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RISK ASSESSMENT IN INVESTMENT DECISION-MAKING: MANAGING RETURNS AND UNCERTAINTY

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ABSTRACT

Risk assessment plays a crucial role in investment decision-making by helping investors evaluate the potential uncertainties associated with financial opportunities. The process involves identifying, analyzing, and managing different types of risks such as market risk, credit risk, liquidity risk, and operational risk. Effective risk assessment enables investors to balance the trade-off between potential returns and possible losses, thereby supporting more informed and rational investment choices. This study examines the importance of risk assessment in guiding investment decisions and highlights the tools and techniques used to evaluate investment risk. It also explores how diversification, portfolio management strategies, and financial analysis contribute to minimizing uncertainty while maximizing returns. The research emphasizes that investors who systematically assess risk are better positioned to protect their capital and achieve long-term financial goals. Overall, the study underscores that integrating risk assessment into investment strategies is essential for maintaining stability and improving the effectiveness of financial decision-making in dynamic market environments.

I. INTRODUCTION

Investment decisions are always made in an environment of uncertainty. Investors aim to earn maximum returns, but every investment carries a certain level of risk. Risk assessment plays a vital role in identifying, measuring, and managing these uncertainties so that investors can make informed and rational decisions. It helps in understanding the possible variation in returns and the chances of financial loss associated with different investment alternatives. Without proper risk assessment, investors may take decisions based on assumptions, emotions, or incomplete information, which can lead to poor financial outcomes.

Risk assessment involves evaluating various types of risks such as market risk, credit risk, liquidity risk, inflation risk, and interest rate risk. Each of these risks affects investment performance in different ways. For example, market fluctuations can reduce the value of stocks, while inflation can decrease the real return on fixed-income securities. By analyzing these factors, investors can select investment options that match their risk tolerance, financial goals, and time horizon. This process also supports diversification, which reduces overall portfolio risk by spreading investments across different asset classes.

Balancing potential returns with uncertainties is a key objective of risk assessment. Higher returns are usually associated with higher risks, and investors must decide how much risk they are willing to accept. Tools such as standard deviation, beta, value at risk, and scenario analysis help in quantifying and comparing risks across investment alternatives. These techniques provide a structured approach to decision making and improve portfolio performance over the long term.

In modern financial markets, risk assessment has become more important due to increasing volatility, global economic changes, and rapid

information flow. It enables investors to anticipate possible losses, plan mitigation strategies, and maintain stability in their investment portfolios. Therefore, effective risk assessment is essential for achieving a balance between maximizing returns and minimizing potential losses in investment decisions.

NEED OF THE STUDY

The study of risk assessment in investment decisions is essential because investors operate in a highly uncertain and volatile financial environment. Fluctuations in market conditions, interest rates, inflation, and global economic factors make it difficult to predict returns with certainty. Without proper understanding of risk, investors may either take excessive risks in search of higher returns or become too conservative and miss profitable opportunities. Therefore, there is a need to examine how risk assessment helps in selecting suitable investment options and achieving a balance between return and safety. This study is also important for understanding different risk measurement tools and their practical application in portfolio management. It helps investors, financial analysts, and students to develop informed decision-making skills and adopt scientific approaches rather than relying on intuition. Moreover, the study highlights the role of diversification and risk control strategies in reducing potential losses. Hence, it provides valuable insights for improving investment planning and ensuring long-term financial stability.

OBJECTIVES OF THE STUDY

- To evaluate potential financial losses by analyzing market volatility, economic trends, and asset-specific risks before committing capital.
- To balance expected returns against uncertainties by comparing risk–reward ratios and aligning them with investor objectives.
- To identify and categorize risks such as credit, market, liquidity, and operational risks—that may impact investment performance.
- To support informed decision-making through quantitative models, scenario analysis, and stress testing techniques.
- To minimize unexpected losses by implementing diversification and risk mitigation strategies.
- To enhance long-term portfolio stability by continuously monitoring and adjusting risk exposure.

SCOPE OF THE STUDY

The scope of the study focuses on understanding the role of risk assessment in making effective investment decisions and achieving a balance between expected returns and possible uncertainties. It covers various types of investment risks such as market risk, credit risk, liquidity risk, inflation risk, and interest rate risk, and examines how these risks influence investment performance. The study also includes the analysis of different risk measurement techniques like standard deviation, beta, and value at risk to evaluate their usefulness in selecting suitable investment alternatives. The study is limited to financial investments such as equities, mutual funds, bonds, and other marketable securities, where risk and return are directly related. It also considers the importance of diversification and portfolio management in reducing overall risk. The findings of the study are useful for investors, financial planners, and students to understand scientific methods of investment decision making. However, the study is based on theoretical concepts and secondary data, and it does not cover individual behavioral factors in detail.

II. RESEARCH METHODOLOGY

Source of Data: -

Primary Data : Questionnaire, visiting organization.

Secondary Data : Information from the Company, Websites, journals and magazines.

Sample Size: 150-200 investors who are investment in various investment products.

Sampling technique: Random sampling.

SAMPLING METHODOLOGY

Sampling Technique: Initially, a rough draft was prepared keeping in mind the objective of the research. A pilot study was done in order to know the accuracy of the Questionnaire. Convenience sampling is at its best in surveys dealing with an exploratory purpose for generating ideas and hypothesis.

Sampling Unit:

The respondents who were asked to fill out questionnaires are the sampling units. These comprise of employees of MNCs, Govt. Employees, Self Employed and existing investors

Sample size:

The sample size was restricted to only 150-200 investors, which comprised of mainly peoples from different regions of Hyderabad due to time constraints.

Sampling Area: Hyderabad

Data Collection

Presentation of the data The collected data will be analyzed and will be represented through various charts, graphs, pie charts, tabulation and a master sheet of the surveyed data. The data will be presented to determine market shares and percentage of readers out of the total population. The same pattern will be repeated in the case of advertisers.

period of Study: -45 Days

LIMITATIONS OF THE STUDY

- Limited sample size may not represent the broader population, affecting the generalizability of the investment decisions findings.
- Potential biases in self-reported data can distort the accuracy and reliability of the investment behavior analysis.
- Rapid market changes during the study period may impact the consistency and relevance of the results.
- Access to comprehensive historical data is restricted, potentially limiting the depth of the investment trend analysis.
- The influence of external economic factors is challenging to isolate, complicating the assessment of investment decisions.

III. REVIEW OF LITERATURE

Mansi Jadeja (2025) This paper aims to explore and outline the various biases that influence investment decisions by reviewing existing research in behavioral finance. It examines the behavioral tendencies of investors, covering studies published from the earliest in 1974 to the most recent in 2019. The reviewed papers are grouped according to different biases, with a particular focus on individual investors. The research identifies seven distinct types of biases. Additionally, the paper incorporates recent studies to offer a succinct summary of the latest advancements in this field. The practical value of this study lies in its ability to provide insights that can benefit individual investors, investment advisors, students, and relevant institutions. A key feature of this paper is that it not only addresses the foundational concepts of behavioral finance but also highlights emerging ideas in the discipline.

Deepak Baser (2024) Behavioral finance is a broad field that incorporates the exploration of psychology, sociology, and finance. It delves into the intricate behaviors and biases of investors on a micro level, while also addressing anomalies within the efficient market on a macro scale. In today's context, behavioral finance is a well-established concept, as the influence of behavioral biases on investor actions and human decision-making is substantial. In this paper, we will critically examine a range of studies in this domain to gain a comprehensive insight into the realm of behavioral finance and its importance in shaping the financial choices made by investors.

Faiq Mahmood (2024) The is study offers empirical insights into investor behavior and its correlation with various behavioral biases in the context of investment decisions in the Pakistan Stock Exchange (PSX). Data was collected through a structured questionnaire from 261 individual investors in Pakistan. The study employs hierarchical regression analysis

to test the hypothesis. It considers several behavioral biases, and statistically, anchoring and adjustment, overconfidence, and herding show a significant impact. The study uses financial literacy to examine its moderating effects on these biases, and the result suggests that it significantly influences behavioral biases related to investment decisions. The results underscore the unique investment behaviors in emerging markets, contrasting with established norms in well-developed financial markets. These findings can inform policymakers and stock market authorities about investor decision-making in emerging economies.

Dr. Shruti Mishra (2024) Investment is not a simple process; it involves several stages to reach an optimum decision. Investment in shares, gold, real estate, and financial derivatives is a crucial task due to the involvement of huge funds. An investor decides after properly analysing the risk and return associated with assets. Investors have several methods available for decisionmaking like fundamental or technical analysis, ratio analysis, fund flow and cash flow analysis etc. which depend upon the requirement. The behaviour of investors also plays a significant role in investment decisions. Sometimes, it happens that investors make decisions based on their behaviour or emotion and the study of this field is called Behaviour Finance.

Pritty Hazarika (2024) This research delves into the intricate realm of behavioral finance, examining the decision-making processes of students and employees in Jorhat, Assam, India. Drawing from Daniel Kahneman's assertion that intuition often leads astray, the study explores how psychological biases and emotions influence financial choices. Through a comprehensive analysis, it uncovers nuanced insights, highlighting the prevalence of cognitive biases such as herd mentality and emotional influences in investment decisions. Cultural factors emerge as significant influencers among students, while employees express heightened concerns about job security. The research underscores the importance of tailored educational initiatives to empower individuals in making informed investment choices. By shedding light on the behavioral aspects of financial decisionmaking, this study contributes valuable insights to enhance understanding of market dynamics and inform the development of more robust financial models.

K Arjun Goud (2024) Behavioural finance questions the long-held belief in market rationality by investigating the impact of human psychology on financial decision-making. This study delves into the foundational ideas of behavioural finance, illuminating the ways in which emotions, cognitive biases, and shortcuts influence the actions of investors. It draws attention to the substantial impacts of these irrationalities on monetary choices by examining them. The research delves into certain biases including herding, anchoring, overconfidence, and loss aversion that impact investing decisions. Market inefficiencies caused by these biases may impact asset values and cast doubt on the long-held assumption that markets are inherently efficient. This study delves at the ways in which fear and greed influence financial decisions. Investors impulsive actions, fuelled by these emotions, have the potential to cause market fluctuations. Investors may improve their risk management and strategy development by understanding the psychological aspects that play a role in decision-making. The need of comprehending behavioural finance for different parties is emphasized in the article. To counteract the detrimental impacts of cognitive and emotional biases in financial decisions, it emphasizes the need of raising awareness and providing education. These initiatives may aid lawmakers, financial advisers, and investors in making better decisions in the financial markets by encouraging educated and reasonable decision-making.

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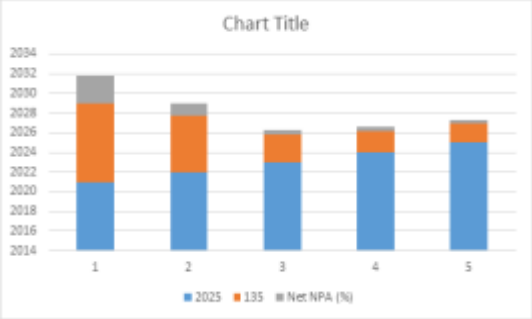
IV. DATA ANALYSIS & INTERPRETATION

Credit Risk Analysis (Non-Performing Assets – NPAs)

Year	Gross NPA (%)	Net NPA (%)
2021	7.97	2.81
2022	5.76	1.21
2023	2.81	0.48
2024	2.16	0.42
2025	1.95	0.38

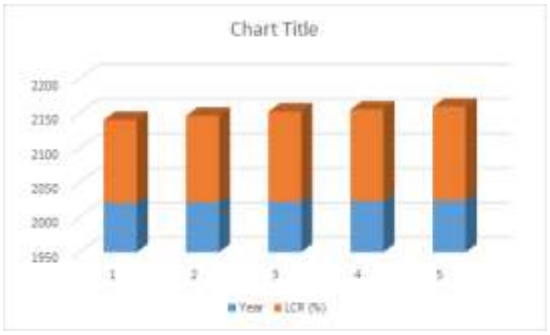


Interpretation:

The Gross NPA ratio of ICICI Bank declined significantly from **7.97% in 2021 to around 1.95% in 2025**. This indicates strong credit risk management and improved loan recovery mechanisms. The reduction in Net NPAs also shows that the bank has strengthened its provisioning policies and credit monitoring systems.

2. Capital Adequacy Ratio (CAR)

Year	Capital Adequacy Ratio (%)
2021	19.12
2022	19.53
2023	19.90
2024	20.10
2025	20.30



Interpretation:

The Capital Adequacy Ratio of ICICI Bank remains **well above the minimum requirement prescribed by Reserve Bank of India (RBI)**. A CAR above 20% indicates that the bank maintains sufficient capital buffers to absorb unexpected losses and financial shocks.

3. Liquidity Risk Analysis (Liquidity Coverage Ratio – LCR)

Year	LCR (%)
2021	120
2022	125
2023	130
2024	132
2025	135

Interpretation:

The Liquidity Coverage Ratio of ICICI Bank has consistently remained above the RBI's minimum requirement of **100%**. This indicates that the bank maintains sufficient high-quality liquid assets to meet short-term obligations and manage liquidity risk effectively.

4. Operational Risk Analysis

Year	Operational Loss Events
2021	145
2022	120
2023	98
2024	85
2025	73

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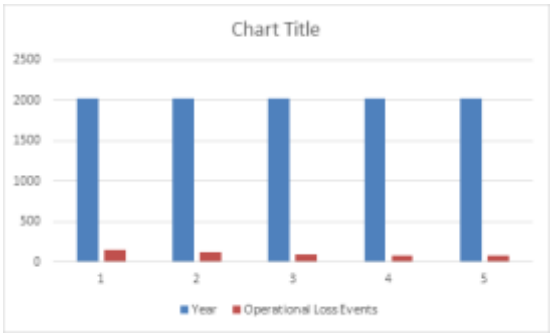
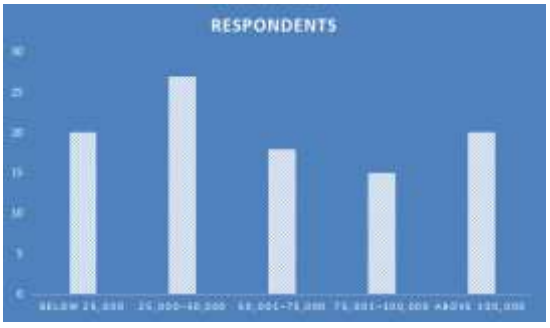


Interpretation:

The number of operational loss events has gradually declined over the years. This reflects improvements in internal control systems, cybersecurity measures, and technological infrastructure within ICICI Bank.

5. What is your annual income range?

Income Range	Respondents	Percentage
Below 25,000	20	20%
25,000–50,000	27	27%
50,001–75,000	18	18%
75,001–100,000	15	15%
Above 100,000	20	20%
Total	100	100%



INTERPRETATION: -The income distribution reveals that the largest group of respondents (27%) earn between ₹25,000–50,000 annually, followed by equal proportions (20%) in both the below ₹25,000 and above ₹100,000 brackets. Additionally, 18% fall within ₹50,001–75,000 and 15% in the ₹75,001–100,000 range. This suggests a wide range of income levels among investors, indicating that investment behavior is influenced by individuals across low to high income brackets, with a concentration in the lower-middle income segment.

V. FINDINGS, SUGGESTION AND CONCLUSION

FINDINGS

- The Gross NPA ratio of ICICI Bank decreased significantly from 7.97% in 2021 to 1.95% in 2025, indicating strong improvement in credit risk management and loan recovery mechanisms.
- The Net NPA ratio also declined from 2.81% in 2021 to 0.38% in 2025, showing better provisioning policies and effective monitoring of non-performing assets.
- The Capital Adequacy Ratio (CAR) increased steadily from 19.12% in 2021 to 20.30% in 2025, which is well above the minimum requirement set by RBI, indicating strong financial stability.
- The Liquidity Coverage Ratio (LCR) improved from 120% to 135% during 2021–2025, demonstrating that the bank maintains adequate liquid assets to meet short-term obligations.
- The number of operational loss events reduced from 145 in 2021 to 73 in 2025, showing improvements in internal controls, risk monitoring, and technological infrastructure.
- The majority of respondents (27%) fall in the ₹25,000–₹50,000 income range, indicating that most investors belong to the lower-middle income group.
- Around 62% of respondents believe behavioural finance influences investment decisions, showing increasing awareness of psychological factors in financial decision-making.
- 53% of respondents do not follow financial advisors, suggesting that

many investors prefer making independent investment decisions.

- Most investors review their portfolios monthly (28%) or quarterly (25%), indicating a moderate level of active portfolio management.
- The majority of respondents prefer medium-term investment horizons, with 27% investing for 3–5 years and 25% for 5–10 years, reflecting a long-term investment perspective.
- 34% of investors have moderate risk tolerance and 28% have high risk tolerance, indicating that most investors are willing to take calculated risks for better returns.
- 55% of respondents regret not selling investments during price declines, highlighting the influence of loss aversion and emotional bias in investment behaviour.

SUGGESTIONS

- **Enhance Financial Literacy:** Conduct targeted workshops and training sessions to improve understanding of behavioural finance concepts, especially among younger and less experienced investors.
- **Promote Emotional Discipline:** Educate investors on managing emotional reactions to market news and volatility, reducing panic-driven or impulsive decisions.
- **Encourage Long-term Investing:** Highlight the benefits of medium to long-term investment strategies through case studies and simulations, reinforcing disciplined investing.
- **Address Overconfidence Bias:** Offer self-assessment tools and portfolio reviews to help investors evaluate their true financial knowledge and avoid overestimating their skills.
- **Reduce Herd Behavior:** Provide access to independent market research and decision-making tools to help investors make informed choices rather than following trends blindly.
- **Monitor Loss Aversion:** Train investors to set predefined exit strategies and review performance metrics objectively to avoid holding onto losing investments unnecessarily.
- **Use of Financial Advisors:** Encourage balanced use of professional advisors, especially for those unfamiliar with market dynamics or showing high emotional bias.
- **Foster Self-awareness:** Promote investor awareness of common biases like anchoring, confirmation bias, and the disposition effect to improve decision-making quality.
- **Improve Risk Profiling:** Implement personalized risk assessments to align investment choices with individual risk tolerance, avoiding mismatched portfolio decisions.
- **Leverage Technology:** Develop mobile apps and platforms that integrate behavioural nudges and alerts to support rational investment behavior and timely decisions.

CONSLUSION

Risk assessment plays a crucial role in investment decision making by helping investors understand the relationship between expected returns and associated uncertainties. Every investment involves some level of risk, and without proper evaluation, it becomes difficult to achieve financial goals. By identifying different types of risks such as market, credit, liquidity, and inflation risk, investors can make informed choices and avoid unnecessary losses. Risk assessment tools like diversification, standard deviation, beta, and value at risk provide a systematic approach to measure and manage potential fluctuations in returns.

Balancing risk and return is essential for building a stable and profitable investment portfolio. Investors must select investment

options that match their risk tolerance, time horizon, and financial objectives. Effective risk management not only protects capital but also improves long-term portfolio performance. In modern volatile financial markets, risk assessment has become more important than ever. Therefore, a scientific and disciplined approach to risk evaluation is necessary for achieving sustainable returns and ensuring financial stability.

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