance directly. The supportive environment played a crucial role in shaping organisational commitment, primarily through its impact on work satisfaction. Additionally, it influenced job performance by mediating the effects of both job satisfaction and organisational commitment. Furthermore, job satisfaction played a significant role in fostering organisational commitment, which subsequently had a meaningful impact on job performance through indirect means. In the end, the commitment of an organisation significantly impacted the performance of its employees.

Ogbeide and Akanji (2017) explored the relationship between cash flow and the financial performance of insurance companies in Nigeria, a country that is still developing. A sample of twenty-seven insurance companies in Nigeria was selected, utilising time series data spanning from 2009 to 2014. This study utilises a combination of descriptive and inferential statistics to explore the relationship between the variables. This research employs various diagnostic tests to assess the stability of the time series and to ensure that the model aligns with the assumptions of ordinary least squares. The findings suggest that cash flow plays a crucial role in shaping the financial performance of insurance companies. The cash flow generated from operational activities significantly improved the financial performance of insurance companies during the period under review. The cash flow generated from financing operations appeared to improve the financial performance of the insurance businesses examined; nonetheless, this impact was not statistically significant. The scale of the insurance business did not contribute to improved financial performance for the enterprises and was not statistically significant. The article suggests that managers in insurance firms should regularly modify their cash expenditure levels to avert negative cash flow and

potential financial crises. Evaluating investments is a vital concern for insurance companies as they provide coverage to their clients. It is important to assess the costs in connection with the potential benefits that could arise from them.

According to Derbali (2014), "business performance has garnered researchers' interest in the corporate finance literature over recent decades." However, the insurance industry has also attracted significant attention in this context. There are many factors that need to be considered when evaluating insurance companies. It is essential for customers and investors to focus on the financial strength of the insurer and its ability to consistently meet its obligations to policyholders. The insurance industry plays an essential role in supporting the Tunisian economy and assists the government in fostering the nation's development. Professionals in the insurance industry noted that the year 2011 presented considerable challenges for insurance companies. This study examines how various firm-specific factors—such as size, leverage, tangibility, risk, growth, liquidity, and age—affect the performance of eight insurance companies in Tunisia over an eight-year span from 2005 to 2012. The analysis of regression results from panel data indicates that height, age, and premium growth serve as the key indicators of success for insurance companies, as measured by the Return on Assets (ROA) ratio. The performance of insurance companies does not show a statistically significant relationship with factors such as leverage, tangibility, liquidity, and risk.

Batool and Sahi (2019) revealed that the economies and insurance sectors of both the USA and UK have experienced a decline over the past decade. The researcher explores two insurance sectors, investigates possible factors contributing to financial success during the global financial crisis, gathers quarterly data from 24 insurance companies over the period from 2007 to 2016, and employs panel data methodologies in the analysis. Factors that help explain the situation include internal elements such as the size of the firm, its liquidity, leverage, and asset turnover, as well as external influences like GDP, CPI, interest rates, and WTI. The dependent variables in this study are Return on Assets (ROA) and Return on Equity (ROE), which serve as important indicators of profitability. This analysis reveals that, in the USA, factors such as business size, liquidity, leverage, asset turnover, GDP, and WTI positively and significantly influence outcomes, whereas CPI and interest rates exert a negative and significant effect. In the UK, there is a positive correlation among business size, liquidity, GDP, CPI, and WTI. Conversely, leverage, asset turnover, and interest rates exert a significant negative influence. Additionally, the efficiency of the US insurance sector is greater than that of the UK. The insights provided will support the insurance industry, government entities, regulators, and investors in making informed decisions and improving overall performance.

According to Muia (2017), the main aim of the research was to explore how competitive strategies influence the performance of the insurance market in Kenya. This study was guided by the research question: How does a differentiation strategy affect the performance of insurance businesses in Kenya? How does the cost leadership strategy influence the performance of insurance companies in Kenya? How does a focus strategy influence the performance of insurance companies in Kenya? The research employed a descriptive approach, which effectively captured the current realities of the facts within the sample. The intended audience comprised the strategic planning departments of the 47 insurance companies in Kenya that are members of the Association of Kenya Insurers (AKI). We employed a purposive sampling method to select three individuals from the strategic planning department of each insurance company, resulting in a total of 141 responses. A total of 135 questionnaires were completed and returned, representing an impressive 95.7%. This response rate provided a solid foundation for the research. The data were analysed using descriptive statistics, which included measures such as the mean, standard deviation, frequency, and percentage. The inferential analysis employed correlation to evaluate the strength of the relationship among differentiation, focus, cost leadership, and business performance.

Lole (2012) explained that the primary goal of an insurance company is to restore the insured or policyholder to their condition before a loss occurs, while also spreading risk through reinsurance. At its core, an insurance firm aims to achieve profitability, as it functions within the framework of a business. A merger occurs when two or more corporations come together, resulting in a new organisation that maintains the identity of the larger firm involved. Companies often come together for a variety of reasons, one significant factor being that their collective value surpasses what they could achieve on their own. Some companies engage in vertical integration by merging with suppliers or consumers to acquire raw materials at lower costs. Others seek mergers for the purpose of expansion, achieving market dominance, and minimising competition, often by consolidating with competitors to strengthen their market presence. Some corporations come together to broaden their reach by acquiring companies in seemingly unrelated sectors, aiming to lessen the impact that the performance of a specific industry has on their overall profitability. The "Africa Reinsurance Corporation 2011 Annual Reports and Accounts" highlights that the year 2011 posed considerable challenges for property and casualty insurers and reinsurers. Unexpectedly, substantial disaster losses have affected the business landscape, even in regions once considered "cold spots." The earthquake and tsunami in Japan, which led to damages surpassing US\$35 billion, alongside the earthquake in New Zealand and the floods in Thailand, have collectively resulted in over 30,000 fatalities and total economic losses estimated at US\$350 billion, a significant increase from US\$226 billion in 2010. The insured disaster losses surpassing US\$103 billion could indicate that this year is shaping up to be the most costly for the industry. New regulations are introducing requirements for enhanced risk management, possible increases in capital, and higher costs associated with compliance. The insurance industry and its stakeholders face significant challenges, including the need to balance growth with profitability while increasing premium income across all business lines. This involves addressing claims in a timely and proactive manner, ensuring that settlements surpass market performance, making adequate provisions for outstanding claims, and creating innovative products that are flexible and cater to the uninsured demographic, all while adding value to the services provided.

Fekadu (2015) revealed that the role of corporate governance in financial institutions differs from that in non-financial institutions. In regulated financial systems, the board of directors faces limitations on their discretionary authority, as these institutions are required to operate within established legislative and prescriptive frameworks, policies, rules, and regulations. This study aimed to explore how corporate governance affects the performance of the highly regulated insurance industry in Ethiopia. This study employed an explanatory methodology, analysing econometric panel data collected from 10 insurance firms over the period from 2007 to 2014. The size of the board, its independence, and diversity appear to have a negligible and negative impact on the performance of insurance companies. In contrast, the size and independence of the audit committee, as well as the frequency of board meetings, show a positive but still insignificant effect on the performance of insurance companies in Ethiopia. As a result, it can be observed that all corporate governance

systems exert a slight impact on the performance of insurance companies, particularly when assessed through the lens of return on assets. This suggests that the role of the board of directors within the heavily regulated financial industry is quite challenging and limited, as they have minimal discretionary power to fulfil their responsibilities as directors. The regulatory body should consider relaxing its stringent regulations and empowering the board of directors, all while ensuring that the profitability of insurance businesses remains intact.

RESEARCH METHODOLOGY

The methodology followed for the research is presented as under:

Sample Framework: The companies chosen for this study are Life Insurance Corporation of India (LIC), SBI Life Insurance Company, and HDFC Standard Life Insurance Company. The duration of the study, encompassing the data collected for this research, spans seven years, specifically from 2014 to 2021.

Collection of data

The data is collected using the secondary sources that refers to those data that has already been collected and analysed by someone else. In other words, secondary data is the information that already exists somewhere having been collected for another purpose.

Analysis of data: Data will be analysed by using statistical tools as well as financial techniques. For analysis and interpretation of data various techniques like statistical and financial models will be used. For testing of hypothesis various test of significance such as F test, Tools, Ratio Analysis, ANOVA were conducted.

DATA ANALYSIS

Commission Expense Ratio: This ratio reveals the percentage of the premium that is allocated to the payment of commissions. This ratio may or may not have an immediate and direct impact on the premium that the consumer is required to pay. After a certain point, the commission expense ratio determines the amount of the discount that can be granted, and a larger ratio results in a higher overall premium. In most cases, cheaper premiums will be the result of a commission expense ratio that is low. "Paying a greater commission means getting more business that will bring value to the insurance firm in the long run. However, some insurers choose not to pass it on to the customers, so the premiums remain the same.

$$CER = \frac{\text{Underwriting expenses including commissions}}{\text{net premium written}}$$

The same ratio is presented in the following table for the selected companies:

Table-1 Commission Expense Ratio			
Year	LIC	HDFC Life	SBI
2014	0.09	13.90	0.35
2015	0.08	13.88	0.02
2016	0.08	13.03	6.17
2017	0.08	37.10	4.07
2018	0.02	5.57	4.52
2019	0.03	7.81	2.43
2020	0.06	7.06	5.35
2021	0.06	6.72	0.63
Mean	0.06	13.13	2.94
SD	0.03	10.28	2.41
CV	41.79	78.25	82.05

To measure the differences amongst the selected companies for the Commission Expense Ratio, the data gathered is analysed with the following Hypothesis:

H₀₍₁₎: There is no significant difference in Commission Expense Ratio of selected Insurance Companies.

H₁₍₁₎: There is significant difference in Commission Expense Ratio of selected Insurance Companies.

To analyse the above hypothesis the data gathered from the selected 3 companies for the period of 8 years, the ANOVA test is conducted and the results are presented as under:

Table-2**ANOVA for Commission Expense Ratio**

Descriptive					
	N	Mean	Std. Deviation	Std. Error	
LIC	8	.0625	.02550	.00901	
HDFC Life	8	13.1343	10.27762	3.63369	
SBI	8	2.9430	2.41466	.85371	
Total	24	5.3799	8.16935	1.66756	
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	754.755	2	377.377	10.157	.001
Within Groups	780.225	21	37.154		
Total	1534.980	23			

The result of the ANOVA test revealed with the F value of 10.157 significant differences amongst the Commission Expense Ratio (with $p < 0.05$). The Null hypothesis stands rejected and the Alternative hypothesis is accepted revealing the significant differences. Further, the mean value analysis revealed that the HDFC life insurance company is found better in terms of the Ratio ($\mu_{(HDFC)} > \mu_{(LIC \text{ and } SBI)}$).

Asset quality: This represents the extent of both actual and potential credit risk associated with loan and investment portfolios, other real estate owned, and various assets, including transactions that may not be reflected on the balance sheet. When evaluating the quality of an asset, it is important for examiners to consider the sufficiency of the allowance for loan and lease losses. Furthermore, it is important for the examiner to consider the potential risk of default associated with a counterparty, issuer, or borrower, taking into account both actual and implied contractual obligations. Furthermore, it is important to consider all other risks that could impact the value or marketability of an institution's assets. The risks we face encompass a range of factors, including operating risks, market risks, reputation risks, strategic risks, and compliance risks, among others.

When evaluating the overall health of a financial institution, one of the key aspects to consider is the quality of the assets held by the insurance company. The quality of the loan portfolio and the credit administration program play a crucial role in influencing the overall asset quality. A significant portion of an insurance company's assets typically consists of loans, which carry the greatest risk to the institution's capital. A significant portion of the assets may consist of securities, which inherently involve a considerable level of risk. Various forms of real estate, additional assets, and items not reflected on the balance sheet, along with cash and receivables to a lesser degree, as well as premises and fixed assets, represent factors that can influence the quality of assets. Managing the company's assets, especially the loan portfolio, often requires significant time, energy, and resources from the management team. Challenges in effectively and profitably managing other facets of the institution can stem from issues that emerge within this specific portfolio. When assessing an insurance company's assets, it is essential for examiners to approach the task with careful attention and focus, as these assets can significantly impact many other facets of the company's operations. It can be expressed in the form of a mathematical equation as follows:

$$\text{Assets Quality} = \frac{NPA}{\text{Total Equity}} \times 100$$

The same is calculated for the selected company as under:

Table-3 Asset quality Ratio			
	LIC	HDFC Life	SBI
2014	15.72	0.26	22.14
2015	21.71	0.00	20.30
2016	24.50	0.10	18.19
2017	29.97	-0.11	17.19
2018	37.19	-0.01	17.62

2019	65.01	0.17	17.51
2020	5.77	2.91	16.27
2021	5.80	-0.43	14.00
Mean	25.71	0.36	17.90
SD	19.29	1.05	2.46
CV	75.04	290.77	13.76

To measure the differences amongst the selected companies for the Assets Quality Ratio, the data gathered is analysed with the following Hypothesis:

H₀₍₆₎: There is no significant difference in Assets Quality Ratio of selected Insurance Companies.

H₁₍₆₎: There is significant difference in Assets Quality Ratio of selected Insurance Companies.

To analyse the above hypothesis the data gathered from the selected 3 companies for the period of 8 years, the ANOVA test is conducted and the results are presented as under:

Table-4

ANOVA of Assets Quality Ratio of selected Insurance Companies

Company	N	Mean	Std. Deviation	Std. Error	
HDFC Life	8	25.7088	19.29361	6.82132	
SBI	8	.3613	1.05069	.37148	
Total	8	17.9025	2.46180	.87038	
Total	24	14.6575	15.25465	3.11384	
ANOVA					
Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2696.343	2	1348.172	10.660	.001
Within Groups	2655.855	21	126.469		
Total	5352.198	23			

The result of the ANOVA test revealed with the F value of 10.660 significant differences amongst the Assets Quality Ratio (with $p < 0.05$). The Null hypothesis stands rejected and the Alternative hypothesis is accepted revealing the significant differences. Further, the mean value analysis revealed that the HDFC Life is found better in terms of the Ratio ($\mu_{(HDFC)} > \mu_{(LIC \text{ and } SBI)}$).

CONCLUSION

This study offers valuable insights that can benefit academics, senior citizens, everyday individuals, and policymakers by shedding light on the actual operations of life insurance companies. LIC demonstrates commendable social and financial performance, successfully delivering significant social benefits through its initiatives while also achieving strong profitability. Both scholars and students would gain valuable insights, enhancing their understanding of the performance of life insurance companies. They would gain an understanding of how private players influence the performance of the LIC. The mean value analysis indicated that HDFC Life Insurance Company performs better in terms of both ratios ($\mu_{(HDFC)} > \mu_{(LIC \text{ and } SBI)}$).

REFERENCES

- Batool, A., & Sahi, A. (2019). Determinants of financial performance of insurance companies of USA and UK during global financial crisis (2007–2016). *International Journal of Accounting Research*, 7(1), 1-9.
- Derbali, A. (2014). Determinants of performance of insurance companies in Tunisia: the case of life insurance. *International Journal of Innovation and Applied Studies*, 6(1), 90-96.
- Fu, W., & Deshpande, S. P. (2014). The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a China's insurance company. *Journal of business ethics*, 124(2), 339-349.
- Lole, T. M. (2012). The effects of mergers and acquisitions on financial performance of insurance companies in Kenya: A case study of APA Insurance Limited (Doctoral dissertation, University of Nairobi).

- Lole, T. M. (2012). The effects of mergers and acquisitions on financial performance of insurance companies in Kenya: A case study of APA Insurance Limited (Doctoral dissertation, University of Nairobi).
- Mazviona, B. W., 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), 1-21.
- Mazviona, B. W., 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), 1-21.
- Mazviona, B. W., 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), 1-21.
- Muia, F. (2017). Effect of competitive strategies on the performance of insurance companies in Kenya (Doctoral dissertation, United States International University-Africa).
- Ogbeide, S., & Akanji, B. (2017). A study on the relationship between cash-flow and financial performance of insurance companies: Evidence from a developing economy. *Revista de Management Comparat International*, 18(2), 148.
- Parida, B. B. Financial Performance Of Public And Private Life Insurance Companies In India, 12(2), 111-120.
- Shieh, H. S., Li, Y., Hu, J. L., & Ang, Y. Z. (2022). A Comparison of Efficiency of Life Insurance Companies in Mainland China and Taiwan Using Bootstrapped Truncated Regression Approach. *Cogent Economics & Finance*, 10(1), 2043571.