International Journal of Innovative Research and Scientific Studies, 8(12) 2025, pages: 63-74

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Financial performance analysis of Saudi Riyad bank (2020-2024)

Mutaz T. Mahmoud

Imam Mohammad Ibn Saud Islamic University, Saudi Arabia.

(*Email: mtmahmoud.mm@gmail.com*)

Abstract

This study investigates the financial performance of Saudi banks, with a specific focus on Riyad Bank during the period 2020–2024. It uses a set of key financial ratios, the analysis examines liquidity ratios, solvency ratios, non-performing loans, profitability ratios, and utilization ratios. The paper aims to determine the stability of the bank's financial performance and provide recommendations for maintaining and improving the positives and addressing and mitigating weaknesses. The study employs an analytical approach to evaluate financial data collected from the annual reports of Riyad Bank and the Saudi Central Bank for the period from 2020 to 2024. The analysis aims to assess the financial performance of Saudi banks in general and to evaluate the performance of Riyad Bank in particular. The results show that the liquidity ratio analysis showed that the bank may need to re-evaluate its liquidity management strategies to ensure that it can meet its obligations, especially sudden or large withdrawal requests. The bank's solvency ratio increased overall, peaking in 2023 (107.9%); starting in 2024 (104.5%), the bank is making efforts to improve its solvency and increase its capital. The paper noted that the non-performing loan ratio was low during the study period. The return on equity showed that the bank has significantly improved its ability to generate earnings from its equity. The return on assets analysis indicates that the bank has demonstrated excellent asset management efficiency. The bank's efficiency ratio declined, indicating that the bank was able to control its expenses relative to revenue growth. The utilization ratio analysis shows a shift toward increased lending after 2020; the bank should ensure that it maintains strong liquidity management and risk controls to protect against the risks associated with lending more than its deposits. This paper contributes to the analysis and evaluation of the financial performance of Saudi banks, focusing on Riyad Bank, one of the largest leading banks listed on the Saudi Capital Market Authority. The aim is to maintain and develop positives and address deviations to mitigate financial, market, operational, and legal risks. It also provides administrative and operational insights into the bank's performance to enhance its reputation, market value, and competitive advantage. The findings are based on historical data and may not fully reflect the current or future performance of the bank. The results provide important administrative and operational insights for Riyad Bank to enhance its reputation, market value, and competitive advantage, thereby fulfilling its mission to society. The study emphasizes the importance of analysing the financial performance of Saudi banks to preserve positives and mitigate negatives, which aids in financial decision-making and contributes to the stability and efficiency of bank operations.

Keywords: Financial performance, Liquidity ratios, Non-performing loans, Profitability ratios, Riyad Bank, Solvency indictor, Utilization ratio.

DOI: 10.53894/ijirss.v8i12.11002
Funding: This study received no specific financial support.
History: Received: 10 October 2025 / **Revised:** 18 November 2025 / **Accepted:** 21 November 2025 / **Published:** 3 December 2025

Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.
Transparency: The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Publisher: Innovative Research Publishing

1. Introduction

The financial performance of banks positively or negatively impacts the financial and economic stability of the banking sector, both locally and internationally. This research paper focuses on analyzing the financial performance of Riyad Bank, one of the largest banks in Saudi Arabia and globally in terms of market capitalization, for over 68 years. According to the 2024 financial report, its total assets reached SAR 450 billion, with a market capitalization of SAR 85,800 million. Customer deposits amounted to SAR 306 billion. This outcome was achieved through 333 branches, more than 1,700 ATMs, and 254,000 points of sale, confirming its leadership in the Saudi financial system [1]. This paper seeks to examine financial performance utilizing liquidity ratios, solvency indicators, non-performing loan ratios, and profitability ratios, including return on equity (ROE), return on assets (ROA), and utilization ratio, for the period from 2020 to 2024, thereby enhancing prior research. The study aims to answer the following questions:

Why do we analyze Riyad Bank's financial performance?

Does Riyad Bank's financial performance align with local and international standards?

By answering these questions, the paper identifies the positives and negatives in the bank's financial performance, the extent of its compliance with the directives and circulars of the Saudi Central Bank and the decisions of the Basel III Committee, and provides recommendations to help increase and maintain positive results and address and mitigate any deviations. The study structure reviews previous studies related to bank financial performance and the financial ratio methodology used in the analysis, followed by the results and conclusion.

2. Literature Review

2.1. Financial Performance

A bank's financial performance indicates the extent to which it efficiently achieves its financial objectives of liquidity, profitability, and security over a specific period of time [2]. From a monetary perspective, a bank's financial results are calculated to achieve a competitive advantage over its competitors. Banks can establish optimal financial and non-financial systems [3]. The importance of financial performance for banks stems from identifying their strengths and weaknesses, which helps managers make decisions and develop strategies. Furthermore, the importance of activating the bank's internal control process increases to evaluate its operations, guide financial performance in the right direction, and contribute to sound decision-making. It is also important for the external environment, as a bank with high financial performance is better able to adapt to new environmental challenges and opportunities and can also take advantage of various investment opportunities [4]. The value of financial performance is not limited to the bank alone; it also extends to the investor; the investor can monitor and understand the bank's operations, track the economic and financial conditions surrounding it, and determine the impact of financial performance tools in terms of profitability, liquidity, operations, and other factors. Furthermore, the process of reviewing, evaluating, and interpreting financial statements enables investors to make appropriate decisions based on the bank's circumstances [5]. Financial performance is reflected in the financial reports published by the bank. Bank reports can provide an overview of the amount of profit the bank has generated over a given period of time [6]. According to Irham [7] a bank's financial performance analysis is conducted to determine the extent to which the bank adheres to financial regulations and the instructions of regulatory bodies, such as the Central Bank. According to Munawir [8] a bank's financial performance is one of the foundations for assessing its financial position, which is conducted based on an analysis of the bank's financial ratios. Financial performance is a description of every economic result a bank can achieve within a specific period of time through its activities, with the aim of generating moral and material profits effectively and efficiently [9].

2.2. Performance of Banks in the Kingdom of Saudi Arabia

The Saudi banking sector performed well across all sectors in 2022. The Central Bank contributed to the development of banking services provided by banks through its supervisory role over the banking and financial sector and its efforts to enhance flexibility and financial solvency, in line with the objectives of Saudi Vision 2030. This improvement was evident in the strong performance of commercial banks in 2022, as their activities enhanced and their financial positions strengthened; total assets rose by 10.5% (343.1 billion SAR) to approximately 3,620.9 billion SAR, compared to a 10% increase (SAR 298.2 billion) in the previous year, while deposits grew by 9.1% (191 billion SAR) to about 2,295.4 billion SAR, compared to an increase of 8.3% (161.5 billion SAR) the prior year. A review of bank deposit developments by type indicates that demand deposits decreased by 2.3% (31.9 billion SAR) to approximately SAR 1,328.2 billion in 2022, contrasting with a 6% (77.5 billion SAR) increase in the previous year, which resulted in a decline of their share of total

deposits to 57.9%, down from 64.6% at the end of the prior year. Its profits increased by 28.6% (69,272 billion SAR) at the end of the previous year [10].

The financial performance of banks has become a subject of significant interest in recent years, particularly in Saudi Arabia, where the banking sector is a mix of both conventional and Islamic banks. Islamic banking operates under *Sharia* law principles, which prohibit interest-based transactions and encourage profit-sharing models, making its financial performance different from conventional banks. Islamic banks in Saudi Arabia have been instrumental in the country's financial system. The Kingdom has a robust Islamic banking infrastructure with banks such as Al Rajhi Bank, Aljazira Bank, Al-Inma bank and Bank Al Bilad, which offer a range of Sharia-compliant financial products. Islamic banks in Saudi Arabia operate under the supervision of the Saudi Central Bank (SAMA), which ensures that their operations adhere to the principles of Islamic law.There is a significant body of literature that examines the financial performance of Saudi Islamic banks in general, some of these including [11] which examines how liquidity risk management affects the financial performance of selected conventional banks during the period from 2002 to 2019. The findings of the research indicate that liquidity risk and the loan-to-deposit ratio have a detrimental effect on the financial performance of these banks. This negative effect is attributed to the banks' reliance on external funding sources, such as borrowing from the money market or selling assets, to fulfill loan demands. Such strategies lead to high financing costs, which in turn reduce profitability. Additionally, the study found that the cash-to-deposit ratio also negatively impacts financial performance. Holding excessive cash above a certain threshold results in idle funds, causing opportunity costs and the accrual of deposit interest, which harms the bank's overall performance. A study by Harrison [3] examined the performance of Islamic banks in the Kingdom of Saudi Arabia for the period 2008–2016. The results showed that Al-Rajhi bank was the most efficient bank followed by bank Al-Jazira, while, Al-Inma and Al-Bilad are on third and fourth positions respectively. A study by Javaid and Alalawi [12] examined all the internal and external determinants contributing the profitability of 9 Islamic Banks, including alrajhi, in the region of Saudi Arabia over a period of 2000 to 2013. Results indicate that bank characteristics, industry characteristics, and macroeconomic variables are significant in determining Islamic banks' profitability, banking sector in Saudi Arabia is highly competitive. On the other hand, the positive and significant leverage ratio implies that the Saudi Islamic banks are relying heavily debt financing, suggesting that Saudi Islamic banks are riskier in nature, though profitable to a certain extent, but these might be badly hit in times of recession in the economy. find that banking sector in Saudi Arabia is highly competitive. The study further emphasizes optimal policies to bank management that helps the policy makers, bank managers and executives in improving the overall efficiency and maintaining the sound profitability in the Islamic banks in Saudi Arabia. Riyad Bank, which has been the largest financial institutions in Saudi Arabia [1]. Riyad Bank's financial performance has been a topic of interest due to its significant role in the banking sector, its size, and its unique positioning as a major player in both domestic and regional financial markets (Mention some of them) [13]. The study concluded that the National Commercial Bank, Alinma Bank, Saudi Investment Bank, and Bank Albilad achieved full scores for relative efficiency. Al Rajhi Bank, Riyad Bank, and Bank Aljazira achieved technical efficiency, achieving the first score, but were not standardly efficient. Meanwhile, Banque Saudi Fransi, Saudi British Bank (SABB), and Arab National Bank were neither technically efficient nor standardly efficient during the period (2017-2019). In the period (2020-2022), Riyad Bank, Banque Saudi Fransi, Arab National Bank, Saudi Investment Bank, and Bank Albilad achieved full scores for relative efficiency. National Commercial Bank, Al Rajhi Bank, and Bank Aljazira achieved one score for technical efficiency but were not standardly efficient. Meanwhile, Saudi British Bank (SABB) and Alinma Bank were neither technically efficient nor standardly efficient. The primary difference between this paper and existing research fall within its scope and timeframe. This study provides a comprehensive medium-term analysis (2020-2024) that incorporates multiple economic events, regulatory changes, technological developments, and the impact of Vision 2030, making it a unique and timely contribution to the literature. This paper appears to be one of the few to consider the impact of the utilization ratio as a performance factor. Bank stability assessment is proposed as a factor of good financial performance, in addition to recommendations for improvement in the context of liquidity and asset utilization.

2.3. Dimensions of Financial Performance

2.3.1. Liquidity ratio

Bank liquidity management, by maintaining liquidity ratios that balance liquidity and profitability, enables the bank to address local and global economic challenges. A bank's liquidity is defined as a measure of its ability to easily attract cash deposits needed to meet demand [14]. Liquidity management, one of the most significant challenges facing the Arab banking system, poses a significant risk in banking operations and has received considerable attention from bank executive management. In modern financial intermediation theory, banks are considered part of the economy due to their role in providing liquidity and transferring risk [15]. The objectives of bank liquidity management include meeting all cash outflow obligations on a regular basis (on and off the balance sheet), avoiding obtaining funds at market prices or through involuntary asset sales, and complying with stipulated liquidity conditions and legal reserve requirements [16]. Liquidity risk is measured through financial ratios based on banks' financial statements. The cash-to-total-assets ratio is used to measure a bank's liquid assets. A high ratio indicates unused cash balances, which reduces the bank's profitability. A ratio that is lower than its standard levels exposes the bank to multiple risks and may enable it to cope with sudden withdrawals Najla, et al. [17]. Puspitasari and Muflih [18] indicate that profitability in Islamic banking is currently less competitive compared to conventional banking, including in Indonesia and Saudi Arabia. Liquidity in Islamic banking in both countries does not significantly impact profitability. However, the findings of Mahmoud [5] clearly show that Saudi banks have excess liquidity and an increased capital adequacy ratio that sometimes exceeds international standards (Basel III), which positively impacts fund investment and thus bank profitability. Similarly, Masruki, et al. [19] analyzed and measured the

performance of two Islamic banks in Malaysia (Bank Islam and Bank Muamalat). They then conducted a comparative analysis of these two banks with conventional banks. Comparing the liquidity of Islamic banks with that of conventional banks, the study found that Islamic banks have lower liquidity, while conventional banks face higher credit risk because their liquidity ratios are significantly higher than Islamic banks. Yada, et al. [20] used ratio analysis to determine ICICI Bank's operational efficiency, liquidity, solvency, and overall financial health over a specified period. Profitability ratios (return on assets, net profit margin), liquidity ratios (current ratio, quick ratio, cash ratio), efficiency ratios (asset turnover ratio, cost-to-income ratio), and solvency ratios (debt-to-equity ratio, debt ratio) were calculated and analyzed. The results showed a significant improvement in liquidity from 2019 to 2021 but a significant decline by 2023, underscoring the importance of liquidity and cash flow management to maintain the stability of banks' financial performance.

2.4. Bank Solvency Indicator

Solvency is defined as a bank's ability to repay short-term and long-term debts, whether during normal operations or in liquidation [21]. A bank is considered a financial institution if it has sufficient assets or wealth to cover all of its debts. Conversely, if its assets are insufficient or less than its liabilities, it is considered insolvent Febrianto and Rahayu [16]. Puspitasari and Muflih [18] study examines the profitability of Islamic banking in Indonesia and Saudi Arabia during the period 2013-2022. The study finds that solvency and liquidity as variables have a significant impact on the profitability of Islamic commercial banks in Indonesia and Saudi Arabia. Islamic banks are better equipped to overcome weak financial performance and stabilize their operations against various external challenges. Mahmoud [5] study examines the relationship between efficiency, management risk, and profitability ratios in eight Saudi banks listed on the Saudi Capital Market Authority (CMA) over the period from 2005 to 2019. The solvency position of SABB and Samba complied with the international Basel III standard after 2015. However, the positions of Al Rajhi Bank and Riyad Bank differ, as they fluctuate around the standard. During the last six years of the study, Riyad Bank achieved high solvency, unlike Al Rajhi Bank, which exhibits financial liabilities that appear higher than its capital adequacy. Yada, et al. [20] used financial ratio analysis to determine the solvency of ICICI Bank, one of the four largest Indian banks, over a specified period. Solvency ratios (debt-to-equity ratios) were calculated and analyzed to gain insight into the bank's financial strengths and weaknesses. The debt-to-equity ratio of banks fluctuated over the period under review, initially showing a rise in debt in 2019 but strengthening in equity by 2020, stabilizing around 0.88.

2.5. Non-Performing Loans

Non-Performing Loans (NPLs) are a critical metric in assessing the financial health of banks. High levels of non-performing loans (NPLs)—those in or close to default—are a common feature of many banking crises [22]. Non-performing loans are considered determinants of profitability because, high levels of nonperforming loans adversely affect bank net profit through provisioning of doubtful debts and write-offs of bad debts; which normally affect profitability and capital levels Ombaba [23]. Jing [24] found that when excessively high NPL ratios go unaddressed, the economy tends to suffer. On the other hand, this study shows that when measures are taken to reduce or eliminate the high NPL ratios, economic performance improves, and the reduction has a clear positive impact on the economy. The Islamic banking model, which relies on asset-backed financing such as murabaha (cost-plus financing) and musharakah (profit-sharing), reduces the likelihood of NPLs arising from the risk of default. Islamic financing principles ensure that the loans are tied to tangible assets, which can be liquidated if necessary.

A study by Othman and Gabbori [25] examined the determinants of non-performing loans (NPLs) in Islamic banks by employing panel data analysis, utilizing secondary data for the period (2008–2022) from World Bank for thirty countries. The results indicate that return on assets (ROA), liquidity ratio (LIQ), net interest margin (NIM), and net charge-off ratio (NCOFF) are significant bank-specific determinants of NPLs. Macroeconomic factors such as gross domestic product (GDP) growth and inflation significantly affect NPLs, with economic downturns and high inflation intensifying credit risk. Political stability mitigates risk, while credit concentration in sectors such as real estate increases NPLs.A study results by Silvia [26] which examined the effect of non-performing loans and loan-to-deposit ratios (NPRs) as independent variables on profitability (DPRs) as dependent variables on banking companies listed on the Indonesia Stock Exchange during the period from 2018 to 2022, revealed that non-performing loans negatively impact profitability, while the loan-to-deposit ratio positively impacts profitability. Mahmoud and Neffati [27] examined the relationship between efficiency, management risk, and profitability ratios in eight of the thirteen Saudi banks listed on the Saudi Capital Market Authority (CMA) over the period from 2005 to 2019. The study also found that non-performing loans (NPLs) had a significant

negative impact on bank profitability. Research conducted by Ndoka and Islami [28] and Munangi and Sibindi [29] shows that NPL has a negative and significant effect on ROA.

A study by Supriandi and Masela [30] which examine the effect of bank risk on financial performance showed that NPL has no effect on Return on Assets (ROA) and Return on Equity (ROE) at PT Bank Negara Indonesia, Tbk for the 2018-2022 period. Meanwhile, research conducted Hermina and Suprianto [31] shows that NPL has an insignificant negative effect on ROE. A study by Alshebmi, et al. [32] assessed the NPLs and their effects and causes to the profitability of commercial banks in the Kingdom of Saudi Arabia (KSA). The correlation result showed a negative insignificant weak relationship between nonperforming loans ratio (NPLs) and return on assets ratio (ROA), growth gross domestic product (GGDP), bank liquidity risk (BLQ), and credit risk.

2.6. Profitability Ratios

Profitability ratios are of particular importance as they directly reflect a bank's ability to generate earnings relative to its revenue, assets, or equity. Profitability represents a bank's first line of defense against unexpected losses. Profitability ratios are just one aspect of a bank's success [33] It strengthens its capital position and increases its potential profitability through the investment of retained earnings. Ultimately, a bank that records persistent losses will deplete its capital base, exposing equity and debt investors to risk. A bank designs all strategies and activities to optimize its profitability by measuring profitability [34]. The widely used measures to assess commercial banks' performance are return on total assets (ROA) and return on total equity (ROE). These measures have been used by analysts and bank regulators in (a) assessing industry performance (b) forecasting market structure trends (used to predict bank failures and mergers) and (c) other purposes where a profitability measure is wanted [35]. Several studies provide context for evaluating the financial performance of banks in terms of profitability, including [36]. Whose study used a multidimensional approach to evaluate and compare the financial performance of ICICI Bank and HDFC Bank, which constitute a significant portion of the Indian banking sector. Profitability is measured using return on assets (ROA) and return on equity (ROE). The results show an overall improvement, with significant increases in both ROA and ROE. No significant differences were observed between the two banks in terms of return on assets (ROA). Similarly, Masruki, et al. [19] analyses and measure the performance of two Islamic Banks in Malaysia (Bank Islam and Bank Muamalat), then to do a comparative analysis between these two banks with the conventional banks, when comparing the profitability and liquidity of Islamic banks to that of conventional banks, the study discovered that Islamic banks are less profitable. A study by Permana and Rahyuda [37] aims to analyze and explain the impact of liquidity and profitability on credit risk. The study included 31 banks from the banking sector listed on the Indonesian Stock Exchange during the period (2019-2023). The results of the analysis indicate that profitability has a significant negative impact on credit risk, while operational efficiency has a significant positive impact on credit risk. Sinaga, et al. [38] focused on the financial performance of return on assets (ROA) and return on equity (ROE) of PT Bank Negara Indonesia for the period 2018-2022. The results showed that the net interest margin had a significant positive impact on ROA and ROE for the specified period. Sayari [39] uses return on assets (ROA) and return on equity (ROE) as key profitability metrics for a sample of 10 Saudi conventional and Islamic banks including Al-rajhi bank, over the period 2013-2022. The analysis demonstrates the significant impact of online banking on the profitability of both conventional and Islamic banks, as evidenced by the ROA and ROE metrics. Their study provides important insights into the strategic importance of online banking for the profitability of Saudi banks and their future planning, in line with the objectives of Vision 2030. Paper of Alowaimer [40]. Study Determinants of profitability and financial performance of listed Saudi banks (2018-2023). The study results concluded that RJHI and SNB banks enjoy better profitability and asset management than Banque Saudi Fransi and Saudi British Bank, which exhibit slightly higher volatility. Regression analysis indicates a negative relationship between equity levels and net income, with total liabilities and return on assets (ROA) positively impacting profitability. In contrast, return on equity (ROE) exhibits a negative relationship with net income, suggesting a potential inefficient use of equity. The results are consistent with Vision 2030, which identifies the key factors determining the financial performance of banks in Saudi Arabia. Almumani [41] the purpose of his study is to analyze and compare the performance of Saudi banks that listed in stocks market for the period 2007-2011. The study is an evaluator in nature, drawing sources of information from secondary data. The financial performance of banks is studied on the basis of financial ratios and variables. Financial performance was measured by two approaches; trend analysis and inter-firm analysis. It was found that increasing of assets, operating expenses, and cost to income cause a decrease in Saudi bank's profitability, while increasing of operating income causes an increase in the profitability of Saudi Banks. Analysis show that all the variables of study have a positive mean value and all banks are generating income. Saudi joint venture banks proved to be more proficient in generating profits, absorbing loan losses and dominating in ROE, while, Saudi established banks have more capacity of absorbing asset losses and dominating in ROA. Al-Jahdali and Obaid [42] assessed the influence of corporate governance practices on enhancing the financial performance of the banking domain in the KSA, through the calculation of profitability of the banks. The study considered a total of 12 banks in the KSA and the study period was between 2014 and 2017. The study outcomes found variations in liquidity indicators for the years 2010–2013 and 2014–2017, with the former period recording a 21% accounting average of cash balance ratio and the latter period recording 18% of the same measure. This denotes the negative impact experienced by the banks in terms of the rate of returns. The outcomes also infer that in the case when the liquidity is too high, then it reduces a crucial financial objective of the bank, i.e., profit. Based on a 4% return on equity (ROE) and 1% ROA, it can be inferred that the profitability of the banks was lower than the high liquidity period.

2.7. Utilization Ratio

By measuring a bank's financial performance, we assess its ability to utilize its resources, indicating its financial efficiency (inputs) in producing optimal output. Therefore, a bank that effectively manages all its inputs achieves optimal financial performance [43]. Optimal financial performance is a criterion for banks' efficiency in using their assets to generate revenue. This term is also used to measure a bank's solvency over a specific period and is useful for comparing the financial performance of similar financial institutions in the same field with other sectors Islam, et al. [44]. Javaid and Alalawi [12] argued that simply accumulating deposits and credits does not lead to optimal financial performance; rather, asset utilization and operational efficiency are crucial. Islam, et al. [44] paper further elaborates on this point. Othman and Gabbori [25] provided empirical evidence that Bangladeshi banks need to control their non-performing loan ratios through appropriate credit assessment and recovery measures, primarily in state-owned commercial banks and specialist banks. The asset utilization problem is acute in these two categories of banks, leading to a gradual decline in return on assets, even to a

negative level, especially in the last four years. Therefore, banks need to be well-prepared to address the asset utilization challenge by urgently focusing on controlling the non-performing loan ratio. A study by Almazari [15] primarily attempted to measure the financial performance of seven Jordanian commercial banks for the period 2005–2009. The study found a positive relationship between financial performance, asset size, asset utilization, and operational efficiency, which was further confirmed by regression analysis showing that financial performance is significantly affected by these independent factors. The utilization ratio results obtained by Mahmoud and Neffati [27] showed that the profitability of eight Saudi banks, including Al Rajhi Bank, is positively affected by their capital utilization ratios (UZRs). Furthermore, the remarkable stability observed in the capital utilization curve analysis indicates Saudi banks' adherence to the central bank's monetary policies, which set the utilization rate between 85% and 90%. The capital utilization curve for the eight banks studied is divided into two periods. The first period, from 2005 to 2010, shows high volatility in capital utilization, ranging from 30% to 130%. The second period, from 2011 to 2019, demonstrates relative stability in the utilization rate, ranging from 65% to 95%. This stability reflects the Saudi banks' compliance with the Saudi central bank's monetary policies, which allowed them to utilize between 85% and 90% of their total resources.

3. Methodology

3.1. Data and Methods

3.1.1. Data Source

Data for this study were collected from Riyad Bank's integrated annual financial reports from 2020 to 2024. The key financial ratios analyzed include liquidity ratios, bank solvency indicator, non-performing loans, profitability ratios, and utilization ratio.

3.2. Estimation Methods and Model

Evaluation ratios illustrate the financial indicators that measure a bank's financial performance and its stability. This evaluation is done by comparing targets with actual results to address any deviations to ensure the bank's operational stability [45]. The following key ratios are used to evaluate the performance of Riyad Bank.

3.3. Liquidity Ratio

This evaluates the bank's ability to meet its obligations, particularly deposit requirements. Liquidity measures are indicators that assess the bank's ability to meet withdrawal and liquidity demands. Insufficient liquidity can prevent the bank from meeting its obligations, whereas excess liquidity above required levels can result in missed opportunities to invest these balances in areas that generate a specific return [45]. The following equation is used to indicate the liquidity ratio.

$$\text{Liquidity Ratio} = \frac{\text{Cash}}{\text{Deposits}} \times 100\% \qquad (1)$$

3.4. Bank Solvency Indicator

This indicator reflects the bank's ability to cover its deposit liabilities with its own equity capital. This indicator assesses the bank's financial strength and its ability to absorb potential losses without jeopardizing depositors' funds [45].

$$\text{Bank Solvency Indicator} = \frac{\text{Equity}}{\text{Deposits}} \times 100\% \qquad (2)$$

3.5. Non-Performing Loans Ratio

The non-performing loan ratio is expressed as a percentage of total credit extended by the entity. A high NPL ratio indicates that a financial institution is at a higher risk and may face financial difficulties. To compute the NPL ratio, divide the non-performing loan balance by the lender's total loan portfolio as follows [46].

$$\text{NPL} = \frac{\text{NPL}}{\text{Loans}} \times 100\% \qquad (3)$$

3.6. Profitability Ratios

The ratios used here are return on equity, return on assets, and bank efficiency ratio. These ratios are used to assess a bank's profitability through optimal resource utilization and service delivery [9]. A bank's profitability is assessed through return on equity (ROE) and return on assets (ROA). A bank is considered high-performing if it consistently demonstrates indicators above the banking sector average. To achieve higher returns, a bank must take above-average risks while maintaining a competitive advantage in the banking products and services it offers [7].

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Equity}} \times 100\% \qquad (4)$$

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Assets}} \times 100\% \qquad (5)$$

$$\text{Bank Efficiency Ratio} = \frac{\text{Expenses}}{\text{Revenues}} \times 100\% \qquad (6)$$

A high first ratio reflects the bank's success in utilizing its own resources to generate profits, while a high second ratio reflects the bank's management's efficiency in operating its assets to generate profits. The bank's efficiency ratio measures a bank's profitability and is determined by dividing the bank's expenses by its revenues. This ratio is important because it indicates how efficiently a bank manages its cost base, as well as the percentage of operating expenses incurred per riyal of income generated. Banks strive to keep this metric as low as possible and often disclose a target ratio in their financial statements, which typically ranges between 50% and 60% [47].

3.7. Utilization Ratio

This ratio measures the proportion of funds allocated for various purposes. This indicator assesses a bank's ability to utilize bank deposits. A high ratio indicates the bank's ability to efficiently utilize resources [48]. The utilization rate is calculated using the following formula.

$$\text{Utilization Ratio} = \frac{\text{Loans}}{\text{Deposits}} \times 100\% \qquad (7)$$

4. Results and Discussion

4.1. Liquidity Ratio

The liquidity ratio shows a fluctuating trend over the analysed period. The decline in the liquidity ratio from 12.1% in 2021 to 7.4% in 2024 may indicate potential liquidity risks. Although cash reserves have increased, they are not keeping pace with the massive increase in deposits. A lower liquidity ratio indicates a reduced ability to meet sudden or large withdrawal requests, which could increase the bank's exposure to liquidity shocks. In Figure 1, it is noted that the liquidity ratio declined sharply from 12.1% in 2021 to 7.4% in 2024, indicating that cash reserves have grown more slowly than deposits in the recent period. This decline may be a cause for concern because it suggests the bank is relying more heavily on other sources of liquidity, such as credit lines or liquid assets other than cash. The bank's cash reserves have increased overall, and its deposits have grown at a much faster rate, resulting in a gradual and steady decline in its liquidity ratio. The bank may need to re-evaluate its liquidity management strategies to ensure its ability to meet its obligations, especially if deposit growth continues at this rapid pace.

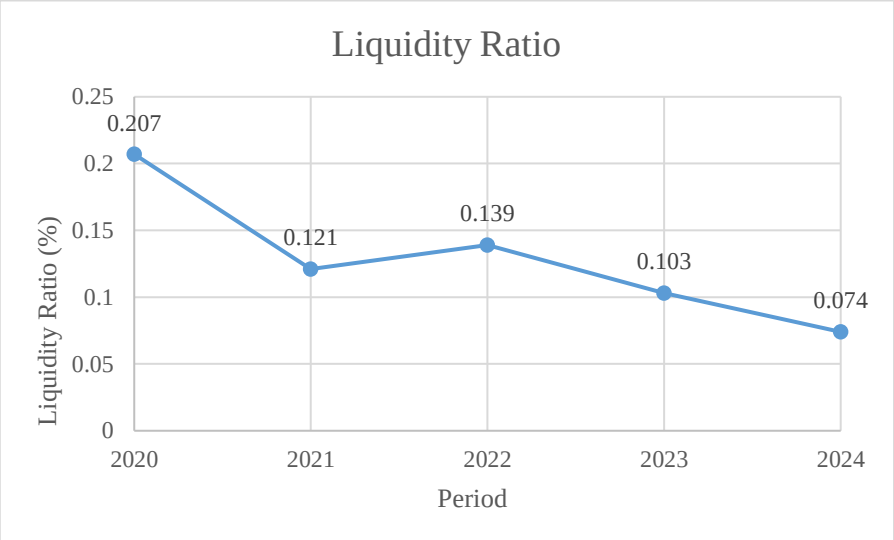

Figure 1.
Liquidity Ratio in Riyad Bank from 2020 to 2024.

4.2. Bank Solvency Indicator

Figure 2 shows that the solvency ratio decreased to 21.8% in 2020, then the solvency ratio began to rise again, reaching 23.4% in 2022 and 23.6% in 2023. This indicates that the bank is making efforts to improve its financial solvency, as capital has significantly increased from 2020 to 2024, enabling the bank to absorb risks, with deposits also rising significantly during this period. This significant increase in deposits is the main driver behind the decline in the solvency ratio. Banks usually maintain a higher solvency ratio to protect themselves from unexpected losses. It is also worth noting that in the majority of the analyzed years, the bank's solvency ratio exceeded the Basel III Committee's requirement of 10.5%, indicating the bank's ability to meet the needs of depositors and creditors.

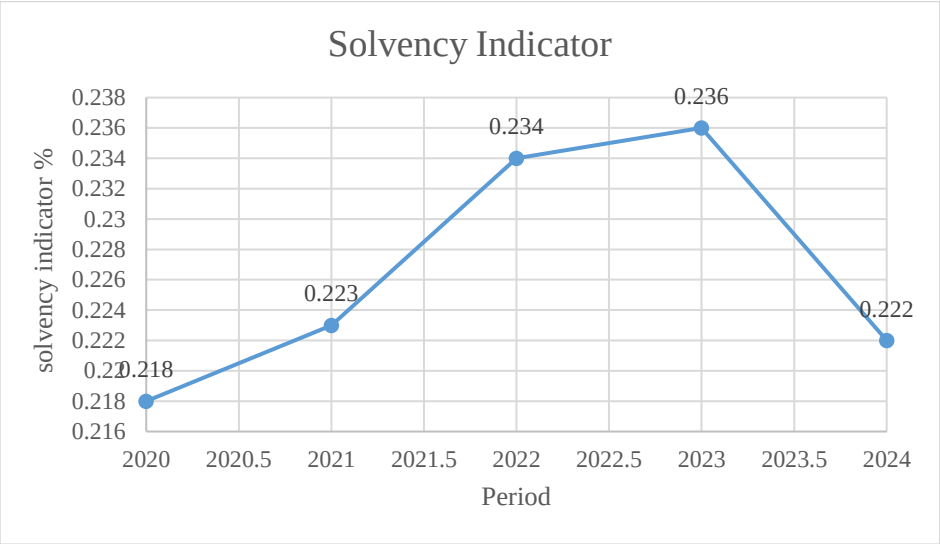

Figure 2.
Bank Solvency Indicator in Riyad Bank from 2020 to 2024.

4.3. Non-Performing Loan Ratio

The initial non-performing loan ratios between 2020 and 2024 were generally low (less than 1%), indicating a relatively low level of default risk compared to the total amount of loans granted. The rate of non-performing loans rose sharply, especially in 2020, peaking at 1.7%; this may be related to economic disruptions or the general increase in loan defaults affecting borrowers' ability to repay. After 2022, the rate of non-performing loans began to decline again, indicating better management of non-performing loans, including recovery efforts or debt write-offs.

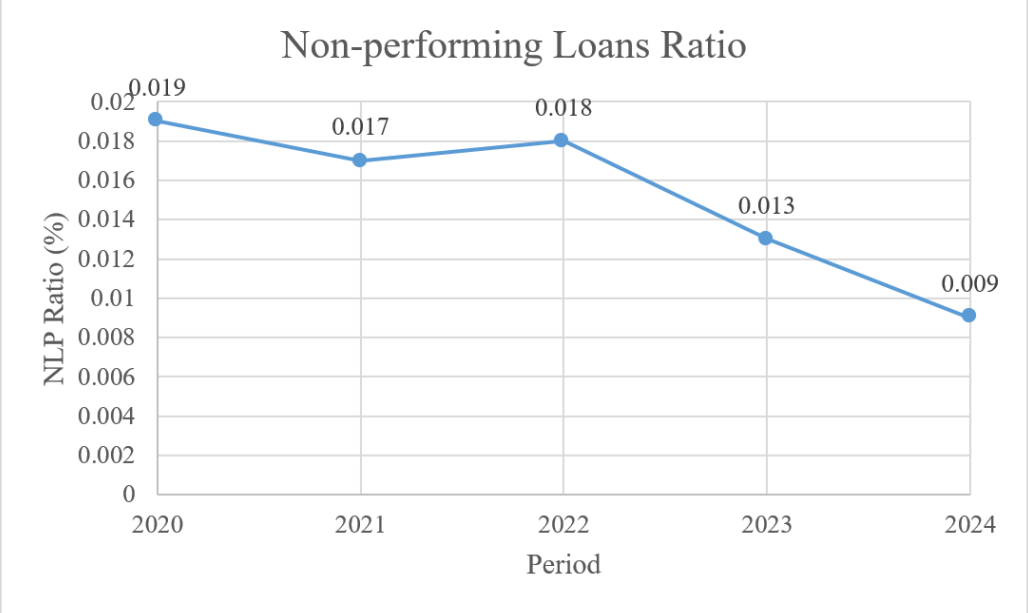

Figure 3.
Non-Performing Ratio in Riyad Bank from 2020 to 2024.

4.4. Profitability Ratios

4.4.1. Return on Equity (ROE)

Figure 4 shows that the bank achieved a strong return on equity over the period 2020-2024, with values routinely exceeding 13%, peaking at 13.7% in 2024. The high return on equity over these years suggests that the bank may have been successfully leveraging equity to generate high profits. Starting in 2021, the return on equity increased rapidly, from 12.7% in 2021 to 13.7% in 2024, peaking at 13.7% in 2024. Although a recovery occurred in 2013 and 2024, performance was uneven, suggesting that the bank may still face ongoing challenges that prevent it from returning to sustainable high performance.

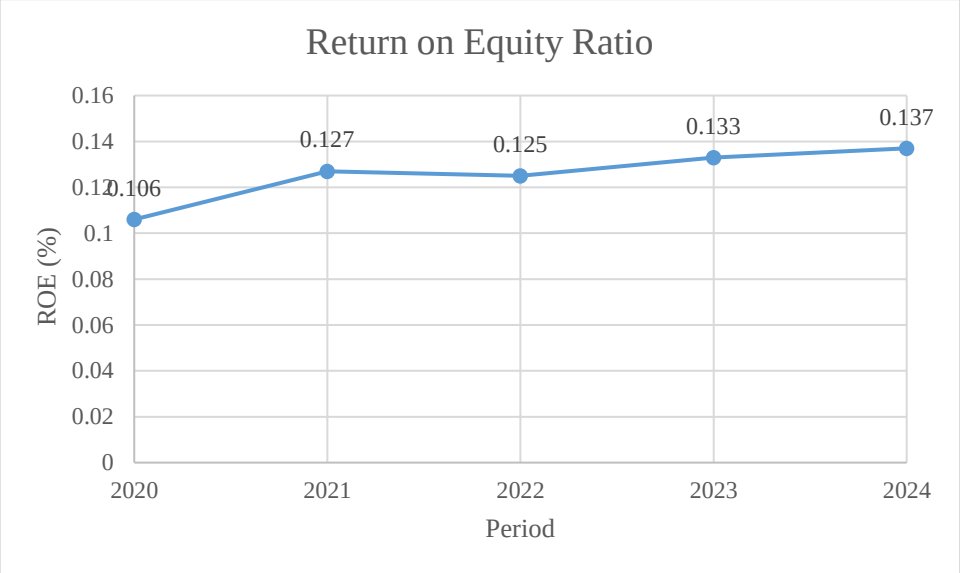

Figure 4.
ROE in Riyad Bank from 2020 to 2024.

4.5. Return on Assets (ROA)

Return on Assets (ROA) analysis helps understand how efficiently a bank uses its assets to generate profits. Between 2020 and 2024, ROA was relatively high, exceeding 2.1% and peaking at 2.1% in 2024. This indicates effective asset management and excellent profitability. ROA shows a continuous increase between 2020 and 2024. The overall trend indicates the bank's efforts to restore efficiency.

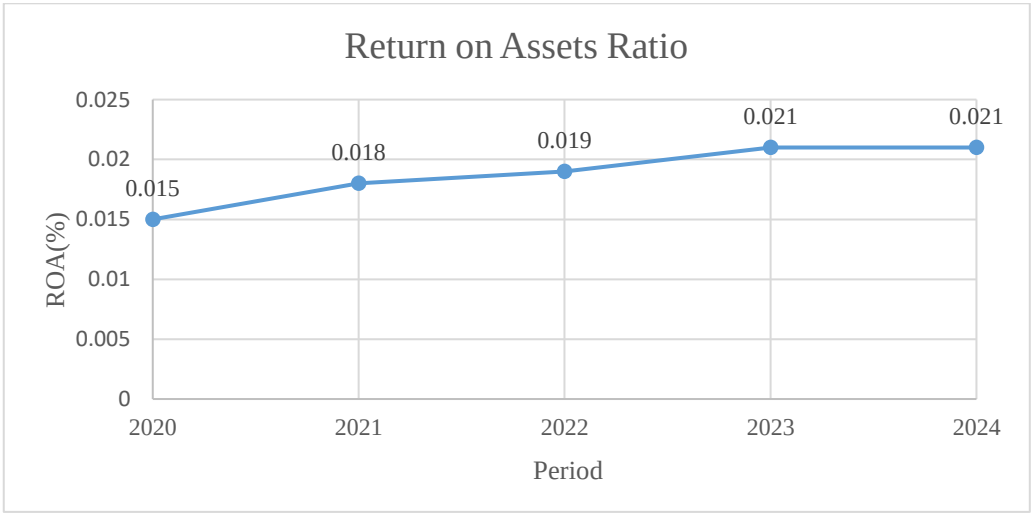

Figure 5.
ROA in Riyad Bank from 2020 to 2024.

4.6. Bank Efficiency Ratio

Figure 6 shows a decline over time, indicating improved operational efficiency. The five years from 2020 to 2024 were characterized by declining efficiency (high BER). The BER steadily declined from 10.5% in 2020 to 4% in 2024. This shift indicates improved efficiency over these years, both in terms of cost control and improved income generation. This indicates that the bank is operating efficiently.

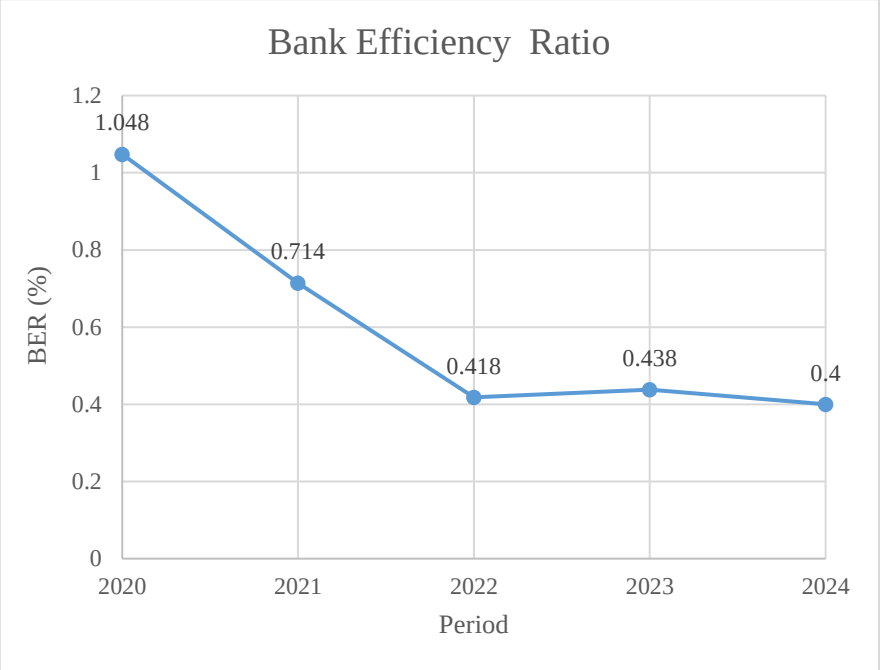

Figure 6.
Bank Efficiency Ratio in Riyad Bank from 2020 to 2024.

4.7. Utilization Ratio

The utilization ratio, which indicates the efficiency of allocating loans to deposits, increased from 94.2% in 2020 to 104.5% in 2024. This indicates a more efficient use of deposits for loans. A ratio greater than 100% indicates that the bank is lending more than it holds deposits, which may indicate higher risk or aggressive lending strategies. A ratio below 100% indicates that the bank is lending less than the amount of deposits it holds, indicating a more conservative lending approach or excess liquidity. The utilization ratio shows a shift from conservative lending between 2020 and 2024 to a shift toward higher lending (with the ratio exceeding 100%), increasing the bank's exposure to potential risks. While this may reflect higher profitability opportunities, the bank must ensure that it maintains strong liquidity management and risk controls to protect against the risks associated with lending more than its deposits.

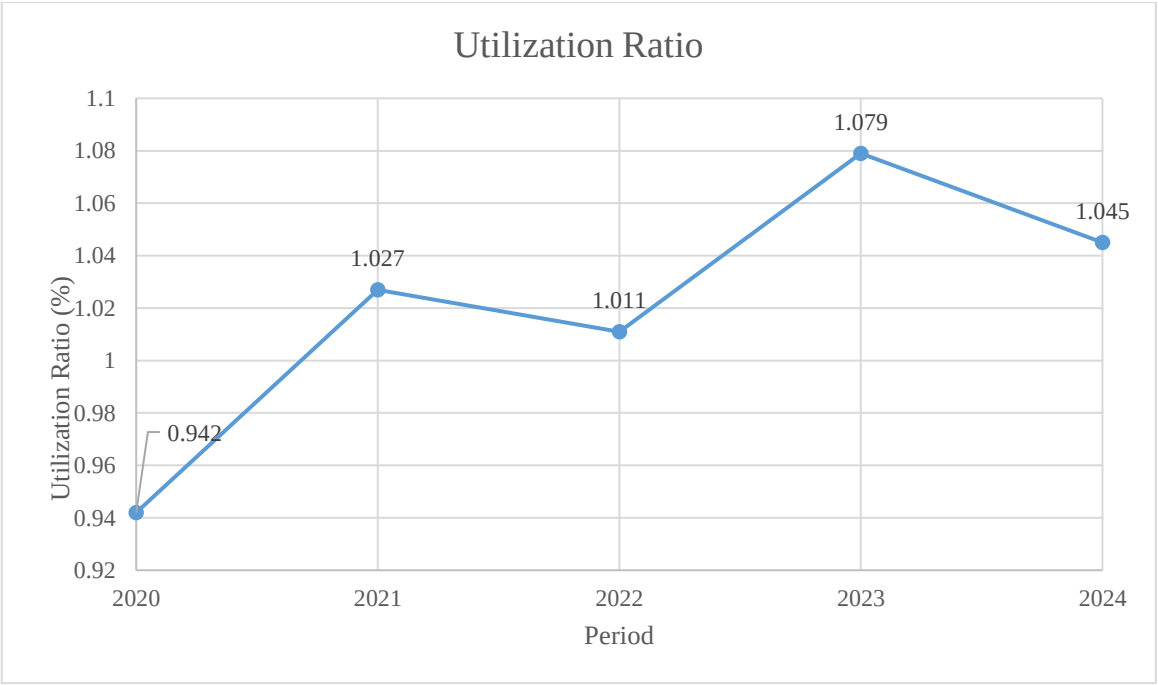

Figure 7.
Utilization Ratio in Riyad Bank from 2020 to 2024.

5. Conclusion

According to this study, the liquidity ratio analysis indicates a decline. Therefore, the paper recommends exploring external funding sources, such as attracting savings and investment deposits, to improve the liquidity ratio and meet

withdrawal demands. Also recommends increasing share capital from retained earnings to achieve a higher share capital base than currently exists. This is in line with the Kingdom's Vision 2030, which aims to improve the financial sector by encouraging people to save and offering a wider range of ways to get money. The Saudi Central Bank (SCB) recommends a maximum loan-to-deposit ratio of 90%, while the ratio for the banking sector increased to 80.5% in 2023 [10]. The analysis reveals that Riyad Bank's ratio in 2024 reached 104.5%, exceeding the SCB's recommended limit. This result indicates that the bank utilized retained earnings. This paper highlights the importance of reviewing capital investment policies, given that loans have exceeded deposits, particularly between 2021 and 2024. According to the Saudi Central Bank's financial report, the total non-performing loan ratio in the banking sector reached 5.4% in 2023, a lower percentage than before the COVID-19 pandemic [10]. The study noted a decrease in Riyad Bank's ratio during the study period, which can be attributed to the bank's practice of directly debiting loan repayments from account balances on their due dates. The Central Bank permits the practice even if the balance becomes overdrawn, provided it is subsequently covered through salary debits or direct deposits, and no interest is charged on overdrawn accounts. This paper aims to contribute to further analysis of the Saudi banking and financial sector.

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