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A STUDY ON RISK AVERSION STRATEGIES FOLLOWED BY ICICI BANK DURING INVESTMENT DECISIONS

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Abstract— Risk aversion in investment decision-making represents one of the most strategically consequential dimensions of commercial bank management, directly influencing portfolio composition, asset allocation, provisioning adequacy, and ultimately the resilience of the institution during economic downturns. ICICI Bank Limited, India's largest private sector bank, has developed a sophisticated multi-layered risk aversion framework encompassing credit risk mitigation, market risk hedging, liquidity risk management, and operational risk controls that collectively govern its investment and lending decisions. This study examines the specific risk aversion strategies employed by ICICI Bank in its investment decisions over the period FY 2018–19 to FY 2022–23, analysing the effectiveness of these strategies through observable improvements in key risk metrics. The research draws on secondary data from ICICI Bank Annual Reports, RBI regulatory disclosures, and Basel III compliance reports to document credit risk management tools including AI-driven credit scoring, collateral management, loan diversification, and provision coverage; market risk controls including Value-at-Risk frameworks, interest rate swaps, and Asset-Liability Management Committee oversight; and investment portfolio risk governance including HTM/AFS/HFT classification strategy, sectoral exposure limits, and concentration risk caps. Findings confirm that ICICI Bank's risk aversion framework has delivered measurable outcomes—gross NPA ratio declining from 6.70% to 2.48%, credit cost falling from 2.58% to 0.42%, and CRAR remaining above 18%—over the study period, validating the effectiveness of its risk aversion architecture.

Keywords: risk aversion, investment decisions, ICICI Bank, credit risk, market risk, Value-at-Risk, NPA, provisioning, Asset-Liability Management, Basel III, portfolio risk, hedging strategies.

1. INTRODUCTION

Risk aversion is an intrinsic behavioural and institutional characteristic of commercial banking, grounded in the fiduciary responsibility of banks to protect depositor funds, maintain regulatory solvency standards, and generate stable risk-adjusted returns for shareholders. Unlike non-financial corporations whose investment decisions are primarily governed by return maximisation, banks operate within a dual constraint of regulatory capital adequacy and depositor protection that fundamentally shapes the risk tolerance embedded in every investment and lending decision.

ICICI Bank Limited, incorporated in 1994 as the retail banking subsidiary of ICICI Limited and subsequently merged with its parent in 2002, has evolved from a

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development finance institution into one of India's most sophisticated full-service commercial banks. As of March 2023, ICICI Bank manages a consolidated balance sheet exceeding ₹15.7 lakh crore, a loan book of approximately ₹9.5 lakh crore, and an investment portfolio of approximately ₹3.8 lakh crore—each governed by a comprehensive, Board-approved risk management framework aligned with RBI regulations and Basel III international standards.

The bank's risk aversion philosophy underwent a significant strategic evolution from FY19 onward, when newly appointed MD & CEO Sandeep Bakhshi articulated the 'One Bank, One ROE' strategic framework, repositioning the institution from growth-at-any-cost orientation toward risk-calibrated growth where every business unit's performance is assessed on a risk-adjusted return on equity basis. This philosophical shift translated into concrete risk aversion strategy changes across credit underwriting standards, investment portfolio composition, hedging programme design, and capital allocation principles.

The consequences of this enhanced risk aversion framework are clearly visible in ICICI Bank's five-year risk metric trajectory: gross NPA ratio declined from 6.70% in FY19 to 2.48% in FY23; credit cost fell from 2.58% to 0.42%; the Capital to Risk-weighted Assets Ratio (CRAR) remained comfortably above 18%; and the Liquidity Coverage Ratio exceeded 100% throughout, demonstrating that the bank maintained adequate high-quality liquid assets to withstand a 30-day stress scenario. This study systematically documents, categorises, and evaluates the specific risk aversion strategies that produced these outcomes, providing a comprehensive analytical framework for understanding how India's leading private bank governs investment risk.

2. OBJECTIVES OF THE STUDY

The primary objective of this study is to examine and evaluate the risk aversion strategies employed by ICICI Bank in its investment and lending decisions over FY 2018–19 to FY 2022–23. Specifically, the study aims to identify and categorise the full spectrum of risk types—credit, market, liquidity, operational, and concentration risk—confronting ICICI Bank in its investment portfolio and loan book management. It further seeks to document the specific risk aversion instruments and methodologies applied by ICICI Bank for each risk category, including quantitative tools such as Value-at-Risk, stress testing, and credit scoring models, and structural tools such as Asset-Liability Management, collateral requirements, and sectoral exposure limits. The research aims to assess the effectiveness of these risk aversion strategies through observable improvements in key risk indicators including NPA ratios, provision coverage, capital adequacy, and liquidity metrics. Additionally, the study seeks to analyse ICICI Bank's investment portfolio composition and the risk governance framework that governs asset allocation across Government Securities, corporate bonds, equity, and alternative investments, and to provide strategic recommendations for continued enhancement of the risk aversion architecture in the context of India's evolving regulatory and macroeconomic environment.

3. LITERATURE REVIEW

[1] Arrow (1965) and Pratt (1964) independently established the foundational theoretical framework for risk aversion measurement, introducing the concepts of absolute and relative risk aversion coefficients that characterise an individual or institution's willingness to accept risk relative to expected return. For commercial banks, institutional risk aversion is operationalised through regulatory capital requirements, credit policy frameworks, and

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investment portfolio governance structures that collectively enforce risk-adjusted decision-making.

[2] Diamond and Dybvig (1983) in their seminal model of bank runs demonstrated that banks are inherently fragile institutions vulnerable to self-fulfilling liquidity crises, providing the theoretical rationale for institutional risk aversion strategies that prioritise liquidity buffers and depositor confidence maintenance—directly applicable to ICICI Bank's Liquidity Coverage Ratio management and CASA deposit franchise strategy.

[3] Basel Committee on Banking Supervision (2011) codified the Basel III international standards for bank capital adequacy, liquidity risk management, and leverage control that form the regulatory foundation for ICICI Bank's risk aversion framework. The Basel III framework introduced the Capital Conservation Buffer, the Liquidity Coverage Ratio, and the Net Stable Funding Ratio as mandatory risk aversion instruments applicable to all systemically important banks.

[4] Jorion (2006) in his authoritative treatment of Value-at-Risk documented the theoretical foundations and practical applications of VaR as a market risk measurement and risk aversion tool, demonstrating that VaR-based risk limits effectively constrain trading desk risk-taking to Board-approved risk appetite levels—the same approach deployed in ICICI Bank's Treasury risk management framework.

[5] Altman (1968) developed the Z-Score credit risk assessment model, a precursor to the sophisticated AI-driven credit scoring systems deployed by contemporary banks including ICICI Bank, which uses proprietary machine learning models trained on millions of credit bureau observations to assign probability-of-default scores that directly determine credit approval, pricing, and limit decisions.

[6] Saunders and Cornett (2014) in their comprehensive bank management textbook articulated the Asset-Liability Management framework for interest rate risk control, documenting how duration gap management, income gap analysis, and interest rate derivatives can be combined to minimise the sensitivity of net interest income and market value of equity to interest rate movements—consistent with ICICI Bank's ALCO-governed interest rate risk management framework.

[7] Carey and Stulz (2006) in their edited volume on credit risk examined the evolution of credit risk transfer instruments—including credit default swaps and collateralised loan obligations—as risk aversion tools for commercial banks, finding that these instruments reduced banking sector systemic risk concentration when used for hedging rather than speculative purposes, consistent with ICICI Bank's selective use of credit derivatives for corporate exposure management.

[8] RBI Master Direction on Risk Management and Inter-Bank Dealings (2016, updated 2023) mandates that all scheduled commercial banks maintain Board-approved risk management policies encompassing credit risk, market risk, liquidity risk, and operational risk, with explicit risk appetite statements, stress testing programmes, and internal capital adequacy assessment processes—the regulatory framework within which ICICI Bank's risk aversion strategies are designed and implemented.

4. RESEARCH METHODOLOGY

This study employs a qualitative-descriptive and quantitative analytical research design to systematically examine and evaluate ICICI Bank's risk aversion strategies in investment decision-making. The research integrates strategy documentation with quantitative effectiveness assessment through financial ratio analysis.

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4.1 Research Design

An exploratory and analytical research design is adopted. The exploratory dimension involves systematic documentation and categorisation of risk aversion strategies from ICICI Bank's published regulatory disclosures, annual reports, and risk management framework descriptions. The analytical dimension involves quantitative assessment of strategy effectiveness through time-series analysis of key risk indicators across the five-year study period, enabling attribution of observable risk metric improvements to specific strategic interventions.

4.2 Data Sources

Primary Data: This study does not employ primary data collection, as the research objectives are fully addressed through systematic analysis of official regulatory and corporate disclosures.

Secondary Data: Strategy documentation and risk metric data was sourced from ICICI Bank Annual Reports (FY19–FY23) including the Risk Management section, Directors' Report, Pillar 3 Basel III Disclosures, and Notes to Financial Statements. Supplementary regulatory context was provided by RBI Master Circulars on Risk Management, Basel III Implementation Guidelines, and RBI Report on Trend and Progress of Banking in India (FY23). Industry benchmarking data was sourced from the Indian Banks' Association Annual Banking Statistics.

4.3 Sample Size

The study analyses five financial years (FY 2018–19 to FY 2022–23) of ICICI Bank's risk management data, encompassing annual observations across six risk categories and 30+ individual risk aversion instruments and metrics. The five-year window spans the full implementation arc of ICICI Bank's enhanced risk aversion framework introduced under the 'One Bank, One ROE' strategic repositioning, encompassing the COVID-19 stress test period (FY21) and the normalised performance phase (FY23).

4.4 Tools for Analysis

The following analytical tools are employed: (i) Descriptive Framework Analysis—systematic documentation and categorisation of risk aversion strategies by risk type and instrument category; (ii) Trend Analysis—identification of directional patterns in risk metrics (NPA ratios, provision coverage, CRAR, LCR) across the study period as indicators of strategy effectiveness; (iii) Ratio Analysis—computation and interpretation of credit risk ratios, capital adequacy ratios, and liquidity ratios to quantify risk aversion outcomes; (iv) Comparative Assessment—benchmarking of ICICI Bank's risk metrics against RBI regulatory minimums and industry peer averages to contextualise performance.

5. DATA ANALYSIS AND INTERPRETATION

Table I categorises the primary risk types confronting ICICI Bank in its investment and lending operations, with an assessment of the bank's relative exposure level for each category. Credit risk emerges as the largest and most consequential risk exposure given the loan book's dominant share of total assets, while liquidity risk is assessed as low owing to the bank's strong CASA deposit franchise and proactive Liquidity Coverage Ratio management.

Risk Type	Definition	ICICI's Exposure Level
Credit Risk	Default by borrower/counterparty	High – Largest risk
Market Risk	Adverse price/rate movements	Moderate – Trading book
Liquidity Risk	Inability to meet obligations	Low – Strong CASA
Operational	System/process/peo	Moderate

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Risk Type	Definition	ICICI's Exposure Level
Risk	ple failures	– IT-heavy
Interest Rate Risk	Rate change on NII & MVE	Moderate – ALM managed
Concentration Risk	Single sector/group exposure	Managed – Diversified

TABLE I: Risk Types and ICICI Bank's Exposure Profile

Table II documents the specific credit risk aversion strategies deployed by ICICI Bank across its lending and investment portfolio. The bank's AI and machine learning-driven credit scoring framework—applied to approximately 95% of retail loan originations—represents the most technologically advanced element of the credit risk architecture, enabling granular probability-of-default estimation at the individual borrower level that significantly reduces adverse selection in credit origination. The collateral management programme, covering approximately 78% of the total loan book through mortgage, pledge, and lien arrangements, provides a critical second line of risk mitigation in the event of borrower default.

Strategy	Instrument Used	Coverage (%)
Credit Scoring	AI/ML Models, CIBIL	~95% retail loans
Collateral Security	Mortgage, Pledge, Lien	~78% secured book
Loan Diversification	Sectoral Limits, Caps	Pan-India, 20 sectors
Credit Derivatives	CDS, CLNs	Select corp. exposures
NPA Provisioning	ECL / IRAC Norms	PCR 82.8%
		(FY23)
Co-lending / JLPs	NBFC Partnerships	Select priority sectors

TABLE II: Credit Risk Aversion Strategies

Table III presents ICICI Bank's market and interest rate risk aversion toolkit. The bank's VaR framework—computed at 99% confidence level on a one-day horizon—is the primary quantitative risk limit governing trading desk risk-taking, with a reported FY23 limit of ₹284 crore representing a conservative constraint relative to the Treasury portfolio size. Interest rate swap positions totalling ₹42,000 crore notional in FY23 demonstrate the scale of ICICI Bank's interest rate risk hedging programme, while the ALCO's monthly oversight of the duration gap and income sensitivity analysis ensures that asset-liability mismatches remain within Board-approved tolerance bands.

Tool / Strategy	Purpose	Outcome (FY23)
VaR (99%, 1-day)	Quantify max market loss	₹284 Cr limit
Stress Testing	Tail-risk scenario analysis	Quarterly RBI reports
Interest Rate Swaps	Hedge fixed/float exposure	₹42,000 Cr notional
FX Forwards/Options	Currency risk hedging	Multi-currency coverage
Duration Gap Mgmt.	Control NII sensitivity	Gap < ±5% of assets
ALCO Oversight	Asset-Liability policy	Monthly committee

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TABLE III: Market & Interest Rate Risk Aversion Tools

Table IV tracks the quantitative outcomes of ICICI Bank's risk aversion strategies across the five-year study period. The gross NPA ratio decline from 6.70% to 2.48%—a 422 basis point improvement—represents the most striking evidence of credit risk aversion strategy effectiveness, driven by enhanced underwriting standards, accelerated recovery on legacy stressed assets, and deliberate reduction of large-ticket concentrated corporate exposures. The credit cost decline from 2.58% to 0.42% translates to approximately ₹18,000 crore of annual provisioning cost savings by FY23, directly confirming the financial value created by the bank's risk aversion framework enhancement.

Metric	FY19	FY20	FY21	FY22	FY23
Gross NPA Ratio (%)	6.70	5.53	4.96	3.60	2.48
Net NPA Ratio (%)	2.06	1.41	1.14	0.76	0.48
Provision Cover (%)	65.9	73.6	77.7	79.2	82.8
Credit Cost (%)	2.58	2.23	1.94	0.68	0.42
CRAR (%)	16.89	16.11	19.12	19.16	18.34
LCR (%)	110	118	128	122	119

TABLE IV: Risk Aversion Effectiveness – Key Metrics (FY19–FY23)

Table V presents ICICI Bank's investment portfolio composition and the risk governance framework applied to each asset category in FY23. Government Securities constitute the largest investment category at ₹2,84,620 crore, classified under the Held-to-Maturity (HTM) category that eliminates mark-to-market volatility—a deliberate risk aversion choice that prioritises income stability over trading flexibility. The restriction of corporate bond investments to AA-rated and above instruments, equity investments to listed securities with stop-loss limits, and overseas investments to investment-grade rated securities collectively reflect the conservative risk appetite that governs ICICI Bank's investment decision-making.

Investment Category	Allocation (FY23)	Risk Strategy
G-Sec / T-Bills	₹2,84,620 Cr	HTM – No MTM volatility
Corporate Bonds (AAA)	₹48,340 Cr	AFS – Rating floor: AA
Equity (Listed)	₹12,180 Cr	HFT – VaR& stop-loss
Mutual Fund Units	₹8,640 Cr	Liquid/overnight only
Alt. Investment Funds	₹3,820 Cr	Max 5% of total invest.
Overseas Securities	₹22,460 Cr	FX hedged, IG rated only

TABLE V: ICICI Bank Investment Portfolio & Risk Strategies (FY23)

6. FINDINGS AND SUGGESTIONS

The systematic analysis of ICICI Bank's risk aversion strategies and their outcomes yields several significant findings. ICICI Bank operates a comprehensive, multi-layered risk aversion architecture that addresses six distinct risk categories through a combination of quantitative measurement frameworks (VaR, credit scoring, stress testing), structural safeguards (collateral requirements, sectoral caps, portfolio diversification), and governance mechanisms (ALCO, Credit Risk Committee, Board Risk Committee). This integrated approach, rather than reliance on any single risk management instrument, is

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the defining characteristic of the bank's risk management effectiveness.

The effectiveness of the credit risk aversion framework is most clearly demonstrated by the gross NPA ratio trajectory—from 6.70% in FY19 to 2.48% in FY23—which ranks among the most significant NPA recovery journeys of any major Indian commercial bank over this period. The simultaneous improvement in provision coverage ratio from 65.9% to 82.8% indicates that the bank not only resolved existing stressed assets but also strengthened its buffer against future credit deterioration, reflecting the institutionalisation of a genuinely risk-averse credit culture. The investment portfolio governance framework—characterised by HTM classification for the majority of the Government Securities book, investment-grade floors for corporate and overseas bonds, and VaR-based trading limits—demonstrates that risk aversion principles are consistently applied to investment decisions as well as lending decisions, ensuring that ICICI Bank's overall risk profile remains calibrated to its regulatory capital base and depositor protection obligations.

Based on the findings, it is recommended that ICICI Bank continue to invest in the advancement of its AI and machine learning credit scoring infrastructure, particularly for MSME and new-to-credit borrower segments where traditional credit bureau data is limited and alternative data sources—digital payment histories, GST compliance records, utility payment patterns—can significantly improve default prediction accuracy. The bank should expand its natural language processing capabilities for early warning signal detection from unstructured data sources including news feeds, social media, and supply chain disruption indicators that can provide 3–6 month lead indicators of borrower stress before it manifests in financial statements. ICICI Bank should develop a formal climate risk assessment framework for its investment and lending portfolio, consistent with RBI's Climate Risk and Sustainable Finance guidelines, to identify transition risk exposures in carbon-intensive sectors and physical risk exposures in geographically vulnerable loan book segments. The bank should enhance its Operational Risk Management framework with a focus on cybersecurity risk aversion, given the rapid growth of digital banking volumes and the corresponding increase in cyber threat exposure that represents the fastest-growing risk category in contemporary commercial banking.

7. CONCLUSION

This study has provided a comprehensive examination of the risk aversion strategies employed by ICICI Bank in its investment and lending decisions, documenting the full spectrum of risk mitigation instruments across credit, market, liquidity, operational, and concentration risk dimensions and assessing their effectiveness through observable improvements in key risk metrics over FY 2018–19 to FY 2022–23.

The central conclusion of the study is that ICICI Bank's risk aversion framework is characterised by three distinctive features that collectively explain its effectiveness: comprehensiveness—encompassing all major risk types through integrated governance; technological sophistication—deploying AI-driven credit scoring, VaR measurement, and real-time ALM monitoring that enable granular, data-driven risk decisions; and strategic alignment—embedding risk aversion principles directly into business unit performance measurement through the 'One Bank, One ROE' framework that ensures risk-adjusted rather than raw return targets govern capital allocation.

The quantitative outcomes of this framework—a 422 basis point improvement in gross NPA ratio, an 82.8% provision coverage ratio, a CRAR consistently above

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18%, and an LCR above 110%—confirm that the bank's investment decisions are governed by a genuinely risk-averse institutional philosophy that prioritises sustainable, credit-quality-adjusted growth over short-term volume maximisation. This risk aversion orientation has generated substantial shareholder value: net profit grew from ₹3,363 crore in FY19 to ₹36,270 crore in FY23, with the majority of this improvement attributable to the reduction in provisioning requirements enabled by improved asset quality.

As ICICI Bank navigates the next phase of its strategic evolution—encompassing EV financing, green bonds, MSME digital lending, and international business expansion—the risk aversion principles documented in this study will require continuous adaptation to new product structures, new borrower segments, and new technology-enabled risk channels. Future research should examine the integration of climate risk assessment tools and cybersecurity risk metrics into ICICI Bank's risk aversion framework as these emerging risk dimensions achieve regulatory materiality.

8. REFERENCES

[1] K. J. Arrow, Aspects of the Theory of Risk-Bearing, Yrjö Jahnsson Foundation, Helsinki, 1965.

[2] J. W. Pratt, 'Risk Aversion in the Small and in the Large,' Econometrica, vol. 32, no. 1/2, pp. 122–136, Jan.–Apr. 1964.

[3] D. W. Diamond and P. H. Dybvig, 'Bank Runs, Deposit Insurance, and Liquidity,' Journal of Political Economy, vol. 91, no. 3, pp. 401–419, Jun. 1983.

[4] Basel Committee on Banking Supervision, 'Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems,' BIS, Basel, Dec. 2011.

[5] P. Jorion, Value at Risk: The New Benchmark for Managing Financial Risk, 3rd ed., McGraw-Hill, New York, 2006.

[6] E. I. Altman, 'Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy,' Journal of Finance, vol. 23, no. 4, pp. 589–609, Sep. 1968.

[7] A. Saunders and M. Cornett, Financial Institutions Management: A Risk Management Approach, 8th ed., McGraw-Hill Education, New York, 2014.

[8] M. Carey and R. M. Stulz (Eds.), The Risks of Financial Institutions, University of Chicago Press, Chicago, 2006.

[9] Reserve Bank of India, 'Master Direction – Risk Management and Inter-Bank Dealings,' RBI/2016-17/13, updated 2023, RBI, Mumbai, 2023.

[10] ICICI Bank Limited, Annual Report 2022–23 (including Pillar 3 Basel III Disclosures), ICICI Bank, Mumbai, 2023.

[11] ICICI Bank Limited, Annual Report 2020–21, ICICI Bank, Mumbai, 2021.

[12] ICICI Bank Limited, Annual Report 2018–19, ICICI Bank, Mumbai, 2019.

[13] Reserve Bank of India, Report on Trend and Progress of Banking in India 2022–23, RBI, Mumbai, 2023.

[14] Indian Banks' Association, Annual Banking Statistics 2022–23, IBA, Mumbai, 2023.

[15] A. Saunders and L. Allen, Credit Risk Measurement In and Out of the Financial Crisis, 3rd ed., John Wiley & Sons, New Jersey, 2010.

[16] J. C. Hull, Risk Management and Financial Institutions, 5th ed., John Wiley & Sons, Hoboken, NJ, 2018.

[17] RBI, 'Discussion Paper on Climate Risk and Sustainable Finance,' Reserve Bank of India, Mumbai, Jul. 2022.

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