

AN ANALYSIS OF LIFE INSURANCE COMPANY PERFORMANCE USING THE CARAMEL MODEL

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ABSTRACT

The life insurance market in India plays a crucial role in the financial sector by providing long-term savings options and protection to families and individuals. As the sector evolves, it is essential to assess the financial performance and stability of life insurance companies to ensure they can meet their commitments to policyholders. This study evaluates the financial performance of publicly traded life insurance companies in India from 2015 to 2024 using the CARAMEL model. By analysing six key parameters- capital adequacy, asset quality, actuarial and reinsurance issues, management soundness, earnings, and liquidity, the research highlights each company's strengths and areas for improvement. The study reveals how life insurers manage capital, assets, and risk exposure, identifying companies with strong growth potential and those facing challenges. The findings underscore the importance of financial stability and effective risk management for the long-term viability and customer confidence in the rapidly changing market.

Keywords: CARAMEL Model, Life Insurance Performance, Capital Adequacy, Asset Quality, Reinsurance and Actuarial Issues, Management Soundness, Earnings, Liquidity.

1. INTRODUCTION

The Insurance Regulatory and Development Authority of India (IRDAI) is the primary regulatory body overseeing the Indian insurance industry. Established by the Insurance Regulatory & Development Authority Act of 1999, IRDAI's key objectives are to protect policyholders' interests and ensure the efficient functioning of the insurance market. It enforces high standards of honesty, solvency, and transparency within insurance companies, regulates their adherence to legal and financial norms, issues licenses, and resolves policyholder complaints to foster a competitive and effective insurance sector.

The Reserve Bank of India (RBI), as the central banking authority, influences the insurance industry through its control over financial stability and investment regulations. Although the RBI does not directly regulate insurance firms, its policies on interest rates, liquidity, and banking regulations affect the financial environment in which insurers operate. The RBI's role in maintaining overall financial stability and managing systemic risks complements the work of IRDAI, ensuring a robust financial sector.

This project evaluates the financial stability of selected life insurance companies in India, focusing on six parameters of the CARAMEL model, which are used to identify patterns in the data and evaluate the effects of various variables on anticipated claim expenses. The model aims to offer a more precise and reliable prediction than traditional methods. In terms of company performance, it evaluates the current situation using ratio analysis tools, including Capital Adequacy, Asset Quality, Reinsurance and Actuarial Issues, Management Soundness, Earnings and Profitability, and Liquidity.

2. LITERATURE REVIEW

- 1) **(RANI & RAMESH, 2020)** The study examines the financial soundness of the Life Insurance Corporation of India (LIC) using the CARAMEL model ratios from 2016 to 2020. It seeks to comprehend the connection between these ratios and LIC's profitability, employing statistical methods like bivariate correlation and robust least squares analysis. The findings reveal a significant relationship between profitability and CARAMEL ratios, with capital adequacy having the highest impact on LIC's profitability. The study provides valuable insights for LIC management, regulators, insurance companies, and academic researchers. Data was collected from LIC's annual reports and other relevant sources, with analysis conducted using E-Views 11 software.
- 2) **(Veni & Chedadeepu, 2018)**, The study examines the financial health of life insurance companies from 2007-08 to 2016-17, focusing on the impact of the IRDA Act, which ended LIC's monopoly and introduced competition from private insurers. Using the CARAMEL model and statistical tools like descriptive statistics and ANOVA, the research finds that LIC adhered to minimum statutory requirements consistently, while ICICI Prudential showed improving capital adequacy ratios. However, other insurers displayed inconsistent trends. The study rejects the null

hypothesis for most CARAMEL indicators, indicating significant differences between companies, but accepts it for total earnings and profitability ratios, showing no significant difference among the insurers. The data for this study is sourced from annual reports and financial statements of the selected companies and various financial websites.

3) **(Singh & Fatima, 2017)**, The study examines the performance of ICICI Prudential Life Insurance Company, one of India's leading private life insurers, over a ten-year period from 2005 to 2015. It examines multiple financial factors such as Net profit, Net premium, and the number of branches. The study uses the CARAMEL model to analyse important financial ratios and tests these findings statistically. The results suggest that ICICI Prudential has successfully grown and captured a significant market share, highlighting its strong performance in the competitive insurance industry. The study also indicates that privatization has led to increased competition, affecting the traditional dominance of LIC.

3. RESEARCH DESIGN

3.1 Problem Statement

In the Life insurance sector, assessing performance is challenging due to complex risks like mortality, investment fluctuations, and operational efficiency, combined with unclear data categorization. Examining crucial areas like capital, asset quality, reinsurance, management, profitability, and liquidity is what the CARAMEL model does to help. The CARAMEL model will be utilized in this study to examine the effects of various risks on the financial stability of life insurance firms, including those associated with operations, investments, and mortality. The purpose of this problem is to look into how these risks affect the life insurance companies' financial performance in India.

3.2 Objectives

- To study the applicability of CARAMEL model.
- To access the financial position of selected Life Insurance Companies with regard to, Capital Adequacy, Asset Quality, Reinsurance.
- To access the financial performance of selected Life Insurance Companies in terms of management soundness, Earnings, Liquidity.

3.3 Research Methodology

In the present study, CARAMEL model is used to examine the financial performance of life insurance companies over a period of 10 years, from 2014–15 to 2023–24. This model evaluates companies based on six factors including, Capital Adequacy, Asset Quality, Reinsurance and Actuarial Issues, Management Soundness, Earnings, and Liquidity offering a comprehensive view of each company's performance.

3.4 Data Source

The study primarily uses secondary data from sources like the IRDAI website, company websites, and research papers. Data findings are illustrated with charts, graphs, and tables to clearly show study results.

3.5 Tools used for Data Analysis

CARAMEL Model

Life Insurance companies use the CARAMEL Model as a key tool for evaluating financial health and managing risks. This model assesses crucial areas like Capital adequacy, Asset quality, Reinsurance, Management soundness, Earnings, and Liquidity. By applying the CARAMEL Model, insurers can optimize pricing strategies, manage investments, and ensure long-term financial stability by analysing assets, liabilities, and profitability, and using techniques like regression analysis and stress testing. This approach enhances profitability, risk management, and decision-making, supporting growth and competitiveness.

THE FINANCIAL SOUNDNESS INDICATORS FOR LIFE INSURANCE COMPANIES USING CARAMEL MODEL

The following are the CARAMEL model based financial soundness indicators for a chosen group of life insurance companies in India.

1) Capital Adequacy

Capital Adequacy measures an insurer's financial health by evaluating its ability to absorb losses and maintain stability. It ensures there is enough capital to cover potential risks.

i) **Net Premium/Shareholder's Fund Ratio** assesses capital adequacy by comparing net premiums to shareholder funds. A higher ratio indicates stronger financial stability.

Net Premium/ Shareholder's Fund

Net premium = Income earned- Expenses associated with policy

2) Asset Quality

Asset quality is a crucial factor in determining the overall financial health of an insurance firm. It assesses the security and value of a company's assets, crucial for ensuring long-term stability and portfolio reliability.

i) **Equity Share Capital/Total Assets Ratio** measures asset quality by showing the percentage of assets financed by equity. A higher ratio indicates better asset quality and financial stability.

Equity Share Capital/Total Assets

3) Reinsurance & Actuarial Issues

Reinsurance ratio, often called risk retention ratio, is a figure that shows how much risk the nation's insurance sector is willing to take on. It evaluates the effectiveness of reinsurance agreements in managing and mitigating risk.

i) **Risk Retention Ratio** measures the proportion of risk retained by the insurer.

Risk Retention Ratio = Net premium/Gross premium

4) Management Soundness

Management Soundness examines the effectiveness of governance and decision-making in insurance companies. It impacts operational costs and premiums, reflecting managerial efficiency and overall operating performance.

i) **The Operating Efficiency Ratio** measures a company's management of operating expenses relative to gross premiums, a lower ratio indicates more effective cost management.

Operating Expenses/Gross Premium

5) Earnings

Examines how profitable the business can make its operations, which is important for maintaining long-term financial stability.

i) **Return on Equity (ROE)** measures a company's efficiency in generating profit from shareholders equity. A higher ROE indicates better returns for shareholders.

Return on Equity (ROE) =Net Income/Shareholders equity.

6) Liquidity

Liquidity evaluates a company's ability to cover short-term debts with liquid assets, assessing its financial health and readiness to manage risks.

i) **Current Ratio** measures liquidity by comparing short-term assets to short-term liabilities. A higher ratio signifies better liquidity and financial strength.

Current Ratio= Current Assets/Current Liability

4. ANALYSIS AND INTERPRETATION:

4.1 ICICI Prudential Life Insurance Company

4.1.1 Capital Adequacy

From 2015 to 2024, ICICI Prudential Life Insurance's capital adequacy ratio fluctuated significantly, declining from 21.301% in 2015 to -7.678% in 2024. This sharp decline indicates deteriorating capital management and raises concerns about the company's ability to cover financial risks and maintain stability.

4.1.2 Asset Quality

From 2015 to 2024, ICICI Prudential Life Insurance Company has demonstrated significant improvement in asset quality, with the ratio declining from 1.445 to 0.491. This reduction reflects successful management of risky, non-performing assets and enhances financial stability and security.

4.1.3 Reinsurance and Actuarial Issues

The graph shows ICICI Prudential Life Insurance Company's reinsurance and actuarial issues from 2015 to 2024, showing stable management with minor adjustments. The ratio was 1.142% in 2015 and is projected to be 1.171% in 2024, reflecting consistent risk management with slight updates to adapt to current conditions.

4.1.4 Management Soundness

The graph shows ICICI Prudential's management soundness from 2015 to 2024. Starting at 12.447% in 2015, the percentage fluctuated, peaking at 13.318% in 2023 before dropping to 11.104% in 2024. These variations reflect changes in management, profitability, competition, regulatory shifts, and economic conditions. Despite these fluctuations, ICICI Prudential has demonstrated adaptability and maintained a reasonable standard of management soundness.

4.1.5 Earnings

From 2015 to 2024, ICICI Prudential Life Insurance's earnings ratio fluctuated significantly, peaking at 31.132% in 2015 and falling to 4.72% in 2020. Ending at 9.898% in 2024, these fluctuations suggest challenges in maintaining stable earnings, with a notable decline in 2020 likely due to market or internal issues.

4.1.6 Liquidity

The graph shows that from 2015 to 2024, the company's liquidity improved significantly, rising from 69.088% in 2015 to 123.98% in 2024. This positive trend, with fluctuations in 2020 and 2024, indicates that ICICI Prudential has enhanced its ability to meet short-term obligations and manage cash flow effectively. A higher liquidity ratio suggests a stronger financial position, with current assets sufficient to cover current liabilities.

4.2 HDFC Life Insurance Company

4.1.1 Capital Adequacy

HDFC Life Insurance's capital adequacy fluctuated from 9.629% in 2015 to a low of 2.057% in 2017, then rose to 7.517% in 2021 before declining to 6.047% in 2024. These variations indicate challenges in capital management and the need for improved stability.

4.1.2 Asset Quality

From 2015 to 2024, the company's asset quality ratio decreased from 2.963 to 0.733, reflecting improved financial strength and risk management. This decline indicates a reduction in non-performing assets relative to total assets, likely due to favourable economic conditions, regulatory changes, and interest rate fluctuations. Overall, HDFC has enhanced its operational and financial stability in recent years.

4.1.3 Reinsurance and Actuarial Issues

The graph shows the reinsurance and actuarial issues from 2015 to 2024, with values steadily increasing from 1.103 to 1.167. The consistent trend with minor fluctuations reflects stable management of these issues, though periodic changes due to new technology or regulatory adjustments are noted. Overall, the stability suggests effective risk management, with ongoing adaptation necessary for evolving conditions.

4.1.4 Management Soundness

The above graph depicts management soundness from the year 2015 to 2024. HDFC Life Insurance Company has experienced positive trend with some fluctuations. In 2015 it was 11.119 and the ratio increased steadily over the next few years, but they slightly decreased to 13.007 in 2024. This shows improvement over the years with notable growth and some fluctuations. The 2018 increase reflects effective management, while the 2024 decline suggests emerging challenges. Overall, the company has demonstrated strong management but must continue adapting to evolving conditions.

4.1.5 Earnings

From 2015 to 2024, HDFC Life Insurance Company's earnings ratio declined from 30.313% to 8.499%, with a slight recovery to 10.733% in 2024. The decrease reflects challenges such as increased competition and high operational costs, while the recent uptick suggests improvements in business strategies. The trend highlights the need for ongoing adjustments to enhance profitability and stability.

4.1.6 Liquidity

The graph shows HDFC Life Insurance's liquidity from 2015 to 2024, with a generally stable trend and some fluctuations. Liquidity was 89.621 in 2015, slightly decreased until 2018, then rose to 101.638 in 2023 before ending at 91.438 in 2024. This reflects a solid ability to meet short-term financial needs, with variations due to operational costs, investments, or strategic changes. The increase in 2023 suggests improved cash management or recovery from financial pressures. Overall, the company's liquidity remains strong despite fluctuations.

4.3 SBI Life Insurance Company

4.3.1 Capital Adequacy

The graph represents SBI Life Insurance Company's capital adequacy from 2015 to 2024. The ratio initially declined from 5.300 in 2015, likely due to rising liabilities or riskier assets. From 2017, there was a gradual improvement, reaching 8.421 in 2024. This increase suggests enhanced capital management, possibly through better risk assessment or additional capital infusion. The overall trend indicates SBI Life's ongoing efforts to maintain regulatory compliance and financial stability, with recent improvements reflecting a stronger focus on supporting growth.

4.3.2 Asset Quality

From 2015 to 2024, SBI Life Insurance's asset quality significantly declined from 1.385 to 0.255. This drop indicates challenges in maintaining asset quality, potentially due to rising non-performing assets or a more aggressive investment strategy. The company needs to enhance asset management to ensure better quality and financial stability in the future.

4.3.3 Reinsurance and Actuarial Issues

The graph from 2015 to 2024 shows a stable trend in the Reinsurance and Actuarial Ratio, with slight fluctuations. Starting at 1.237 in 2015 and ending at 1.193 in 2024, the decrease indicates improved risk management. Minor fluctuations are likely due to policy changes, risk management adjustments, or market conditions. Overall, SBI Life Insurance has effectively managed reinsurance and actuarial issues, demonstrating consistent control and adaptability.

4.3.4 Management Soundness

The graph shows a decline in SBI Life Insurance's management soundness from 11.403% in 2015 to 5.897% in 2024. This trend suggests challenges in maintaining effective management, potentially due to leadership changes or internal issues. To ensure continued success, the company should focus on improving management strategies and addressing underlying issues.

4.3.5 Earnings

From 2015 to 2024, SBI Life Insurance Company's earnings showed a steady decline from 20.311 to 12.703. This trend highlights ongoing challenges in maintaining profitability, possibly due to increased competition, rising operational costs, and economic conditions. Internal factors such as strategic changes and technology investments may also have impacted earnings. Despite a brief recovery in 2023, SBI Life Insurance should enhance its revenue strategies and operational efficiency for sustainable profitability.

4.3.6 Liquidity

SBI Life Insurance Company's liquidity data from 2015 to 2024 shows fluctuations, with a peak of 236.185 in 2015, a low of 148.461 in 2022, and a rise to 213.26 in 2024. These variations reflect changes in the economic environment, financial management, business operations, and market conditions. The recent increase indicates improved cash flow management and asset strategies. However, liquidity levels are influenced by market competition and the company's access to funding and resources.

4.4 Life Insurance Corporation of India

4.1.1 Capital Adequacy

The graph of Capital Adequacy from 2015 to 2024 reveals significant fluctuations in the company's Net Premium to Shareholders' Fund Ratio. From 485.316 in 2015, it peaked at 4922.57 in 2020 but fell sharply to 9.444 in 2024, indicating a serious decline in capital reserves. This drop may result from increased payouts, lower profitability, or economic challenges. The variability underscores the need for improved financial strategies to enhance stability.

4.1.2 Asset Quality

The graph shows a significant decline in the company's asset quality from 2015 to 2024. The ratio fell from 5.020 in 2015 to 0.121 in 2024, indicating deteriorating asset quality. This drop reflects challenges such as economic downturns, higher unemployment, inflation, and pandemic-related disruptions, which have adversely affected asset values and increased defaults.

4.1.3 Reinsurance and Actuarial Issues

The graph shows that from 2015 to 2024, the Life Insurance Company's Reinsurance and Actuarial issues have increased from 1.813% to 2.096%, indicating a rise in challenges and risk exposure. This upward trend suggests the company has needed more resources to manage these issues effectively, highlighting growing reinsurance and actuarial challenges that require continuous adjustment to maintain financial stability.

4.1.4 Management Soundness

The graph represents fluctuations in management soundness for the company from 2015 to 2024. While the ratio showed an upward trend through 2017 and peaked in 2020, indicating strong management performance, it declined to 21.233 by 2024. This suggests varying levels of management effectiveness over the years. To ensure consistent performance, the company needs to focus on stabilizing and improving its management practices.

4.1.5 Earnings

Earnings data for Life Insurance Company shows significant fluctuation: a ratio of 324.203 in 2015, a drop to 42.59 in 2021, and an increase to 49.356 in 2024. The initial rise may be attributed to effective business strategies and market performance. The decline could be due to market volatility, economic downturns, and rising costs. Recent gains reflect

expansion, product diversification, and enhanced customer service. The variability highlights the need for improved financial management and strategic adjustments to stabilize performance and ensure consistent profitability.

4.1.6 Liquidity

From 2015 to 2024, the liquidity ratio of the Life Insurance Company declined from 613.187 to 308.957, indicating challenges in meeting current liabilities and managing short-term assets. This fluctuation may be due to changes in operational activities and capital structure. Despite past liquidity issues, recent improvements suggest progress in managing short-term financial obligations and a trend towards financial stability.

5 FINDINGS

- HDFC Life Insurance is a top performer overall, particularly in terms of capital adequacy, reinsurance, and managerial soundness.
- LIC shows consistency in earnings and asset quality, which positions them as a formidable rival in the market. ICICI Life Insurance despite exhibiting strong liquidity, this company has issues, namely with capital adequacy and asset quality.
- Based on Capital Adequacy HDFC Life Insurance is in first place with a score of 6.047 in 2024, followed by SBI Life Insurance with a score of 8.421. With a negative position of -7.678, ICICI Life Insurance suggests a possible financial danger or decline.
- LIC shows the best asset quality with a score of 0.1204, followed by HDFC Life Insurance with 0.73228. ICICI Life Insurance and SBI Life Insurance face special challenges in asset quality for 2024.
- ICICI Life Insurance has a score of -1.17027, reflecting ongoing issues despite improvements in previous years.
- HDFC Life Insurance scores the highest at 13.0071, with LIC showing recovery in managerial soundness after a downturn in 2021-2022.
- LIC and HDFC Life Insurance exhibit consistent profitability in 2024, with scores of 49.3559 and 10.7326, respectively. ICICI Life Insurance's earnings have fluctuated significantly, indicating challenges in maintaining stable returns.
- ICICI Life Insurance shows the highest liquidity score of 123.9816 in 2024, while LIC has improved but still lags behind with a score of 308.9574.

6 SUGGESTIONS

- Develop and execute strong financial plans to address earnings volatility, diversify income sources, and enhance cost control to boost profitability.
- Implement consistent strategic initiatives and regular performance reviews to adapt effectively to market changes and ensure robust management practices.
- Focus on improving liquidity by optimizing cash flow management, reducing expenses, and maintaining adequate capital reserves to cover short-term liabilities.
- Explore new market opportunities and diversify product offerings to mitigate risks associated with market volatility and competition, and to capture a larger client base.
- Enhance customer service standards and invest in technology and training to provide efficient support, improve client satisfaction, and retain customers effectively.

7 CONCLUSION

The CARMEL model analysis of Indian life insurance companies offers deep insights into their growth potential, risk management, and financial performance. By evaluating key factors like capital adequacy, asset quality, reinsurance, management soundness, earnings, and liquidity, the model highlights both strengths and weaknesses within the sector. While some companies show resilience and growth potential, others face challenges in maintaining capital and asset quality. The analysis underscores the importance of effective risk management and robust financial strategies. Overall, the CARMEL model provides valuable benchmarks for assessing and comparing life insurers, guiding investors and stakeholders in making informed decisions and identifying areas for strategic improvement.

8 BIBLIOGRAPHY

- [1] Abdulkareem, A. M., & Nagvadiya, B. R. (2021). An Analytical Study of Profitability and Liquidity Postions of Selected Life Insurance Companies in India. International Journal of Finance and Banking Research.
- [2] ADEDIPE, S., & DALLAH, P. H. (n.d.). APPLICATION OF CARMEL MODEL IN LIFE INSURANCE BUSINESS IN NIGERIA.
- [3] Ansari, P. V., & Fola, M. W. (2014, september). Financial Soundness and Performance of Life Insurance Companies in India. International Journal of Research (IJR), 1(8). Retrieved from

<https://citeserx.ist.psu.edu/document?repid=rep1&type=pdf&doi=034076d8e0250546bbe512333e61c86be9d0782a>

- [4] Bawa, D. S., & Chattha, S. (2013, november). Financial Performance of Life Insurers in Indian Insurance Industry. *Pacific Business Review International*, 6(5).
- [5] Dar, S. A., & Bhat, J. A. (2015, april). A Comparative Evaluation of Financial Performance and Soundness of Selected Public and Private Life Insurers in India. *Pacific Business Review International*, 7(10).
- [6] Dar, S. A., & Bhat, J. A. (2015, April). A Comparative Evaluation of Financial Performance and Soundness of Selected Public and Private Life Insurers in India. *Pacific Business Review International*, 7.
- [7] Dar, S. A., & Thaku, I. A. (2015, january). A COMPARATIVE ANALYSIS OF FINANCIAL A COMPARATIVE ANALYSIS OF FINANCIALINSURERS IN INDIA. *INTERNATIONAL JOURNAL OF MANAGEMENT (IJM)*, 6(1).
- [8] Dr.D.Rajasekar, & Kumari, T. (2014, march- april). LIFE INSURANCE INDUSTRY IN INDIA - AN OVERVIEW. *Global journal of commerce and management perspective*, 3.
- [9] JANSIRANI.P, & DR.A.MUTHUSAMY. (2019, june). CARAMEL ANALYSIS OF FINANCIAL EFFICIENCY OF PUBLIC SECTOR NON-LIFE INSURANCE COMPANIES IN INDIA. *ZENITH International Journal of Business Economics & Management Research*, 9.
- [10] M.Surya, & Dr.B.Sudha. (2020, January). Insurance Financial Soundness Indicator- Caramel Model. *International Journal of Advanced Science and Technology*, 29.
- [11] MadHuri, t. G., & rao, a. n. (2020, Jan-Mar). Evaluation of Financial Performance of Selected Indian Life Insurance Companies using the Caramel Model. *GITAM Journal of Management*, 18, 33.
- [12] Mathew, D., & J., D. A. (n.d.). A Study on the Financial Soundness of Indian Life Insurance Firms: An Investigation Based on the 'Caramels' Framework.
- [13] Monteiro, J., & John, N. K. (2017, January). A study on the financial performance of general insurance companies in India. *International Journal of Advanced Research and Development*, 3(1).
- [14] Nena, D. S. (2013, december). Performance Evaluation of Life Insurance Corporation (LIC) of india. *International Journal of Advance Research in Computer Science and Management Studies*, 1(7).
- [15] Patel, A., & Dwivedi, D. V. (2022, July – September). A COMPARATIVE STUDY ON PROFITABILITY AND LONG-TERM SOUNDNESS OF SELECTED PRIVATE LIFE INSURANCE COMPANIES IN INDIA. *A GLOBAL JOURNAL OF SOCIAL SCIENCES*, 5(3).
- [16] RANI, D. B., & RAMESH, S. (2020, december). A STUDY ON FINANCIAL SOUNDNESS INDICATORS OF LIC INDIA – CARAMEL MODEL. *(UGC Care Journal)*, 43.
- [17] RAO, D. S., & RAO, K. H. (2019, May). PERFORMANCE APPRAISAL OF INDIAN LIFE INSURANCE COMPANIES THROUGH CARAMEL APPROACH. *International Journal of Research in Social Sciences*, 9(5).
- [18] Singh, A. K., & Fatima, S. (2017, April-June). Performance Appraisal of ICICI Prudential Life Insurance Company Limited Using the Caramel Model. *The Indian Journal of Commerce*.
- [19] Sumesara, K. G. (2020). A comparative study of the financial performance of general Insurance Corporation of India and Bajaj alliance with special reference to caramel analysis model. *International Journal of Applied Research*.
- [20] THIRUPATHI, D. T., & C.BALAMURUGAN. (2022). *Journal of Positive School Psychology* .
- [21] Veni, D. L., & Chedadeepu, K. (2018, august). APPLICATION OF CARAMEL MODEL TO LIFE INSURANCE COMPANIES IN INDIA - A COMPARATIVE ANALYSIS. *International Journal of Research in Social Sciences*.