

Sample Case 1

Is Capital Adequacy alone a Valuable Indicator?

Event ID: Capital Adequacy of the Bank -2024

Date: 30 Sep 2025

Author: Audit Team

Executive Summary

This Report provides a technical analysis of the Capital Adequacy challenges of the Bank for the year ended 2024.

While the published Capital Adequacy Ratio(CAR) stood at 18.4%, much above the US minimum of 11.5%, the return on regulatory capital was much lower at 13%, as compared to peers' averages ranging from 18-20%.

Comments were divided amongst analysts who described the higher CAR as “strength and prudence” while the others declared it as “overcapitalization and value dilutive”.

Shareholders expected better returns as net-interest income had grown 4%y-o-y to USD9.2Billion. However, non –interest income had slipped to USD 2.1 Billion.

Key Findings

1. As the CAR was much higher than the prescribed minimum, this indicates that the quality of the loan book was good.
2. The return on regulatory capital was much lower at 13%, as compared to peers' averages ranging from 18-20%.

Analysis

1. Tier 1 capital was at USD 42.5 Billion, supported by Risk weighted assets of USD 231 Billion.
2. The decline in non-interest income was due to lower trade revenues.
3. Operating Expense rose to USD 5.8 Billion- the main driver being technology upgrades, positive effects of which are likely to be seen in the longer term.
4. Non- Performing Assets was at USD 3.45 Billion.
5. ROE was at 8.2% vs the industry norm of 11-12%.

Actionable Insights

The Consumer Banking Division expanded 12%- it is to be seen as to why this did not sufficiently impact the bottom line positively.

Recommendations

The Bank may explore possibilities to grow their loan book especially in the core areas as the CAR is high. This would also prop up the return on regulatory capital.

Bank to examine as to why the ROE is lower than the peers' averages.

Review deposit strategies to stabilize low-cost deposits.

Address funding mix-ALCO to develop a strategy for approval focusing on long term stability and cost management.

Samples of Case Studies in Technical Writing

As a technical writer in banking, your job is to document risks, processes, and mitigation strategies clearly and precisely for various audiences, from developers to regulators. The following sample focuses on a common operational risk: a system failure during a large-scale software update.

Sample 1. Operational risk in banking

Document Title: Incident Report and Post-Mortem Analysis

Incident ID: OP-SYS-2025-001

Date: September 24, 2025

Author: Technical Writing Team

1. Executive summary

This report provides a technical post-mortem analysis of the production system outage that occurred on September 23, 2025. A failed software deployment for the Core Banking System caused a service disruption affecting online banking and mobile app access for approximately 4 hours, from 14:00 to 18:00 UTC. The incident was triggered by a database schema rollback failure during the upgrade process.

Remediation involved manually restoring the database from a pre-deployment snapshot and redeploying the previous software version. The outage impacted customer experience, caused service delays, and resulted in financial and reputational losses.

2. Incident details

2.1 Incident timeline

Time (UTC)	Event
13:45	Automated software deployment for Core Banking System (v5.1.0) is initiated.
14:00	Deployment fails during database schema migration. Automated rollback fails.
14:05	Production servers begin experiencing critical errors. Monitoring systems generate high-severity alerts.
14:15	On-call engineering team and Database Administrators (DBAs) are paged and notified of the service disruption.
14:30	Incident Command team is established. Engineering confirms a widespread outage affecting customer-facing channels.
15:00	A manual database recovery plan is executed using a pre-deployment snapshot.
17:00	Database restoration is completed. The previous software version (v5.0.9) is redeployed.
18:00	Service is fully restored to all channels. The incident is resolved.

2.2 Technical description

The incident was triggered during the deployment of Core Banking System update v5.1.0, which included a mandatory database schema change. The deployment script, designed to handle schema migration, failed during the execution of a critical transaction due to an unforeseen lock on a primary customer data table.

The automated rollback, intended to revert the schema changes and restore functionality, also failed. A bug in the automated rollback script did not account for the specific table lock, causing it to stall and leave the database in an inconsistent state. This inconsistency corrupted the connection pools for the online and mobile APIs, leading to a complete service outage.

3. Root cause analysis

A three-pronged root cause was identified:

- **Process failure:** The deployment process relied on a single automated path without a manual override procedure for critical failures. The standard procedure for a failed automated rollback was unclear to the on-call team, leading to a 45-minute delay in initiating the manual recovery plan.
- **Systemic flaw (Automation):** A previously undiscovered bug in the automated rollback script caused it to fail under specific table lock conditions. This bug was not identified during pre-deployment testing.
- **Systemic flaw (Testing):** The integration testing environment did not accurately simulate production-level database traffic and transaction locks, meaning the rollback failure scenario was not detected before deployment.

4. Impact assessment

- **Financial Loss:** Inaccessible services led to an estimated loss of \$X in transaction fees and delayed revenue. Costs for engineering overtime and post-incident review are still being calculated.
- **Reputational Damage:** The 4-hour outage resulted in widespread negative feedback on social media and a significant increase in call centre volume. A formal public statement was issued 2 hours into the incident.
- **Compliance Risk:** The service disruption could trigger penalties under service level agreements (SLAs) with partners and may require reporting to financial regulators, depending on jurisdiction.

5. Mitigation and prevention plan

To prevent recurrence, the following actions are planned:

Action	Description	Owner	Deadline
Upgrade testing environment	Enhance the integration testing environment with production-like data volumes and concurrency to accurately test complex deployment scenarios.	Lead Engineer	Oct 31, 2025
Revise rollback procedure	Implement a documented, manual rollback procedure and train all on-call engineers to execute it. This procedure will serve as the first line of defence if the automated process fails.	VP of Operations	Oct 15, 2025
Update automated rollback script	Patch the automated rollback script to correctly handle database locks during schema changes and incorporate additional logging for better diagnostics.	Software Dev Lead	Sep 30, 2025
Conduct scenario training	Perform mandatory simulation training for incident response teams, focusing on different types of deployment failures and recovery options.	Risk Manager	Nov 30, 2025

6. Conclusion

The system failure was a severe operational risk event stemming from a combination of inadequate process, system flaws, and testing deficiencies. The swift manual intervention prevented a more catastrophic data integrity issue. By implementing the corrective actions, the organization will significantly reduce its exposure to similar operational risks and strengthen its digital infrastructure.

Key technical writing elements in this sample

- **Audience-cantered approach:** The language and level of detail are tailored for busy executives who need strategic, not operational, information. Jargons are included but followed by a simple, clear explanation.
- **Clarity and precision:** Key terms and metrics are defined, and the analysis is presented logically with trends and implications. Instead of simply stating "outage occurred" the text explains *how* and *why* with specific data points.
- **Structured information:** Using clear headings, subheadings, and bullet points makes the complex information easy to scan and digest.
- **Actionable recommendations:** The analysis is not just a report of the past but a forward-looking document that guides future decisions. The recommendations are concrete and assign specific departments to act.
- **Data visualization (implied):** While this is a text-based sample, a real-world technical report would include charts and graphs to visually represent the trends .

Sample2: Quarterly liquidity risk analysis

Document Title: Q3 2025 Liquidity and Funding Position Report: Executive Summary

Author: Technical Documentation Team

Date: October 24, 2025

Audience: Executive Leadership, Risk Management Committee

1. Executive Summary

This report provides a high-level summary of the bank's liquidity and funding position for the third quarter of 2025. The analysis covers key liquidity ratios, funding sources, and potential risks identified during the period. The bank's overall liquidity remains strong and compliant with regulatory requirements, but it is trending downward due to recent market fluctuations and a specific reduction in low-cost deposit growth.

2. Key findings

2.1. Liquidity Coverage Ratio (LCR)

- **Performance:** The bank's average LCR for Q3 was 128%, exceeding the regulatory minimum of 100%. This indicates the bank holds sufficient High-Quality Liquid Assets (HQLA) to cover net cash outflows over a 30-day stress period.
- **Trend:** The LCR has shown a slight downward trend throughout the quarter, from 135% at the start of July to 125% at the end of September. This is primarily due to increased commercial loan drawdowns.
- **Actionable Insight:** While compliant, this trend requires close monitoring. The Stress Testing team will model the impact of a more severe market stress scenario on the LCR in Q4.

2.2. Deposit analysis

- **Trend:** Growth in low-cost, stable deposits has slowed this quarter compared to the first half of the year. The deposit mix is shifting slightly towards higher-cost term deposits.
- **Impact:** A continued shift could increase the bank's overall cost of funding and place pressure on net interest margins (NIM) in the long term.

- **Actionable Insight:** The Retail Banking division will explore targeted campaigns to attract and retain low-cost deposits. The Treasury department will analyse the potential impact on future profitability.

2.3. Funding diversification

- **Strength:** The bank maintains a diverse mix of funding sources, including retail deposits, wholesale funding, and access to central bank facilities.
- **Risk:** Wholesale funding reliance increased marginally in September to cover liquidity gaps. This short-term funding is typically more sensitive to market sentiment and interest rate changes.
- **Actionable Insight:** The Asset-Liability Committee (ALCO) will review strategies to optimize the funding mix and reduce reliance on volatile wholesale markets in Favor of more stable, long-term options.

3. Recommendations

Based on this analysis, the Risk Management Committee should consider the following:

- **Monitor LCR:** Form a dedicated working group to track the LCR trend bi-weekly and report any significant changes.
- **Review Deposit Strategy:** Allocate resources to develop and launch a new initiative aimed at stabilizing and growing low-cost deposits in Q4.
- **Address Funding Mix:** Direct ALCO to develop a revised funding strategy for approval, focusing on long-term stability and cost management.

- **Sample 3.Quant Analysis**

Quantitative Analysis: Investment Report on First National Bank Corp. (FNBC)

Document ID: FNBC-QUANT-REPORT-2025-Q3

Date: September 24, 2025

Author: [Your Name/Quant Research Team]

1. Executive Summary

This report provides a quantitative analysis of First National Bank Corp. (FNBC) based on data from the second and third quarters of 2025. The analysis focuses on core performance metrics, risk indicators, and historical stock performance to assess FNBC's investment viability. Our models indicate that FNBC shows robust profitability and strong asset quality. However, a slight decline in capital adequacy metrics warrants monitoring, which is flagged by our risk assessment models. The analysis uses time series regression and ratio analysis to provide a data-driven perspective on the bank's current standing.

2. Methodology

The following quantitative techniques were used to conduct this analysis:

- **Ratio Analysis:** Fundamental financial ratios such as Return on Assets (ROA), Return on Equity (ROE), and the Capital Adequacy Ratio (CAR) were calculated using FNBC's quarterly financial statements.
- **Time Series Analysis:** A 50-day and 200-day Simple Moving Average (SMA) of FNBC's stock price was computed to identify market trends and potential price momentum.
- **Regression Analysis:** A linear regression model was built to analyse the relationship between FNBC's stock price and the S&P 500 Bank Index, using the S&P 500 as a benchmark.
- **Risk Metrics:** The Sharpe ratio was calculated to evaluate the risk-adjusted returns of FNBC stock over the past 12 months.

3. Quantitative Findings

3.1 Financial Performance Analysis

This section presents the computed financial ratios for FNBC, comparing Q3 2025 to Q2 2025 data.

Metric	Q3 2025	Q2 2025	YTD Change (%)	Interpretation
Return on Assets (ROA)	1.25%	1.18%	+5.93%	An increasing ROA indicates improved efficiency in using assets to generate profit.
Return on Equity (ROE)	14.8%	14.5%	+2.07%	The high ROE suggests strong profitability relative to shareholder equity.
Net Interest Margin (NIM)	3.55%	3.48%	+2.01%	A widening NIM shows an increase in the bank's core profitability from lending activities.
Capital Adequacy Ratio (CAR)	15.2%	15.8%	-3.80%	A slight decline in CAR indicates a decrease in the bank's capital buffer relative to its risk-weighted assets.

3.2 Stock Performance and Trend Analysis

Using the Moving Average crossover strategy, we analysed FNBC's stock performance.

Observation:

- **50-day SMA:** \$82.50
- **200-day SMA:** \$79.10

Interpretation:

- **Bullish Crossover:** The 50-day SMA is currently above the 200-day SMA, which is traditionally a bullish signal, indicating that the stock's short-term momentum is positive.

3.3 Stock Volatility and Risk-Adjusted Returns

The Sharpe Ratio was used to evaluate FNBC's risk-adjusted returns over the last year.

- **FNBC 12-Month Sharpe Ratio:** 1.15
- **Benchmark (S&P 500 Bank Index) 12-Month Sharpe Ratio:** 0.98

Interpretation:

- **Superior Performance:** FNBC's Sharpe Ratio of 1.15 is higher than the benchmark's, suggesting that it generated a higher return for each unit of risk taken compared to the average bank in the index.

4. Conclusion and Recommendations

FNBC's quantitative indicators point to a financially healthy and profitable institution with strong market momentum. The rising ROA, ROE, and NIM demonstrate sound operational management. The positive Moving Average crossover confirms strong upward price momentum in the short-to-medium term.

Key concerns include:

- The minor drop in the Capital Adequacy Ratio (CAR), which should be monitored to ensure the bank maintains sufficient capital reserves to absorb potential losses.
- Future analysis should incorporate additional qualitative factors, such as management effectiveness and regulatory changes, to provide a more holistic view.

Recommendations for an Investment Portfolio:

- **Entry Strategy:** Based on the bullish crossover and strong profitability, FNBC may be a suitable investment for a momentum-focused portfolio.
- **Risk Management:** Investors should set a clear stop-loss order to mitigate risk in case market sentiment reverses.
- **Future Monitoring:** Continue to track the CAR and overall asset quality to ensure the bank's risk profile remains acceptable.