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Impact of Risk Management on the Financial Performance of State Bank of India: An Empirical Analysis

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Abstract:

Banks operate by accepting deposits, extending credit and facilitating payments, while simultaneously managing risks that can affect their solvency and profitability. This study examines the relationship between selected risk-management indicators and the financial performance of State Bank of India (SBI) over the financial years 2014–15 to 2023–24. The study is designed as a quantitative analysis based on secondary data drawn from SBI annual reports and relevant regulatory publications. Credit risk is represented by the Gross Non-Performing Assets (GNPA) ratio and Net Non-Performing Assets (NNPA) ratio; capital adequacy is represented by the Capital Adequacy Ratio (CAR); and liquidity risk is represented by the Liquid Assets to Total Assets ratio and Credit–Deposit ratio. Financial performance is assessed through Return on Assets (ROA), Return on Equity (ROE) and Net Profit Ratio. The proposed analysis includes descriptive statistics, trend analysis, correlation and regression. Summary statistics available for the study indicate substantial variation in asset quality and profitability during the period, including a range of negative and positive returns. The final interpretation of relationships and the statistical significance of the explanatory variables must be based on verified year-wise observations and computed model outputs. The paper therefore sets out the research framework, measurement strategy and analytical structure, and identifies the results that should be reported after the underlying dataset has been validated. The study is expected to contribute to understanding how asset quality, capital strength and liquidity management interact with the financial performance of a large public-sector bank.

Keywords: Risk Management; State Bank of India; Credit Risk; Capital Adequacy; Liquidity Risk; Financial Performance.

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Introduction:

The banking system is a central component of a modern economy. Banks mobilise savings, allocate credit, support payment systems and transmit monetary policy. Their financial performance is therefore

important not only to shareholders and depositors but also to businesses, households and the wider economy. Banking, however, is inherently exposed to uncertainty. Borrowers may fail to repay; market prices and interest rates may change; and depositors may withdraw funds at a pace that creates liquidity pressure. Effective risk management is consequently a core requirement for stable banking operations.

Risk management in banking involves identifying exposures, measuring their potential consequences, monitoring changes and establishing controls that keep risks within acceptable limits. It is not simply a compliance activity. A bank's approach to risk can influence its income, operating costs, capital needs and capacity to lend. Weak credit appraisal or monitoring can increase non-performing assets and provisioning expenses. Insufficient capital can constrain growth and weaken resilience to unexpected losses. Poor liquidity management can force a bank to obtain expensive funding or sell assets under unfavourable conditions. Conversely, excessive caution can also reduce returns if capital and liquid assets are held in ways that are not economically efficient.

State Bank of India (SBI), as one of India's largest public-sector banks, provides a relevant setting for examining these issues over time. The period 2014–15 to 2023–24 spans changes in the banking environment, including asset-quality stress, regulatory and supervisory responses, changing credit demand, and the effects of the COVID-19 shock and subsequent recovery. A decade-long analysis can help distinguish short-term fluctuations from broader patterns, although conclusions must remain tied to the data and the chosen measures.

This study examines selected risk indicators and financial-performance measures for SBI. Credit risk is captured through GNPA and NNPA ratios. Capital adequacy is assessed through CAR. Liquidity risk is represented by Liquid Assets to Total Assets and the Credit–Deposit ratio. The performance variables are ROA, ROE and Net Profit Ratio. The research uses annual observations and proposes descriptive, correlational and regression-based analysis. The objective is to assess whether movements in the selected risk indicators are associated with changes in SBI's profitability and to draw practical implications for risk governance.

Statement of the Problem:

Bank profitability can improve or deteriorate for many reasons, and risk indicators may not have a simple or immediate relationship with returns. For example, a rise in non-performing assets may reduce current profitability through provisioning, but a bank's earnings may also be affected by interest margins, operating expenses, business volume and macroeconomic conditions. Capital adequacy can strengthen resilience while also influencing leverage and return on equity. Liquidity indicators may reflect prudent buffers or, in some circumstances, lower deployment of funds into earning assets. The problem addressed in this study is therefore to examine the direction and strength of the association between selected risk-management indicators and SBI's financial performance over the specified period.

Objectives of the Study:

1. To examine the trend in selected risk-management indicators and financial-

performance measures of SBI from 2014–15 to 2023–24.

2. To analyse the association between credit-risk indicators (GNPA and NNPA ratios) and SBI's financial performance.
3. To examine the relationship of capital adequacy and liquidity indicators with ROA, ROE and Net Profit Ratio.
4. To assess the explanatory contribution of selected risk indicators to SBI's financial performance using regression, subject to the adequacy of the annual dataset.
5. To suggest risk-management implications based on the verified empirical results.

Research Questions:

- What is the nature and trend of SBI's risk and return behaviour during 2014–15 to 2023–24?
- What relationship exists between non-performing assets and SBI's financial performance over the study period?
- How are credit risk, capital adequacy and liquidity indicators associated with SBI's financial performance?
- What risk-management measures may support improved financial performance and sustainability?

Scope and Significance:

The study is confined to SBI and to ten financial years, 2014–15 through 2023–24. It uses bank-level annual data and does not compare SBI with other banks. Its value lies in bringing together asset quality, capital adequacy, liquidity and profitability indicators in one framework. The findings may be useful to bank managers, researchers and policy observers, but they should not be interpreted as causal effects unless the model and data support causal identification.

Review of Literature:

The literature on bank risk and performance generally treats risk management as a multidimensional activity. Credit risk is closely connected to the quality of a bank's loan portfolio and the adequacy of its provisioning. Market and interest-rate risks affect the value of assets and liabilities, while liquidity risk concerns the ability to meet obligations as they fall due. Capital adequacy provides a buffer against unexpected losses and is also shaped by regulatory requirements and the bank's business strategy. These channels can affect profitability in different directions and over different time horizons

1. Credit Risk and Bank Performance:

Credit risk arises when a borrower or counterparty fails to meet contractual obligations. In bank financial statements, deterioration in asset quality is commonly reflected in non-performing asset ratios and provisions. Higher GNPA and NNPA ratios may indicate weaker loan recovery and greater impairment, which can reduce net interest income and increase expenses. The GNPA ratio captures gross problem assets before deductions for provisions, while the NNPA ratio reflects the residual exposure after provisions. The two indicators are related but not interchangeable; their joint examination can provide a more complete view of asset-quality stress.

The expected association between non-performing assets and profitability is often negative, but it should be tested rather than assumed. Profitability may respond with a lag because recognition, restructuring, recovery and provisioning occur at different times. A bank

may also experience changes in its loan mix, write-offs or recovery efforts that affect reported ratios. Accordingly, trend analysis and correlation should be interpreted with attention to accounting definitions and the timing of annual observations

2. Capital Adequacy and Performance:

Capital adequacy is intended to ensure that a bank has sufficient capital to absorb losses and maintain confidence. CAR relates eligible regulatory capital to risk-weighted assets. A stronger capital position can reduce vulnerability and support lending capacity, but the relationship with profitability is not necessarily linear. More capital may reduce financial leverage and therefore ROE, while also lowering distress risk and supporting stable earnings. The direction of the observed relationship depends on the period, business model, capital composition and regulatory environment

3. Liquidity Risk and Performance:

Liquidity risk is the risk that a bank cannot meet its cash-flow obligations without unacceptable losses. Liquid assets provide a buffer against withdrawals and funding disruptions. A higher Liquid Assets to Total Assets ratio may signal stronger liquidity protection, but it may also indicate that a greater share of the balance sheet is held in assets with lower returns. The Credit–Deposit ratio reflects the extent to which deposits are deployed as credit. A higher ratio may support interest income while reducing liquidity headroom; a lower ratio may preserve funding flexibility while limiting lending income. These trade-offs make empirical testing important

4. Research Gap:

Studies of bank performance often focus on one category of risk or use cross-bank samples. A focused, decade-long examination of SBI that combines GNPA and NNPA, CAR, Liquid Assets to Total Assets and Credit–Deposit ratio with several profitability measures can provide a bank-specific view. The present study addresses this gap by applying a consistent framework to SBI's annual observations for 2014–15 to 2023–24. The contribution is descriptive and associational: the study examines patterns and statistical relationships within one bank, rather than claiming that risk indicators alone cause profitability changes

5. Evidence from Indian Banking Studies:

Empirical work on Indian commercial banks has examined asset quality, capital strength, liquidity and operating efficiency as potential determinants of profitability. Evidence is not uniform across samples and specifications, which is why estimates from other banks should not simply be transferred to SBI. Ghosh and Mondal (2022), using 20 Indian commercial banks over 2013–14 to 2018–19, examined credit-risk measures and profitability through panel regression. Their reported findings describe falling profitability with rising NPAs and a comparatively stronger positive association between capital adequacy and profitability among public-sector banks. Their multi-bank panel and shorter period differ from the single-bank time-series design proposed here.

A study in Future Business Journal examined 39 Indian commercial banks and reported a statistically significant negative association between NNPA and ROA, while operating costs were also negatively associated with profitability (NPAs and profitability in Indian banks: An empirical analysis, 2021). This supports the theoretical expectation that

impaired assets can pressure returns, but it does not establish the same coefficient for SBI. Differences in portfolio composition, provisioning, business mix and period may affect the magnitude or significance of the relationship.

Almaqtari et al. (2019) analysed profitability determinants for 69 Indian commercial banks over 2008–2017, using ROA and ROE alongside bank-specific and macroeconomic variables. Their broad design highlights that bank profitability is multicausal. Credit quality and capital adequacy should not be interpreted in isolation from liquidity, operating efficiency, deposit and lending conditions, and macroeconomic influences. Because the SBI dataset is short, this paper cannot include many controls without overfitting; this limitation should be acknowledged.

Research on liquidity risk also treats liquidity and profitability as connected but potentially competing objectives. Antony (2023) investigated determinants of liquidity risk among Indian commercial banks over 2013–2022 using panel models. Tanwar (2024) examined liquidity risk, credit risk and profitability in Indian banks and reported differing relationships across risk and return measures. These studies caution against assuming that a higher liquid-asset ratio or credit–deposit ratio is always favourable. The economic meaning of each ratio and the context of its movement should be discussed alongside its coefficient.

6. Implications for the Present Study:

The literature indicates three design implications. First, NPA measures are expected to be relevant to profitability, but their relationships should be estimated for SBI and interpreted as associations. Second, CAR and liquidity ratios can reflect both prudent buffers and balance-sheet allocation decisions; their expected signs are not necessarily unidirectional. Third, the model should remain modest because the study has only ten annual observations. A multi-bank panel may estimate richer specifications, but a single-bank study should prioritise transparent measurement, trend description and cautious statistical inference.

Conceptual Framework and Hypotheses:

The framework treats selected risk-management indicators as explanatory variables and financial-performance measures as dependent variables. Credit risk is represented by GNPA and NNPA ratios; capital adequacy by CAR; and liquidity risk by Liquid Assets to Total Assets and Credit–Deposit ratio. ROA, ROE and Net Profit Ratio represent financial performance. The expected signs below are theoretical expectations, not findings:

- H1: GNPA ratio is negatively associated with SBI's financial performance.
- H2: NNPA ratio is negatively associated with SBI's financial performance.
- H3: CAR is significantly associated with SBI's financial performance; the direction may be positive or negative depending on the leverage and resilience effects.
- H4: Liquid Assets to Total Assets ratio is significantly associated with SBI's financial performance; the direction is not predetermined.
- H5: Credit–Deposit ratio is significantly associated with SBI's financial performance; the direction depends on the balance between credit deployment and liquidity.

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1. Operational Definitions and Formula Consistency:

For reproducibility, state the exact formula and source for every variable. GNPA and NNPA ratios should use the same reporting basis and advances denominator across years. CAR should be the reported regulatory capital adequacy ratio, with changes in framework noted. Liquid Assets to Total Assets should list the balance-sheet components classified as liquid assets. Credit–Deposit ratio should use a consistent advances-to-deposits definition. ROA and ROE should specify whether average or year-end assets/equity are used. Net Profit Ratio requires a clearly stated denominator because the label alone is ambiguous.

A source register should contain financial year, variable, value, unit, annual-report title, page/table number, whether the value is directly reported or calculated, formula and verification note. Annual reports may change presentation, restate comparatives or distinguish standalone and consolidated accounts. If a definition changes, recalculate a comparable series or disclose the break rather than silently joining unlike values.

Research Methodology:

1. Research Design:

The study follows a quantitative, descriptive and correlational research design. It uses annual secondary data for SBI for ten financial years from 2014–15 to 2023–24. The design is appropriate for examining trends and associations in a defined historical period. Because the sample consists of only ten annual observations for one bank, statistical power is limited and regression models must be parsimonious

2. Sources of Data:

The principal source is SBI's published annual reports for the respective financial years. Regulatory definitions and contextual information should be checked against Reserve Bank of India publications and applicable banking regulations. All figures should be transcribed consistently, with units and definitions recorded. If a ratio is taken directly from an annual report, the source page and table should be documented. If it is calculated, the numerator and denominator should be retained in the working dataset

3. Variables and Measurement:

Variable	Role	Measurement / interpretation
GNPA ratio	Explanatory: credit risk	Gross non-performing assets relative to advances; higher values generally indicate weaker asset quality.
NNPA ratio	Explanatory: credit risk	Net non-performing assets relative to advances; reflects residual impaired assets after provisions.
CAR	Explanatory: capital adequacy	Regulatory capital relative to risk-weighted assets.
Liquid Assets to Total Assets	Explanatory: liquidity	Liquid assets as a share of total assets; verify consistent annual-report definition.
Credit–Deposit ratio	Explanatory: liquidity/deployment	Credit relative to deposits; verify whether reported as advances/deposits and use one definition throughout.
ROA	Dependent: performance	Net profit relative to total assets; use the same convention across years.
ROE	Dependent: performance	Net profit relative to shareholders' equity; clarify

		average or year-end equity.
Net Profit Ratio	Dependent: performance	Net profit relative to the selected income base; explicitly define the denominator from SBI reports.

4. Statistical Techniques:

First, descriptive statistics (mean, standard deviation, minimum and maximum) will summarise each variable. Second, year-wise trend tables and charts will show changes across the period. Third, Pearson correlation will be used to examine pairwise linear association, provided the variables are continuous and the assumptions are considered. Given the small sample, correlation coefficients should be reported with caution and should not be interpreted as proof of causation

Regression analysis may be specified separately for each performance measure to avoid an unnecessarily large model. A general form is:

$$Performance_t = \beta_0 + \beta_1 GNPA_t + \beta_2 NNPA_t + \beta_3 CAR_t + \beta_4 LATA_t + \beta_5 CDR_t + \varepsilon_t$$

With only ten observations and five explanatory variables, this full specification leaves very few residual degrees of freedom and is vulnerable to multicollinearity and overfitting. It should not be run as the sole model without diagnostics. A more defensible approach is to estimate carefully justified reduced models, inspect correlations among predictors, report adjusted R^2 and standard errors, and clearly label the analysis exploratory. If the variables are strongly collinear, select one credit-risk measure per model or report separate specifications. Check residual patterns and influential observations; acknowledge that annual time-series dependence cannot be reliably diagnosed with such a short sample

5. Data Processing and Reliability:

Before analysis, the researcher should reconcile annual-report values, check percentage units, and confirm whether each measure is based on year-end or average balances. Any restatement, change in accounting presentation or definition should be documented. Ratios should not be combined if their denominators differ materially across years. The calculations should be reproducible from a spreadsheet containing source, page number, formula and verification status for each observation

6. Model Selection and Statistical Cautions:

The sample contains ten annual observations. A model with five predictors and an intercept leaves only four residual degrees of freedom before controls. A single unusual year can materially change a coefficient, p-value or R-squared. The preferred sequence is to inspect data graphically, calculate predictor correlations, and examine overlap between GNPA and NNPA. Then specify a small number of theoretically motivated models rather than selecting predictors solely because they produce significant p-values.

One possible strategy is to estimate separate credit-risk models: Model A includes GNPA, CAR and liquidity indicators; Model B substitutes NNPA for GNPA. Alternatively, report bivariate correlations and avoid multivariable regression if collinearity or degrees-of-freedom concerns are severe. The chosen strategy must be disclosed. With such a small sample, p-values should not be treated as decisive, and coefficients should be described as

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exploratory. Ordinary least squares on ten observations does not establish causal impact.

Time-series features also matter. Risk and profitability ratios may trend together, and serial correlation or structural changes may violate regression assumptions. Formal tests have limited power in a ten-observation sample. At minimum, show time plots, identify influential years and describe how pandemic-era conditions and other changes are handled. If robust inference is not feasible, report descriptive trends and correlations transparently.

Descriptive Profile of SBI: Available Summary:

The following preliminary summary values are drawn from the study notes available for drafting. They must be cross-checked against the year-wise dataset and SBI annual reports before publication. They are not a substitute for a complete descriptive-statistics table.

Indicator	Mean	Range / observed summary	Interpretive note
GNPA ratio	5.621%	2.24%–10.91%	Asset-quality stress varied considerably during the period.
NNPA ratio	2.437%	0.57%–5.73%	Net impaired assets also varied materially.
CAR	13.314%	12.00%–14.68%	Capital adequacy remained within the reported range; regulatory compliance must be checked year by year.
Credit–Deposit ratio	74.383%	Mean only	Credit deployment relative to deposits; year-wise values needed.
Liquid Assets to Total Assets	6.507%	Mean only	Liquidity buffer; definition and annual values needed.
ROA	0.554%	−0.19%–1.04%	Reported profitability ranged from negative to positive.
ROE	10.422%	−3.78%–20.32%	Return to equity varied substantially.
Net Profit Ratio	6.361%	Minimum −2.47%	Full range and denominator definition need verification.

1. Preliminary Interpretation:

The preliminary figures suggest that SBI experienced meaningful variation in asset quality and profitability during the study period. The range of GNPA and NNPA ratios indicates that credit-risk conditions were not stable across all years. ROA and ROE both include negative observations, suggesting that at least one year involved a weak return outcome under the measures recorded. However, the summary averages alone cannot establish whether higher NPA ratios coincided with lower profitability in the same year, whether any relationship was statistically significant, or whether risk variables explain changes after accounting for other factors. Those conclusions require the full year-wise table and computed correlation and regression outputs

2. Verification of Preliminary Data:

The preliminary summary statistics in Section 5 are drafting inputs and were not independently recalculated from the full ten-year dataset in this manuscript. They must be

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checked against the annual-report source register before being treated as final. Means and ranges should be generated from the same ten annual observations; otherwise the summary statistics and regression outputs may not describe the same dataset.

SBI's Published Financial Highlights:

SBI's investor-relations financial highlights provide published values for several indicators for financial years 2020–21 through 2023–24. These values contextualise the final four years of the research window. They do not provide the complete ten-year dataset, the study's liquidity indicators, or the calculations required for correlation and regression. Before combining them with earlier annual-report observations, the researcher should confirm the reporting basis and fiscal-year labels.

Financial year	ROA	ROE	CAR (Basel III)	GNPA / NNPA
2020–21	0.48%	9.94%	13.74%	4.98% / 1.50%
2021–22	0.67%	13.92%	13.83%	3.97% / 1.02%
2022–23	0.96%	19.43%	14.68%	2.78% / 0.67%
2023–24	1.04%	20.32%	14.28%	2.24% / 0.57%

Across these four published years, SBI's ROA and ROE increased, while GNPA and NNPA ratios declined. CAR rose through 2022–23 and moderated in 2023–24. This is descriptive co-movement, not evidence that lower NPAs alone caused higher returns. Credit growth, interest rates, provisioning, operating income and post-pandemic conditions may also have contributed. The decade-long study must test associations using complete, consistently defined annual observations.

Empirical Results: Interpretation and Limitations:

The preliminary research summary supplied for this project records mean GNPA of 5.621% (range 2.24%–10.91%); mean NNPA of 2.437% (range 0.57%–5.73%); mean CAR of 13.314% (range 12.00%–14.68%); mean Credit–Deposit ratio of 74.383%; mean Liquid Assets to Total Assets of 6.507%; mean ROA of 0.554% (range −0.19%–1.04%); mean ROE of 10.422% (range −3.78%–20.32%); and mean Net Profit Ratio of 6.361%, with a recorded minimum of −2.47%. These are researcher-provided preliminary calculations and have not been independently recomputed from the ten-year source file.

These summary figures suggest variation in SBI's asset quality and profitability. Means and ranges do not reveal the direction or strength of association between risk indicators and returns. Correlation requires paired year-wise observations; regression requires a specified model and the full data matrix. No correlation coefficient, regression coefficient, p-value, R-squared or hypothesis decision is reported here without those calculations.

Final Data Analysis Procedure:

The final empirical version should contain one row per financial year from 2014–15 to 2023–24 and columns for GNPA, NNPA, CAR, Liquid Assets to Total Assets, Credit–Deposit ratio, ROA, ROE and Net Profit Ratio. Each value should be traceable to a specific SBI annual-report page or investor-relations table. After validating the spreadsheet, calculate descriptive statistics from the same ten rows,

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inspect trend charts, calculate correlations and select parsimonious regression specifications. Because GNPA and NNPA are related and the sample is small, separate models should use one credit-risk measure at a time, or regression should be omitted if multicollinearity and degrees-of-freedom concerns are severe.

For each regression, report the dependent variable, predictors, sample size, coefficient, standard error, t-statistic, p-value, R-squared and adjusted R-squared. Explain treatment of missing values, changed definitions and influential years. With ten observations, results are exploratory and susceptible to individual-year effects. The analysis should not be presented as causal.

Results and Discussion:

1. Year-wise Trend Analysis:

Insert a ten-year table containing each variable for 2014–15 through 2023–24. The table should report percentages consistently and identify the source page for each observation. The discussion should identify the highest and lowest values, turning points and whether profitability changes align with changes in asset quality, capital or liquidity. Avoid attributing movements to a particular policy or macroeconomic event unless supported by annual-report evidence

2. Correlation Analysis:

The correlation matrix should include GNPA, NNPA, CAR, Liquid Assets to Total Assets, Credit–Deposit ratio, ROA, ROE and Net Profit Ratio. Report coefficients to a consistent number of decimal places and mark significance levels only after calculation. Since GNPA and NNPA measure related dimensions of asset quality, their correlation may be high; this should be examined before including both in the same regression. Correlations among predictors can make individual regression coefficients unstable

3. Regression Analysis:

For each dependent variable, report the model specification, number of observations, coefficient estimates, standard errors, t-statistics, p-values, R^2 and adjusted R^2. Explain coefficient signs in terms of the variable definitions and units. A coefficient should not be described as an effect unless the research design supports causal interpretation. With ten annual observations, the results are exploratory and should be accompanied by a clear limitation statement

4. Suggested Results Narrative:

After calculation, the results section should: (i) describe each risk indicator's trajectory; (ii) describe ROA, ROE and Net Profit Ratio; (iii) report the correlation matrix and identify relevant relationships; (iv) present regression specifications and diagnostics; and (v) compare SBI-specific patterns with reviewed studies. Distinguish a coefficient's sign from statistical significance and practical importance. A negative GNPA coefficient would be consistent with the credit-risk argument, but it would not prove that changes in GNPA caused changes in profitability

Discussion:

The study's central question is whether SBI's risk profile is statistically associated with its financial performance. The interpretation should bring the evidence together across three dimensions. First, credit-risk indicators may be compared with profitability to assess whether asset-quality deterioration is accompanied by weaker returns. Second, CAR should be considered as both a resilience measure and a determinant of leverage, which can produce

different implications for ROA and ROE. Third, liquidity indicators should be interpreted as trade-offs between safety and asset deployment rather than as universally good or bad values

Any observed relationship should be placed in the context of the study's limitations. Annual data can mask within-year changes, and a single-bank sample cannot establish that the results apply to the entire Indian banking sector. Profitability also depends on interest rates, operating efficiency, business mix, economic growth, provisioning policy and other omitted variables. The paper should therefore emphasise the evidence observed in SBI's data and avoid broad causal claims

1. Practical Risk-Management Implications:

If verified analysis shows that higher NPA ratios coincide with lower profitability, implications may include improved borrower screening, early-warning indicators, monitoring of sector and borrower concentration, and timely recovery and resolution. Recommendations should be consistent with SBI disclosures and the study's findings, not claims that this dataset proves a specific policy's effectiveness. SBI's 2023–24 annual report describes risk identification, assessment, measurement and mitigation, and reports internal credit assessment models and risk-adjusted return analysis. These disclosures provide institutional context but are not empirical evidence for the relationships estimated here.

If CAR is associated with stronger performance, discussion may emphasise capital planning, risk-adjusted growth and resilience. If the relationship is negative or insignificant, it should not be interpreted as a reason to weaken regulatory capital; it may reflect leverage, buffers, sample size or omitted variables. Liquidity findings should likewise be considered alongside stress testing, funding diversification and the need to meet withdrawals.

Conclusion:

This paper develops an empirical framework for examining the relationship between risk management and financial performance at State Bank of India over 2014–15 to 2023–24. It integrates credit-risk indicators, capital adequacy and liquidity measures with ROA, ROE and Net Profit Ratio. The available preliminary summary indicates variation in both risk and profitability, but the final conclusion about the strength, direction and significance of relationships must follow validation of the year-wise data and calculation of the statistical models. The completed analysis can provide a bank-specific assessment of how asset quality, capital strength and liquidity management correspond with profitability

Recommendations:

- Strengthen early-warning systems, borrower monitoring and recovery mechanisms where the verified data indicate asset-quality pressure.
- Maintain capital planning that balances regulatory resilience, growth requirements and the implications for shareholder returns.
- Use liquidity stress testing and funding diversification to ensure obligations can be met under adverse conditions.
- Monitor risk and return together through a dashboard of asset-quality, capital, liquidity and profitability indicators.
- Improve transparency and consistency in annual reporting and internal data definitions so that risk-performance comparisons remain reproducible.

Limitations and Future Research:

The study is limited to one bank, ten annual observations and selected accounting/regulatory ratios. A small sample restricts the number of explanatory variables that can be estimated reliably and may make significance tests sensitive to individual years. The analysis is associational and may be affected by omitted variables, structural changes and time-series dependence. Future research may extend the period, compare SBI with other public- and private-sector banks, use quarterly data where consistently available, incorporate macroeconomic controls, and apply panel or time-series methods suited to a larger dataset.

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