# FINANCIAL PERFORMANCE MEASUREMENT, ANALYSIS & EVALUATION OF FINANCIAL HEALTHINESS AND STOCK RETURN OF REGIONAL DEVELOPMENT BANKS INDUSTRY WHO LISTED AT IDX BEFORE AND DURING COVID-19 PANDEMIC (2016-2023): EVIDENCE OF BANK BJB AND BANK JATIM

**THESIS**

**By:**


**Eka Rizki Sukmadewi**

**NIM: 22231009**


**Academic Supervisor:**

**Prof. Dr. Wiwiek Mardawiyah, S.E., Ak., M.M.**

**CMA NIP: 0306015601**

**MASTER OF BUSINESS ADMINISTRATION**
**SEKOLAH TINGGI MANAJEMEN IPMI JAKARTA**
**2024**

# FINANCIAL PERFORMANCE MEASUREMENT, ANALYSIS & EVALUATION OF FINANCIAL HEALTHINESS AND STOCK RETURN OF REGIONAL DEVELOPMENT BANKS INDUSTRY WHO LISTED AT IDX BEFORE AND DURING COVID-19 PANDEMIC (2016-2023): EVIDENCE OF BANK BJB AND BANK JATIM

**Prepared by:**

**Eka Rizki Sukmadewi**

**NIM: 22231009**

**A THESES**

**Submitted in a partial fulfillment of the requirements for the degree of Master of Business Administration**

**CERTIFICATE OF APPROVAL**

Name & Student ID : Eka Rizki Sukmadewi (22231009)

Topic : Financial Performance Measurement, Analysis & Evaluation of Financial Healthiness and Stock Return of Regional Development Banks Industry Who Listed at IDX Before and During Covid-19 Pandemic (2016-2023): Evidence of Bank bjb and Bank Jatim

We hereby declare that this Thesis is from student's work, has been read and presented to Sekolah Tinggi Manajemen IPMI Board of Examiners, and has been accepted as part of the requirements needed to obtain a Master of BusinessAdministration Degree and has been found to be satisfactory.

Jakarta, …….. 2024

Examined by,

…….

Chair of Examiners

Prof. Dr. Wiwiek Mardawiyah, S.E., Ak., M.M.
Supervisor

Acknowledged by,

Prof. Dr. Ir. M. Syamsul Maarif, M.Eng., Dipl., Ing., DEA
Vice Rector of Academic and Student Affairs

**SEKOLAH TINGGI MANAJEMEN IPMI –**

**GRADUATE PROGRAM**

**RECOMMENDATION**

☐ **PROPOSAL DEFENSE OF THESES**

☑ **FINAL EXAMINATION OF THESES**

I am pleased to be the advisor of this Theses, and I certify that the students have faithfully achieved the requirements as specified in the *Guideline for the Preparation of Thesis 2024*.

Name & Student ID : Eka Rizki Sukmadewi (22231009)

Topic : Financial Performance Measurement, Analysis Evaluation of Financial Healthiness and Stock Return of Regional Development Banks Industry Who Listed at IDX Before and During Covid-19 Pandemic (2016-2023): Evidence of Bank bjb and Bank Jatim

Date of Final Examination:

Time of Final Examination:

The Proposal / Thesis has been checked and recommended for final presentation and comprehensive oral defense towards a Master of Management Degree at Sekolah Tinggi Manajemen IPMI.

Jakarta, ……
Approved by,

Prof. Dr. Wiwiek Mardawiyah, S.E., Ak., M.M.
NIP: 0306015601

**NON-PLAGIARISM DECLARATION FORM**

This Thesis is a presentation of our research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature and acknowledgement of collaborative research and discussions.

Also, this work is being submitted in partial fulfilment of the requirements for the Master of Business Administration degree, has not previously been accepted in substance for any degree, and is not being concurrently submitted in candidature for any degree.

Jakarta, ……Maret

Materai

Eka Rizki Sukmadewi (22231009)

# LIST OF CONTENT

## LIST OF FIGURES



## LIST OF TABLES

## Acknowledgment

## ABSTRACT

Banks play a crucial role in managing finances, including accepting deposits, providing loans, and earning profits through fees. This thesis focuses on evaluating the health of Regional Development Banks (BPDs) listed on the Indonesia Stock Exchange (IDX) using the RBBR (Risk-Based Bank Rating) assessment and the Altman Z-Score model. Specifically, it analyzes the financial health of BUMD banks, such as Bank bjb and Bank Jatim, utilizing various financial indicators from the RBBR and Altman Z-Score models. Additionally, the study includes an analysis of stock returns, particularly focusing on Bank bjb and Bank Jatim among the 27 regional development banks listed on IDX. Furthermore, it employs a t-test to assess significant differences in the financial health of regional development banks before and during the COVID-19 period, providing insights into the pandemic's impact on their financial conditions for stakeholders, regulators, and the public navigating challenges within the banking industry.


Keywords: **Bank financial health level, Risk Based Bank Rating, Altman Z-Score model, stock return analysis, t-test score.**

# CHAPTER 1

# INTRODUCTION

## 1.1 Description Background

In simple terms, a bank is a place to save and borrow money. However, as explained in Law Number 10 of 1998 concerning Banking which is an amendment to Law Number 7 of 1992, Banks are mentioned as business entities that collect funds from the public in the form of deposits and channel them to the public in the form of credit and or other forms to improve people's lives. SAL POJK 4/POJK.03/2016 Article 1 paragraph 1 states that a Bank is a commercial bank as referred to in Law Number 7 of 1992 concerning Banking as amended by Law Number 10 of 1998, including branch offices of banks domiciled abroad, which carry out business activities conventionally.

The structure of banks in Indonesia consists of commercial banks and BPR (Banking Law, 1992), the difference lies in their operational activities. Commercial Banks are Banks that carry out business activities conventionally and or based on Sharia Principles which in their activities provide services in payment traffic, while Rural Banks (BPR) are Banks that carry out business activities conventionally or based on Sharia Principles which in their activities do not provide services in payment traffic (Law 10 of 1998; article 1 point 4).

In Indonesia there are two types of Banks, Banks owned by the state are grouped as State-Owned Enterprises (BUMN) and Banks owned by Local Governments (BUMD). The Regional Development Bank (BPD) was established based on Law No. 13 of 1962 concerning Basic Provisions of Regional Development Banks (BPD) with the specific intention of providing financing for

the implementation of regional development efforts within the framework of the National Development Plan (Article 4). In line with the mandate of the law, BPDs provide credit for the purposes of investment, expansion, and renewal of development projects in the region (Article 5), both those organized by the region and those organized by mixed companies between local governments and the private sector.

In general, BPD, which is included in the category of commercial banks, also experiences challenges and obstacles, but because BPD is in the region and owned by the local government, the problems it faces are quite complex compared to commercial banks owned by the central government. There are currently twenty-seven recognized regional development banks in Indonesia. Through the "BPD Transformation" program launched by the Financial Services Authority, BPD is expected to become a highly competitive and strong bank and contribute significantly to sustainable regional economic growth and equity.

BPD has a strategic role in accelerating economic growth and regional development, with the main task of developing the economy and driving regional development. The evolution of technological developments that are also faced by BPD, adds to the root of BPD's problems, namely low competitiveness, weak GCG, and support from stakeholders, especially the Regional Government as a shareholder to transform BPD into an obstacle to innovation.

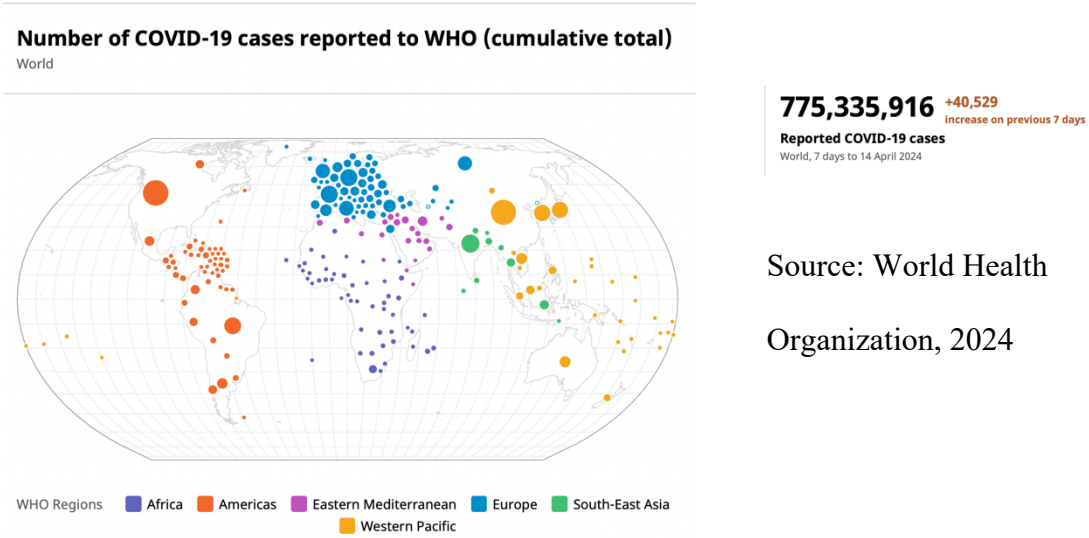
The weak business sustainability of BPD and the implementation of its role as an agent of regional development is the impact of weak competitiveness rooted in the "comfort zone" in the protection of captive markets. BPD was created with a segmentation owned by local governments with a core business of ASN / PNS, so

the development of innovation is considered less attractive because it already has a clear source of income, so the effort to innovate in creating new programs or improving the quality of financial performance services is low. However, this cannot be ignored. The existence of business competition with other commercial banks, forcing BPD to make structural improvements to be able to take advantage of opportunities and compete in an increasingly competitive environment.

Monitoring and evaluation (Monev) of the Bank's performance is very important, it can help identify the strengths and weaknesses of the Bank's performance and can identify steps that can be taken to change the Bank's performance. Monev of the Bank's performance can also be a tool for consideration in making investment decisions, reducing investment risk, and mitigating losses caused by unforeseen events such as natural disasters, epidemics, etc.

In the past five years, there have been several events affecting economic growth. At the end of 2019, the World Health Organization (WHO) announced that a coronavirus infection, an infectious disease that affects the respiratory system and causes restrictions on human activity, was discovered in Wuhan, China. The impact of the coronavirus is very significant on the global economy, including Indonesia.

Figure 1.1: Number of COVID-19 cases reported to WHO (cumulative total)




Source: World Health Organization, 2024

The COVID-19 pandemic has had a major impact on the Indonesian economy, ranging from changes in global supply chains to reduced foreign investment in Indonesia. The decline is reflected in the slowdown in economic growth which fell from 5.02% in 2019 to 2.97% in 2020. This slowdown in economic growth was followed by an increase in the number of unemployed people which increased from 5.28% in 2019 to 7.07% in 2020, according to World Bank data. (Melati, W.P., 2023).

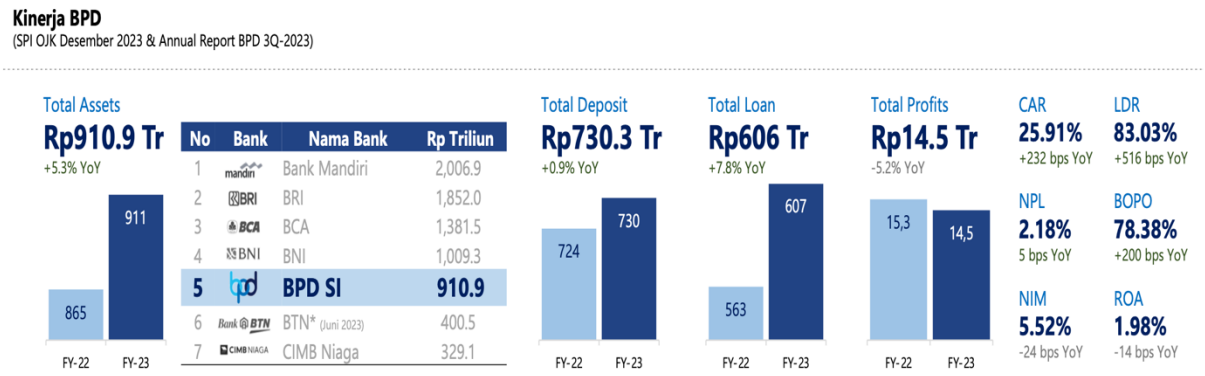
The Covid-19 pandemic has changed global lifestyles and economies. Restrictions such as mask wearing, distancing, and crowd avoidance directly limit economic activity, including the production, distribution, and marketing of goods. World supply chains are disrupted due to factory closures and lockdowns, slowing down the entire cycle.

According to the International Monetary Fund (IMF), the economic crisis due to Covid-19 will be more severe than during the 2008 economic crisis. This will have an impact on global financial markets. The market price trend is experiencing stock price volatility and most of it is a downward trend since the outbreak of Covid-19. Covid-19 has made the market negative due to low investor valuations (Nasution et al. 2020).

Indonesia, which participates in the global supply chain, was seriously affected with a decline in exports of about 2.6% in 2020. The pandemic increased economic uncertainty, lowered investor confidence, and resulted in a decline in investment. Uncertainty and decreased demand for goods and services negatively impacted corporate profits and stock prices on the Indonesia Stock Exchange.

Despite the covid situation, the performance of regional development banks is in fact able to survive, this is evidenced by the positive performance generated, the total assets of BPD grew 5.3% yoy or amounted to 910.9 T.

Figure 1.2: Performance of Regional Development Banks in Indonesia




(Source: Asbanda:2024)

The growth of BPD performance cannot be separated from the financial distress monitoring that is implemented. According to Brigham and Daves, 2013 Financial Distress occurs due to a series of errors, improper decision making, and interconnected weaknesses that can have direct or indirect effects on management. Financial Distress can be seen from the Bank's performance indicators, namely the lack of funds to pay off short-term company obligations (liquidity) to the lack of funds to pay off all company obligations (solvency) Theodorus and Artini, 2018.

The condition of financial difficulties can be seen from the Bank's performance indicators, namely the lack of funds to pay the company's obligations in the short term (liquidity), to the lack of funds to pay off all company obligations (solvency).

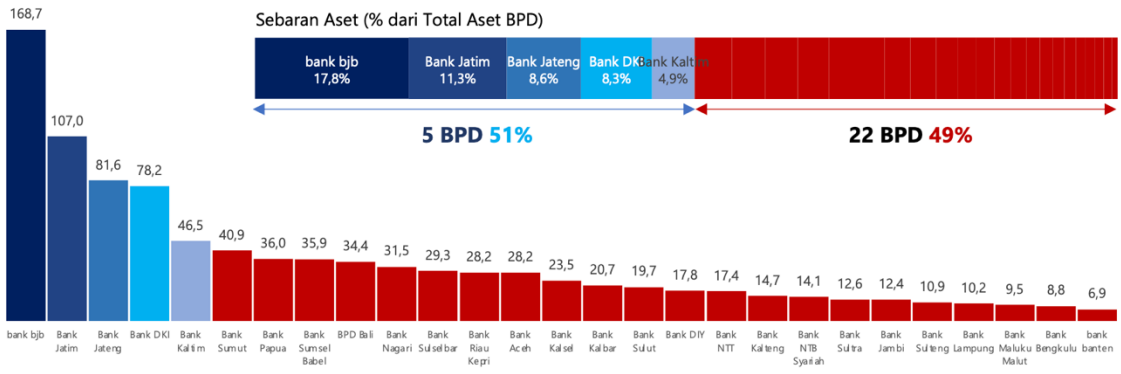
This research will specifically discuss the Health Level of BUMD Banks that have been listed on the Indonesia Stock Exchange (IDX), including Bank bjb

and Bank Jatim with the issuer codes BJBR and BJTM. As with other bank stocks, BJBR and BJTM stocks tend to experience fluctuations that change but remain stable over time.

Therefore, this research will consider stock returns as one of the important aspects to analyze. Stock return is a measure used to evaluate the profitability or loss experienced by investors from their investment in the stock market. The calculation involves comparing the difference between the amount of money received from the sale of shares and the amount of money invested, divided by the initial investment amount. In the context of this study, stock returns will be used as an important indicator in assessing the financial health of BUMD Banks listed on the Indonesia Stock Exchange.

Bank bjb is the strongest Regional Bank with total assets of 168.7 T, while Bank Jatim has assets of 107.0 T, or is in second place among 27 BPD SI.

Figure 1.3: BPD's asset distribution.




(Source: Asbanda: 2024)

Banking in Indonesia is required to follow the regulations set by the regulator, based on POJK No.4/POJK.03/2016 concerning Health Level Assessment of Commercial Banks, it is stated that Banks are required to conduct a Health level assessment using the Risk Based Bank Rating method both

individually and on a consolidated basis (Chapter one Article two, third point), it is also stated that the Bank's health level is the result of an assessment of the Bank's condition carried out on the risks and performance of the Bank.

The primary emphasis of this study is to measure and analyze the financial performance while assessing the overall health of the Banking sector in Indonesia. This research delves into the expansion of existing studies, specifically examining the outcomes of the COVID-19 pandemic on the financial performance of the Banking industry.

Financial statements are basically the result of an accounting process that can be used as a tool to communicate between financial data or a company's activities and parties with an interest in the company's data or activities (Brown & Ronen, 2013). This research will be conducted using the RBBR and Altman Z-Score methods, by observing financial ratios from the financial statements of each bank for the Q1-Q4 period from 2016-2023.

The Altman Z score model or known as the modified Altman Z score is commonly used in this study. The Z-Score model is used as a tool to evaluate company credibility through financial ratios. It is calculated using various financial ratios, such as working capital to total assets, retained earnings to total assets, and earnings before interest and taxes to total assets.

The score values determine a company's health level, with values above a certain threshold indicating good health and values below indicating potential Bankruptcy. By evaluating the Z-Score and financial ratios, businesses can assess their financial performance, make improvements, and ensure their survival and competitiveness.

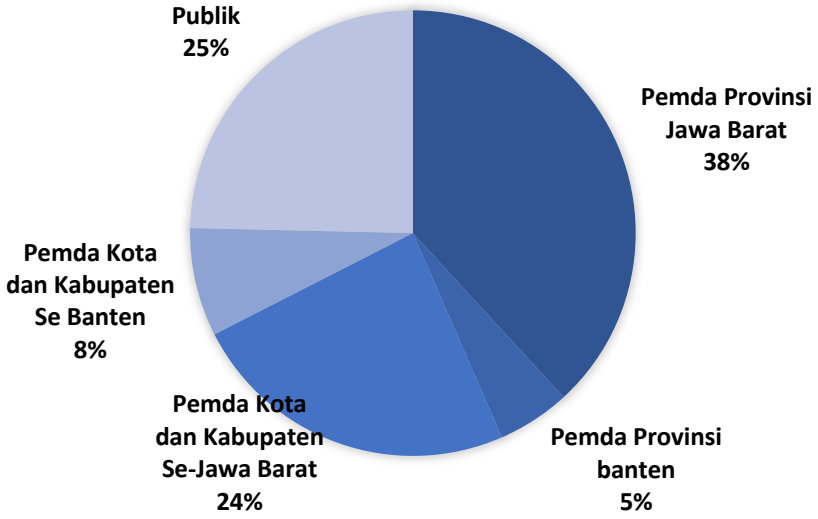
## 1.2 Company Background

### 1.2.1 PT Bank Pembangunan Daerah Jawa Barat dan Banten Tbk (Bank bjb)

Bank bjb, headquartered in Bandung, is a bank owned by the regional government of West Java and Banten provinces, established on May 20, 1961, with the status of Limited Liability Company (PT) and currently its status has changed to Regional Owned Enterprise (BUMD).

On July 8, 2010, Bank bjb officially became the first Regional Development Bank (BPD) to be listed on the Indonesia Stock Exchange.

Figure 1.4: Bank bjb share ownership.




(source: Bank bjb annual yearbook 2023)

Bank bjb has 1 head office, 5 regional offices, 64 branch offices, 819 sub-branch offices (KCP), 6 MSME centers, 18 priority bjb services, 10 weekend banking services, 1775 Bank bjb ATMs, 177 Cash Recycle Machine (CRM), with a total of 7,413 employees.

### 1.2.2 PT Bank Pembangunan Daerah Jawa Timur Tbk (Bank Jatim)

PT Bank Pembangunan Daerah Jawa Timur Tbk (Bank Jatim) was established on August 17, 1961, under the name PT Bank Pembangunan Daerah Djawa Timur. In 1976 its legal status changed to a Regionally Owned Enterprise and began operating as a foreign exchange bank in 1990. Bank Jatim opened an initial public offering of Bank Jatim shares on July 12, 2012, with the issuer code BJTM.

Bank Jatim has 1 Head Office, 48 Branch Offices, 173 Sub-branch Offices (KCP), 216 Functional Offices, 199 Payment Points, 854 ATMs, 94 CRMs, 39 Mobile Cash/Cash ATMs, and 196 Sharia Service Offices. As of December 2023, Bank Jatim has 4,544 employees.

Figure 1.5: Bank Jatim share ownership.


(source: Bank Jatim annual yearbook 2023)

## 1.3 Research Problems

The COVID-19 pandemic has significantly impacted the Banking sector, posing challenges to maintain optimal company performance and overall health. In navigating these challenges, it becomes imperative for Banking industries to assess and analyze their financial performance and health. This evaluation is crucial as it can have substantial implications for the sustainability of the business.

To ensure a comprehensive understanding of the risks associated with the COVID-19 pandemic, it is essential for shareholders, stakeholders, and investors to be informed about the financial performance and health of Banking companies. This research not only facilitates an examination of the past but also enables a strategic assessment of the current situation. It provides a foundation for informed decision-making to confront the challenges.

## 1.4 Research questions.

Based on the information and problem statement above, this study would like to answer these questions:

1. How does the financial performance of Banking companies before and during the COVID-19 pandemic in terms of Risk Based Rating Ratio?
2. How do differences in the financial performance of banking companies vary between before and during the COVID-19 pandemic?
3. How was the financial health of banking companies before and during the COVID-19 pandemic?
4. How did the stock returns of banking companies compare before and during the COVID-19 pandemic?

## 1.5 Research Objectives

This study provides crucial business insights for banking companies, enabling informed decision-making on sustainability and investment prospects. It examines financial performance, assesses overall health, and forecasts future sustainability, thereby enhancing the understanding of shareholders, stakeholders, and investors. The research objectives are:

1. To evaluate the financial performance of banking companies before and during the COVID-19 pandemic in terms of Risk-Based Rating Ratios.
2. To assess the differences in the financial performance of banking companies between before and during the COVID-19 pandemic.
3. To analyze the financial health of banking companies before and during the COVID-19 pandemic.
4. To compare the stock returns of banking companies before and during the COVID-19 pandemic to assess the impact of the pandemic on the performance of the banking sector in the financial market.

## 1.6 Significance of the study

### 1.6.1. Theoretical benefits:

The significance of this study lies in the comprehensive evaluation of the financial performance and financial health of Regional Development Banks listed on the Indonesia Stock Exchange (IDX). Using Risk-Based Bank Rating and Altman Z-Score models, this study aims to provide a comprehensive analysis of regional development banks, with a focus on Bank bjb and Bank Jatim. This research can also increase knowledge on risk assessment models in the context of regional banks, in the application and effectiveness of Risk-Based Bank Rating and Altman Z-Score models.

### 1.6.2. Practical benefits:

This research is useful for stakeholders, such as investors, regulators, and policy makers in assessing the stability and viability of the Bank, by considering risk factors and overall financial health from the research results using the RBBR and Altman Z-Score models. The results of this study may

have implications for regulatory policies related to Regional Development Banks, assisting Supervisors in formulating effective measures to ensure the stability of the Bank's business sustainability.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Theoretical Framework

### 2.1.1. Risk-Based Bank Rating (RBBR).

According to the regulations contained in Law Number 10 of 1998, the Bank has the responsibility to maintain its soundness. In the context of policy making and future supervision of the Bank, the assessment of the Bank's soundness level is very important. Therefore, Bank Indonesia and the Financial Services Authority, which are the Bank's supervisory institutions, have a crucial role in ensuring the implementation of risk management in each Bank.

The former policy involved the utilization of the CAMELS ratio, as outlined in Bank Indonesia Regulation No. 6/10/2004 regarding the Assessment of Commercial Banks' Health Ratings using the CAMELS approach. CAMEL stands for five factors used to assess the health or performance level of a Bank: Capital Adequacy, Asset Quality, Management, Earnings and Liquidity.

The updated approach to evaluate Bank soundness with a risk approach called Risk Based Bank Rating is issued by the Bank Indonesia and the Financial Services Authority (OJK) under regulation No. 13/1/PBI/2011, followed by the Circular Letter of the Financial Services Authority (OJK) in SE OJK No. 14/SEOJK. 03/2017 (Suryani and Habibie, 2017).

Mentioned in the provisions of POJK No. 4/POJK.03/ 2016 Article two, third paragraph concerning Health Level Assessment of Commercial Banks, Banks are required to assess the Health Level of the Bank using a risk approach (Risk-based Bank Rating) both individually and on a consolidated basis, with the scope of assessment of the factors (1) Risk profile (Non-Performing Loan (NPL) and Loan to Deposit Ratio (LDR), (2) Good Corporate Governance (GCG), (3) Earnings (ROA and NIM), (4) capital (CAR).

#### 2.1.1.1. Risk Profile

According to Bank Indonesia Regulation No. 13/1/PBI/2011, a risk profile includes an assessment of inherent risk and the quality of risk management implementation in bank operations, which includes eight main risks: credit, market, liquidity, operational, legal, strategic, compliance, and reputation risks.

#### 2.1.1.2. Good Corporate Compliance

Based on POJK No. 55/POJK.03/2016 regarding the Implementation of Corporate Governance for Commercial Banks are required to conduct periodic self-evaluations to assess the implementation of bank governance and prepare a governance implementation report at the end of the year. The implementation of governance must be based on basic principles, which include transparency, accountability, responsibility, independence, and fairness, in accordance with SEOJK No. 13/SEOJK.03/2017.

#### 2.1.1.3. Earnings

The profitability factors assessment contains earnings performance, sources of profitability, the sustainability of profitability, and management of earnings (Fannywaty & Daryanto, 2019). As a result, the profitability ratio is a method used to evaluate a company's ability to generate profits from its own resources. Analyzing profitability ratios can also provide a broad picture of how well the company's management is managing the business and how competitively positioned the business is in the market.

#### 2.1.1.4. Capital

There are two objectives of Capital supervision, namely the Bank is responsible for all transaction activities, especially in lending, because the funds used are its own funds and third-party funds, besides that the Bank is not only focused on developing business from available assets, but also expected to have its own capital support. Capital is part of the banks' funding sources, which can be used to raise another fund, bank capital, as a protection to absorb shocks from loss of business (Greuning and Iqbal, 2011).

### 2.1.2. Stock Return

Stock Return is defined as the profit gained by investors by investing capital into the stock market. The rate of return is the difference between the nominal sold and invested, divided by the nominal invested (Brigham and Houston, 2014).

Stock return refers to the profit or loss realized by an investor from holding stocks over a certain period. It is typically calculated as the difference between the final value of the stock investment (including dividends received, if any) and the initial investment, divided by the initial investment. This calculation expresses the return as a percentage, allowing investors to assess the performance of their stock investments relative to the amount of capital they have invested.

### 2.1.3. Altman's Z-Score Prediction Model

Altman's Z-Score model, introduced by Professor Edward Altman in 1968, is a financial analysis tool that aims to predict the potential bankruptcy of a company. The model serves as a tool for assessing a company's financial health by combining several financial ratios. The Z-Score provides clues as to whether a company faces the risk of bankruptcy or not.

According to Rudianto (2013: 257), after conducting research with the object of various manufacturing companies and producing two formulas, Altman did not stop. Altman conducted more research on the potential bankruptcy of companies other than manufacturing companies, both those that went public and those that did not. The last Z-Score formula is a very flexible formula because it can be used for various types of company business fields, both those that go public or not, and is suitable for use in developing countries such as Indonesia.

### 2.1.4. t-Test Statistic

Daryanto, William (2022) said the partial test (partial testing) was conducted to partially determine each independent variable's effect on the dependent variable. The t-test is performed using either a known population standard deviation or a sample standard deviation. The test evaluates interval scores. A normal distribution is essential, but if the data are heavily incorrect, a nonparametric test, such as a binomial test, is preferred, with each example scored as above (1) or below (0) the a priori mean. When just the sample standard deviation is available, use a t-test; if the population standard deviation can be supplied, use a z-test.

### 2.1.5. Hypothesis Testing

Hypothesis testing is a statistical hypothesis test is used to decide if data support specific hypothesis. The decision rule in hypothesis testing specifies which values of the test statistic will cause the rejection of the null hypothesis in favor of the alternative hypothesis. Hypothesis testing can produce a p-value, indicating the surprise level in learning that the null hypothesis produced the data. There are two types of errors in hypothesis testing: type I error, when the null hypothesis is wrongly rejected, and type II error, when the research hypothesis is wrongly accepted. (Andrew et al., 2022).

## 2.2. Hypothesis Development

### 2.2.1. Financial Performances of Banking Companies

#### 2.2.1.1. Non-Performing Loan (NPL)

Non-Performing Loan refers to a loan that has defaulted or has not made the expected interest and principal payments for a certain

period. In other words, a non-performing loan is one where the borrower has failed to make payments over a certain period, indicating a higher risk of default. According to Daryanto, (2022) The NPL ratio is an indicator proxied in measuring the effect of the risk profile in the assessment a bank will face on its stock return.

Banks use the NPL ratio as a key indicator to assess credit risk, as it compares the number of non-performing loans to the total loans in the portfolio. The NPL ratio also shows its relationship with the Bank's profitability. Bank Indonesia Circular Letter No. 13/30/DPNP stipulates that the NPL ratio of a healthy bank should not exceed 5% of total loans.

As sown in Table 1, the NPL parameter criteria indicate that a higher NPL ratio may signify potential credit risks and financial instability within the banking company.

Table 2.1: NPL Parameter Criteria

| Criteria | Rating |
|---|---|
| NPL <2% | Very Healthy |
| 2%<= NPL < 5% | Healthy |
| 5% <= NPL < 8% | Quite Healthy |
| 8% <= NPL < 12% | Less Healthy |
| NPL >= 12% | Unhealthy |

BI Circular Letter No. 13/24/DPNP/2011

#### 2.2.1.2. Loan Deposit Ratio (LDR).

Loan Deposit Ratio used to measure Risk Liquidity. Achsani et al. (2021) stated that the possible loss caused by the Bank's inability to fulfill its responsibilities or fund the increase in assets could also be defined as liquidity risk which reflects the Bank’s ability to fulfill deposit withdrawals and other liabilities.

When assessing liquidity risk, it cannot be detached from the role of Bank liquidity itself. In the liquidity of a Bank, the relationship between Bank liquidity risk and profitability is inversely proportional (Van Horne & Wachowiz, 2022). Therefore, it can be said that high Bank liquidity will yield low profits. On the other hand, when the level of liquidity is low, it means the Bank will produce high profits.

Based on the formula, the higher this ratio signifies the Bank is aggressive in channeling its credit funds, while the smaller this ratio means, the more significant the third-party funds that are not used for lending (Taswan, 2010). A low LDR indicates that the bank is not using funds efficiently to lend, while a high LDR signals the bank's dependence on external loans, which can increase credit and liquidity risk.

Table 2 displays the parameter criteria for Loan to Deposit Ratio (LDR), indicating that the optimal LDR is the one with a balanced value.

Table 2.2: LDR Parameter Criteria.

| Criteria | Rating |
|---|---|
| LDR<=75% | Very Healthy |
| 75%< LDR <= 85% | Healthy |
| 85% < LDR <= 100% | Quite Healthy |
| 100% < LDR <= 120% | Less Healthy |
| LDR > 120% | Unhealthy |

SE OJK No. 14/SEOJK.03/2017

#### 2.2.1.3. Return on Asset (ROA)

ROA assesses a company's ability based on past profits so that it can be used in the future or the next period. The high ROA means the company is efficient in utilizing its assets (Bodie, 2014). Return on Asset (ROA) measures how effectively a bank utilizes its assets to generate profits. A higher ROA indicates better profitability and efficiency in asset management. Table 4 presents the parameter criteria for Return on Assets (ROA). It outlines the benchmarks or standards used to evaluate the performance of ROA.

Table 2.3: ROA Parameter Criteria

| Criteria | Rating |
|---|---|
| ROA>1.5% | Very Healthy |
| 1.25%< ROA <= 1.5% | Healthy |
| 0.5% <ROA <= 1.25% | Quite Healthy |
| 0% < ROA <= 0.05% | Less Healthy |
| ROA <= 0% | Unhealthy |

Source: BI Circular Letter No. 13/24/DPNP/2011

#### 2.2.1.4. Net Interest Margin (NIM)

Net Interest Margin is the ability of Banks to generate net interest income by placing productive assets owned by companies (Sari and Dahar, 2016). A good Net Interest Margin should be sufficient to cover the operational expenses of the bank and provide a profit margin substantial enough for the bank to grow and develop steadily. Table 5 presents the parameter criteria for Net Interest Margin.

Table 2.4: NIM Parameter Criteria

| Criteria | Rating |
|---|---|
| NIM >3% | Very Healthy |

| | |
|---|---|
| 2%< NIM <= 3% | Healthy |
| 1.5% <NIM <= 3% | Quite Healthy |
| 1% < NIM <= 1.5% | Less Healthy |
| NIM <= 1% | Unhealthy |

Source: BI Circular Letter No. 13/24/DPNP/2011

#### 2.2.1.5. Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio is an important financial metric that assesses a Bank's ability to cover potential losses. It reflects the proportion of risk-weighted assets funded by the Bank's own capital, without incorporating external sources.

CAR serves as the basis for the Bank's operational resilience, especially in credit activities. Bank Indonesia requires the maintenance of a healthy CAR to ensure liquidity stability and accurate financial analysis. A high CAR indicates good risk absorption and overall stability of the Bank.

Table 2.0-5: CAR Parameter Criteria

| Criteria | Rating |
|---|---|
| CAR <14% | Very Healthy |
| 12% ≤ CAR < 14% | Healthy |
| 10% ≤ CAR < 12% | Quite Healthy |
| 8% ≤ CAR < 10% | Less Healthy |
| ≤ 8% | Unhealthy |

Source: BI Circular Letter No. 13/24/DPNP/2011

### 2.2.2. Financial Healthiness of Banking Companies

#### 2.2.2.1. Working Capital to Total Asset

This ratio shows the company's ability to generate net working capital from its total assets. This ratio is calculated by dividing net working capital by total assets.

X1: Working Capital to Total Asset of Banking Companies

#### 2.2.2.2. Retained Earnings to Total Assets

This ratio shows the company's ability to generate retained earnings from the company's total assets. Retained earnings are profits that are not distributed to shareholders. Retained earnings show how much of the company's income is not paid in the form of dividends to shareholders.

X2: Retained Earnings to Total Asset of Banking Companies

#### 2.2.2.3. Earnings Before Interest and Tax Total Assets

This ratio shows the company's ability to generate profit from its assets before interest and tax payments.

X3: Earnings Before Interest and Tax to Total Assets of Banking Companies

#### 2.2.2.4. Book Value of Equity to Book Value of Debt

This ratio shows the company's ability to meet its obligations from the market value of its own capital (common stock). The market value of own equity is obtained by multiplying the number of common shares outstanding by the market price per common share. The book value of debt is obtained by summing current liabilities with long-term liabilities.

X4: Market Value of Equity to Total Liabilities of Banking Companies

## 2.3. Theoretical Hypothesis

H1: The Non-Performing Loan ratio of the bank was lower before the pandemic than during the COVID-19 pandemic.

H2: The Loan-to-Deposit ratio of the bank was higher before and during the COVID-19 pandemic.

H3: The Return on Assets ratio of the bank was higher before and during the COVID-19 pandemic.

H4: The Net Interest Margin ratio of the bank was higher before and during the COVID-19 pandemic.

H5: The Capital Adequacy Ratio of the bank was higher before and during the COVID-19 pandemic.

H6: The stock returns of banking companies were higher before and during the COVID-19 pandemic.

# CHAPTER 3

# RESEARCH METHODOLOGY

## 3.1 Research Design

This study analyzes two banking companies' financial performance and financial health using quantitative methods, detailing the research design, instrument, data collection method, data quality and reliability, and analysis instrument. Quantitative analysis intends to see the correlation of the variables by testing the hypotheses proposed in this study by means of different statistical research methods. Carrying out quantitative research improved the validity of a research, leveraging statistical methods for measuring results conclusively (Mitchell, 1925).

This research design outlines a systematic approach to addressing a problem, including data collection, classification, analysis, and conclusion formulation. Figure 6 illustrates the sequential steps of the research phases, beginning with the identification of the research topic, followed by the literature review, problem definition, formulation of research questions and objectives, determination of research methodology, establishment of the research framework, data collection and application of statistical methods, data analysis, and, finally, the drawing of conclusions and recommendations.


Figure 3.1: Research Design, 2024

The study uses purposive sampling to gather data from two banking companies, PT Bank Pembangunan Daerah Jawa Barat dan Banten Tbk and PT Jawa Timur Tbk, spanning 2016–2023. The data includes 32 quarterly financial reports, with 2020 as the cutoff period for comparison during the COVID-19 pandemic.

### 3.1.1. Scope and of the study

This study is limited to the assessment of the financial health of two regional development Banks (BPD) listed on the Indonesia Stock Exchange, namely BJBR and BJTM. The research will assess the financial health of banks using the Financial Services Authority's regulation POJK 4/POJK.03/2016 criteria, focusing on risk profile, earnings, and capital using the Risk-based Bank Rating approach. This study will primarily focus on quantitative aspects, excluding Good Corporate Governance discussion due to its quantitative nature. The type of data used in this study is quantitative data, namely data in the form of numbers. (Sugiyono,2010:23).

### 3.1.2. Sample Selection and Data Collection

This study uses data from audited financial reports published on the Indonesia Stock Exchange (IDX). The data can be accessed through the website www.idx.co.id. and the publication of financial reports on the website of each Bank.

The population of this study is represented by Regional Development Banks listed on the IDX with a total of two companies. The sample taken by objective method has the following criteria:

1. The company is focusing on the Banking industry.

2. Listed on IDX to obtain reliable data, easy to access, and the company is committed to fulfilling good company governance standards.
3. The company has been registered on IDX before COVID-19 appeared.
4. The audited financial report for 2018-2023 was accessible.

The total population of Banking companies listed on IDX was two, Bank bjb and Bank Jatim. Two Banking were chosen based on listing date to provide data needed for quarterly reports from 2016 to 2023.

## 3.2. Research Model

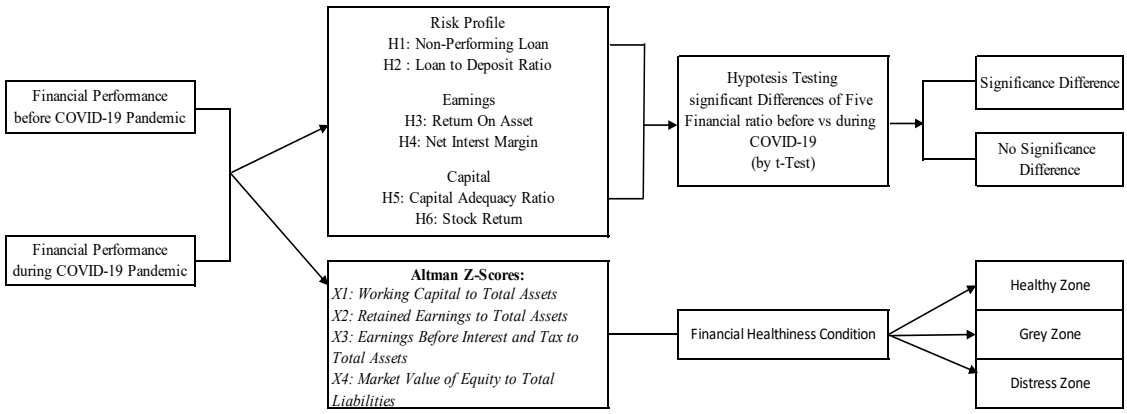



Figure 3.2: Research Framework, 2024

Figure 8 shows the research framework that is carried out in this study. The research framework consists of two variables which are financial performance to assess RBBR analysis and Altman Z Score to assess financial healthiness. Financial performance includes Non-Performing Loan, Loan Deposit Ratio, Return on Assets, Net Interest Margin and Capital Adequacy Ratio compared before and during the COVID-19 pandemic.

### 3.2.1.Risk-Based Bank Rating

In accordance with the provisions in POJK No. 4/POJK.03/2016, through the bank health assessment, a composite rating will be generated which is presented in a table to provide a clear picture of the bank's health condition.

Table 3.0-1: Bank Health Level Composite Rating

| Composite Rating | Description |
|---|---|
| 1 | The bank is categorized as being in a "**Very Healthy"** condition where the bank is capable of<br>the negative impact of the economic situation and the financial sector. |
| 2 | The bank is in a **"Healthy"** condition where it could cope with the negative impact of the economic situation and financial sector. the negative impact of the economic situation and the financial sector, although there are still some weaknesses that can be corrected immediately. |
| 3 | The bank is in a **"Quite healthy"** condition, but there are weaknesses that could potentially deteriorate its overall rating if not addressed immediately. |
| 4 | The bank is in a **"Less healthy"** condition with significant financial weaknesses. significant financial weaknesses. If no immediate corrective action is taken, this condition could potentially threaten the banks. This condition has the potential to threaten the bank's business continuity. |
| 5 | The bank is in an **"Unhealthy"** condition with its inability to cope with the negative effects of economic conditions, and the financial industry is also experiencing difficulties that could potentially jeopardize its business continuity. |

source: SAL SEOJK Nomor 14/SEOJK.03/2017

~~Bank Health Level Composite Rating The formula used in conducting descriptive analysis of this data is the calculation of the mean, which can describe the average value of each financial ratio indicator used to analyze the health level of banks. Using the formula:~~

$$\text{~~Mean~~} = \frac{\text{~~the sum of all values~~}}{\text{~~the amount of data~~}}$$

#### 3.2.1.1.Risk Profile

According to Bank Indonesia Regulation No. 13/1/PBI/2011, a risk profile includes an assessment of inherent risk and the quality of risk management implementation in bank operations, which includes eight main risks: credit, market, liquidity, operational, legal, strategic, compliance, and reputation risks. This study uses Non-Performing Loan (NPL) ratio and Loan to Deposit Ratio (LDR) ratio to measure credit risk and liquidity risk, respectively.

3.2.1.1.1. Non-Performing Loan Ratio

$$\text{Non-Performing Loan Ratio} = \frac{\text{Total Non-Performing Loan (NPL)}}{\text{Total Loan}}$$

3.2.1.1.2. Loan to Deposit Ratio

$$\text{Loan to Deposit Ratio} = \frac{Total\ Loans}{Total\ Party\ Funds}$$

#### 3.2.1.2.Earning

Bank Indonesia's Circular Letter No. 13/24/DPNP 2011 outlines profitability assessment, focusing on earnings performance, sources, sustainability, and management, using Return on Assets and Net Interest Margin.

Return on Asset Formula:

$$\text{ROA} = \frac{Earnings\ Before\ Taxes}{Total\ Asset}\ x\ 100\%$$

Net Interest Margin Formula:

$$NIM = \frac{Net\ Interest\ Income}{Productive\ Asset}\ x\ 100\%$$

### 3.2.1.3. Capital

Capital assessment is based on Bank Indonesia's Capital Adequacy Ratio. The greater the CAR, the better the bank's ability to manage the risk of loss.

Capital Adequacy ratio Formula:

$$CAR = \frac{Tier\ 1\ capital + Tier\ 2\ capital}{Risk\ weight\ exposure}\ x\ 100\%$$

### 3.2.2.Stock Return Analysis

In addition to using research with internal factors, this study uses stock returns from regional development banks listed on the Indonesian stock exchange, which are included in the BUKU IV category in the period from Q1 of 2016 to Q4 of 2023, as an independent variable calculated quarterly. The actual return reflects the amount of stock return and can be calculated as follows:

$$SR_{i,t} = \frac{Stock\ Price_{i,t} - Stock\ Price_{t-i}}{Stock\ Price_{i,t-1}}$$

Where:

$SRi, t$ = PER of company i at period of t

$Stock\ Pricei, t$= Stock Price of company i at period of t

$Stock\ Pricei, t-1$ = Earnings per Share of company i at period of t-1

### 3.2.3.Altman Z-Score

According to Susilowati, W. C., Kristianto, D., & Harimurti, F.,(2019 ) Altman's modified Z-score model eliminates variable X5 (sales to total assets) because non-manufacturing companies do not have sales accounts and vary greatly in industries with different asset sizes.

The X5 value describes the assets turnover whose philosophy is to understand how efficiently the assets owned can provide income. In service companies, fixed assets are usually not directly related to revenue. For example, if a company adds one office, its revenue will not automatically increase. This is the case with manufacturing companies. If the machine capacity is increased by X%, the revenue will increase by X%. Therefore, in manufacturing companies, the value of assets turnover often does not provide meaningful information (Sagho, M. F., & Merkusiwati, N. K. L. A., 2015).

To analyze banking institutions, the modified Z-Score model is used, the formula is as follow:

Altman Z-Scores Formula:

$$\mathbf{Z=6.56_{X1}+3.26_{X2}+6.72_{X3}+1.05_{X4}}$$

a. X1: Working Capital/ Total Asset
b. X2: Retained Earning/ Total Asset
c. X3: Earning Before Tax/ Total Asset
d. X4: Book Value of Equity/ Book Value of Debt

According to Altman and Hotchkiss (1993), score above 2.9 on Z-Score indicates that the financial performance of the company is in the healthy zone. Score between 1.23 and 2.9 indicate that the company performance

financially is in the grey zone. Moreover, score below 1.23 means that the company is in the distress zone.

According to Rudianto (2013:255) The ratios used in the Modified Altman model are as follows:

a. Working Capital / Total Assets

$$WCTA = \frac{(\text{Current Asset} - \text{Current Liabilities})}{\text{Total Asset}}$$

b. Retained Earnings to Total Asset

$$RETA = \frac{\text{Retained Earning}}{\text{Total Asset}}$$

c. Earning Before Tax/ Total Asset

$$EBITTA = \frac{\text{Earnings Before Tax}}{\text{Total Asset}}$$

d. Book Value of Equity/ Book Value of Debt

$$BVEBVL = \frac{\text{Total Equity}}{\text{Total Liabilities}}$$

### 3.2.4. Distribution Normality Test

A normality test is a statistical test used to determine whether sample data comes from a normally distributed population (or close to normal distribution). Shapiro-Wilk test is recommended for data samples of up to 50 subjects, while the D'Agostino & Pearson omnibus normality test should be applied for samples with more than 50 values (Ester et al., 2023). This research used the Shapiro-Wilk test and SPPS software to ease the calculation. Criteria to interpret the assessment result: the Shapiro-Wilk test; Referring to the hypothesis below ($\alpha = 0.05$):

$H_0$ = data are normally distributed.

$H_A$ = data are not normally distributed.

$H_0$ is rejected if the p-value < 0.05, to conclude that the samples are not normally distributed.

### 3.2.5. Hypothesis Test

#### 3.2.5.1. Paired t-Test

A paired t-test is a statistical method used to determine the difference between two groups or conditions. The null hypothesis (H0) assumes no difference, while the alternative hypothesis (HA) suggests a significant difference.

The null hypothesis ($\delta 1 = 0$) is rejected, indicating no significant difference, while if the p-value is less than the predetermined significance level ($\alpha = 0.05$), the alternative hypothesis is accepted.

Criteria that will be used to measure the hypothesis of this study:

- If $p < 0.05$, $H_0$ is rejected, which means there is a significant difference in the financial ratio before and during COVID-19 pandemic.
- If $p > 0.05$, $H_0$ is not rejected, which means there is no significant difference in the financial ratio before and during COVID-19 pandemic.

There were six hypotheses (H1 to H6) examined by this method: whether any difference before and during COVID-19 pandemic on the financial ratios of Non-Performing Loan, Loan Deposit Ratio, Return on Assets, Net Interest Margin and Capital Adequacy Ratio and Stock Return analysis.

#### 3.2.5.2. Wilcoxon Signed Rank Test

According to Laerd Statistic, 2018 The Wilcoxon signed-rank test is the nonparametric test equivalent to the dependent t-test. As the Wilcoxon signed-rank test does not assume normality in the data, it can be used when this assumption has been violated and the use of the dependent t-test is inappropriate. It is used to compare two sets of scores collected from the same people.

# BAB IV

# FINDING, ANALYSIS AND DISCUSSION

## 4.1. Risk Based Bank Rating

### 4.1.1. Risk Profile of Financial Performance

#### 4.1.1.1. Non-Performing Loan

Table 4.0-1: NPL Ratio Before COVID-19 Pandemic

| Period | NPL BJBR | Rating | Desc | NPL BJTM | Rating | Desc |
|---|---|---|---|---|---|---|
| Q1-2019 | 0,93% | 1 | Very Healthy | 0,70% | 1 | Very Healthy |
| Q2-2019 | 1,01% | 1 | Very Healthy | 0,67% | 1 | Very Healthy |
| Q3-2019 | 1,00% | 1 | Very Healthy | 0,56% | 1 | Very Healthy |
| Q4-2019 | 0,81% | 1 | Very Healthy | 0,71% | 1 | Very Healthy |
| Q1-2018 | 0,94% | 1 | Very Healthy | 0,48% | 1 | Very Healthy |
| Q2-2018 | 1,03% | 1 | Very Healthy | 0,70% | 1 | Very Healthy |
| Q3-2018 | 1,05% | 1 | Very Healthy | 0,63% | 1 | Very Healthy |
| Q4-2018 | 0,90% | 1 | Very Healthy | 0,61% | 1 | Very Healthy |
| Q1-2017 | 0,87% | 1 | Very Healthy | 0,55% | 1 | Very Healthy |
| Q2-2017 | 0,85% | 1 | Very Healthy | 0,67% | 1 | Very Healthy |
| Q3-2017 | 0,85% | 1 | Very Healthy | 0,72% | 1 | Very Healthy |
| Q4-2017 | 0,79% | 1 | Very Healthy | 0,46% | 1 | Very Healthy |
| Q1-2016 | 1,00% | 1 | Very Healthy | 1,19% | 1 | Very Healthy |
| Q2-2016 | 0,83% | 1 | Very Healthy | 1,07% | 1 | Very Healthy |
| Q3-2016 | 0,85% | 1 | Very Healthy | 1,04% | 1 | Very Healthy |
| Q4-2016 | 0,75% | 1 | Very Healthy | 0,65% | 1 | Very Healthy |
| **Average** | **0,90%** | **1** | **Very Healthy** | **0,71%** | **1** | **Very Healthy** |

Table 4.1 shows NPL ratios of BPD's listed banks in Indonesia from 2016 to 2019. In addition, the remaining banks are also predicated very healthy with an NPL ranging from 0.46% to 1.19% during 2016 to 2019. In Q1 2016, BJTM experienced a higher NPL of 1.19% because they experienced severe bad credits. In conclusion, both banks showed healthy performances of NPL in five years. All banks show an average of healthy NPL from 2016 to 2020.

The NPL ratio reflects the risk banks exposed by having a ratio of bad credits toward the total loan deployed.

Table 4.0-2: NPL Ratio During Covid-19 Pandemic

| Period | NPL BJBR | Rating | Rating | NPL BJTM | Rating | Desc |
|---|---|---|---|---|---|---|
| Q1-2023 | 0,53% | 1 | Very Healthy | 1,08% | 1 | Very Healthy |
| Q2-2023 | 0,56% | 1 | Very Healthy | 1,16% | 1 | Very Healthy |
| Q3-2023 | 0,63% | 1 | Very Healthy | 1,21% | 1 | Very Healthy |
| Q4-2023 | 0,75% | 1 | Very Healthy | 1,21% | 1 | Very Healthy |
| Q1-2022 | 0,34% | 1 | Very Healthy | 1,01% | 1 | Very Healthy |
| Q2-2022 | 0,31% | 1 | Very Healthy | 0,99% | 1 | Very Healthy |
| Q3-2022 | 0,36% | 1 | Very Healthy | 0,99% | 1 | Very Healthy |
| Q4-2022 | 0,46% | 1 | Very Healthy | 1,01% | 1 | Very Healthy |
| Q1-2021 | 0,43% | 1 | Very Healthy | 0,91% | 1 | Very Healthy |
| Q2-2021 | 0,38% | 1 | Very Healthy | 0,93% | 1 | Very Healthy |
| Q3-2021 | 0,36% | 1 | Very Healthy | 1,03% | 1 | Very Healthy |
| Q4-2021 | 0,41% | 1 | Very Healthy | 0,96% | 1 | Very Healthy |
| Q1-2020 | 0,35% | 1 | Very Healthy | 1,07% | 1 | Very Healthy |
| Q2-2020 | 0,48% | 1 | Very Healthy | 1,69% | 1 | Very Healthy |
| Q3-2020 | 0,45% | 1 | Very Healthy | 1,85% | 1 | Very Healthy |
| Q4-2020 | 0,41% | 1 | Very Healthy | 0,89% | 1 | Very Healthy |
| **Average** | **0,45%** | **1** | **Very Healthy** | **1,12%** | **1** | **Very Healthy** |

From the table 4.2 above, the non-performing loans in the period Q1-2023 to Q4-2023 stabilized at around 0.53% to 0.75%. This shows a very good and consistent NPL performance during the year. Likewise, NPLs in the period Q1-2022 to Q4-2022 also showed stable performance with a range of 0.34% to 0.46%.

In terms of financial health, NPLs in the period (Q1-2023 to Q4-2023) and (Q1-2022 to Q4-2022) were rated "Very Healthy", indicating that the company's financial performance in terms of NPLs was in a very good condition.

On average, the NPL during the period analyzed during the Covid-19 Pandemic (Q1-2020 to Q4-2023) was around 0.45%, with

a rating of "Very Healthy" for financial health. Likewise, the average NPL from Q1-2020 to Q4-2023 is around 1.12%, with a rating of "Very Healthy" for financial health. This shows the consistency and good performance of NPLs in both banks during the period.

#### 4.1.1.2. Loan to Deposit Ratio

Table 4.0-3: LDR before COVID-19 Pandemic

| Period | LDR BJBR | Rating | Desc | LDR BJTM | Rating | Desc |
|---|---|---|---|---|---|---|
| Q1-2019 | 88,93% | 3 | Quite Healthy | 65,02% | 1 | Very Healthy |
| Q2-2019 | 87,10% | 3 | Quite Healthy | 60,02% | 1 | Very Healthy |
| Q3-2019 | 88,06% | 3 | Quite Healthy | 61,64% | 1 | Very Healthy |
| Q4-2019 | 97,81% | 3 | Quite Healthy | 63,34% | 1 | Very Healthy |
| Q1-2018 | 81,63% | 2 | Healthy | 69,80% | 1 | Very Healthy |
| Q2-2018 | 86,45% | 3 | Quite Healthy | 64,86% | 1 | Very Healthy |
| Q3-2018 | 88,25% | 3 | Quite Healthy | 62,59% | 1 | Very Healthy |
| Q4-2018 | 91,89% | 3 | Quite Healthy | 66,57% | 1 | Very Healthy |
| Q1-2017 | 80,24% | 2 | Healthy | 70,62% | 1 | Very Healthy |
| Q2-2017 | 85,85% | 3 | Quite Healthy | 72,26% | 1 | Very Healthy |
| Q3-2017 | 81,50% | 2 | Healthy | 69,79% | 1 | Very Healthy |
| Q4-2017 | 87,27% | 3 | Quite Healthy | 79,69% | 2 | Healthy |
| Q1-2016 | 74,10% | 1 | Very Healthy | 68,11% | 1 | Very Healthy |
| Q2-2016 | 84,23% | 2 | Healthy | 72,64% | 1 | Very Healthy |
| Q3-2016 | 81,50% | 2 | Healthy | 71,97% | 1 | Very Healthy |
| Q4-2016 | 86,70% | 3 | Quite Healthy | 90,48% | 3 | Quite Healthy |
| **Average** | **85,72%** | **3** | **Quite Healthy** | **69,34%** | **1** | **Very Healthy** |

Table 4.3 shows the loan-to-deposit ratio (LDR) for two banks, BJBR and BJTM, during the period before the COVID-19 pandemic. LDR is an indicator that measures how much a bank uses loans to finance its assets compared to the deposits it receives from customers.

In the period before COVID-19, BJBR's LDR ranged from 74.10% to 97.81%. This indicates that the bank used most of its funds from customer deposits to provide loans. Overall, BJBR's LDR had an average of 85.72% during the period. Although in the

"quite healthy" category, there was a slight fluctuation in BJBR's LDR, but it remained within the acceptable range.

Meanwhile, BJTM's LDR during the same period ranged from 60.02% to 90.48%, with an average of 69.34%. The bank performed very well in keeping its LDR at a stable and low level. This indicates that BJTM has a conservative policy of using borrowed funds to finance its assets, which can be considered a sign of strong financial health.

Table 4.0-4: LDR Ratio During Covid-19 Pandemic

| Period | LDR BJBR | Rating | Desc | LDR BJTM | Rating | Desc |
|---|---|---|---|---|---|---|
| Q1-2023 | 86,01% | 3 | Quite Healthy | 60,74% | 1 | Very Healthy |
| Q2-2023 | 90,40% | 3 | Quite Healthy | 59,54% | 1 | Very Healthy |
| Q3-2023 | 92,39% | 3 | Quite Healthy | 61,49% | 1 | Very Healthy |
| Q4-2023 | 87,54% | 3 | Quite Healthy | 70,03% | 1 | Very Healthy |
| Q1-2022 | 79,18% | 2 | Healthy | 46,31% | 1 | Very Healthy |
| Q2-2022 | 80,16% | 2 | Healthy | 45,88% | 1 | Very Healthy |
| Q3-2022 | 88,16% | 3 | Quite Healthy | 55,40% | 1 | Very Healthy |
| Q4-2022 | 85,03% | 3 | Quite Healthy | 56,50% | 1 | Very Healthy |
| Q1-2021 | 84,37% | 2 | Healthy | 54,85% | 1 | Very Healthy |
| Q2-2021 | 80,92% | 2 | Healthy | 52,25% | 1 | Very Healthy |
| Q3-2021 | 78,27% | 2 | Healthy | 49,97% | 1 | Very Healthy |
| Q4-2021 | 81,68% | 2 | Healthy | 51,38% | 1 | Very Healthy |
| Q1-2020 | 91,51% | 3 | Quite Healthy | 66,50% | 1 | Very Healthy |
| Q2-2020 | 91,75% | 3 | Quite Healthy | 61,21% | 1 | Very Healthy |
| Q3-2020 | 78,37% | 2 | Healthy | 57,88% | 1 | Very Healthy |
| Q4-2020 | 86,32% | 3 | Quite Healthy | 60,58% | 1 | Very Healthy |
| **Average** | **85,13%** | **3** | **Quite Healthy** | **56,91%** | **1** | **Very Healthy** |

Table 4.4: LDR of BJBR and BJTM during the period during the COVID-19 pandemic shows that BJBR's LDR during the COVID-19 pandemic period (Q1-2020 to Q4-2023) was in the range of 78.37% to 92.39%, with an average of 85.13%. Although fluctuations occurred from time to time, overall, BJBR's LDR was rated as "quite healthy" during the period. This shows that BJBR

implemented a conservative policy in the use of loan funds during the period of the COVID-19 pandemic.

BJTM's LDR during the same period ranged from 45.88% to 70.03%, with an average of 56.91%. BJTM's LDR was consistently rated "very healthy" during the COVID-19 pandemic period. This shows that BJTM has maintained a very conservative policy in the use of borrowed funds, even during uncertain periods such as the pandemic.

Overall, the data shows that both BJBR and BJTM managed to maintain their financial health during the COVID-19 pandemic period, with BJTM showing a more conservative and stable performance compared to BJBR.

### 4.1.2. Earning of Financial Performance

#### 4.1.2.1. Return On Assets

Table 4.0-5: ROA Before Covid-19 Pandemic

| Period | ROA BJBR | Rating | Description | ROA BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2019 | 1,91% | 1 | Very Healthy | 3,63% | 1 | Very Healthy |
| Q2-2019 | 1,80% | 1 | Very Healthy | 3,50% | 1 | Very Healthy |
| Q3-2019 | 1,68% | 1 | Very Healthy | 3,18% | 1 | Very Healthy |
| Q4-2019 | 1,68% | 1 | Very Healthy | 2,73% | 1 | Very Healthy |
| Q1-2018 | 2,08% | 1 | Very Healthy | 3,88% | 1 | Very Healthy |
| Q2-2018 | 2,06% | 1 | Very Healthy | 3,67% | 1 | Very Healthy |
| Q3-2018 | 2,08% | 1 | Very Healthy | 3,38% | 1 | Very Healthy |
| Q4-2018 | 1,71% | 1 | Very Healthy | 2,96% | 1 | Very Healthy |
| Q1-2017 | 2,32% | 1 | Very Healthy | 3,96% | 1 | Very Healthy |
| Q2-2017 | 2,26% | 1 | Very Healthy | 4,01% | 1 | Very Healthy |
| Q3-2017 | 2,21% | 1 | Very Healthy | 3,61% | 1 | Very Healthy |
| Q4-2017 | 2,01% | 1 | Very Healthy | 3,12% | 1 | Very Healthy |
| Q1-2016 | 2,55% | 1 | Very Healthy | 3,80% | 1 | Very Healthy |
| Q2-2016 | 2,62% | 1 | Very Healthy | 3,18% | 1 | Very Healthy |
| Q3-2016 | 2,21% | 1 | Very Healthy | 3,09% | 1 | Very Healthy |
| Q4-2016 | 2,22% | 1 | Very Healthy | 2,98% | 1 | Very Healthy |
| Average | **2,09%** | 1 | Very Healthy | **3,42%** | **1** | **Very Healthy** |

Table 4.5 shows that return on assets (ROA) data for BJBR and BJTM before the pandemic showed consistency and excellent financial performance.

BJBR's ROA during the period before the pandemic (Q1-2016 to Q4-2019) was in the range of 1.68% to 2.32%, with an average of 2.09%. During this period, BJBR's ROA was rated as "very healthy." This shows that BJBR managed to generate good profits in relation to the total assets it had before the COVID-19 pandemic.

BJTM's ROA during the same period ranged from 2.73% to 4.01%, with an average of 3.42%. Like BJBR, BJTM's ROA was also rated as "very healthy" during the period before the pandemic. This indicates that BJTM also managed to generate significant profits in relation to its total assets, showing strong financial performance before the pandemic.

Overall, the data shows that both BJBR and BJTM demonstrated excellent financial performance in terms of ROA during the period before the COVID-19 pandemic. This illustrates their ability to manage assets efficiently and generate healthy profits before economic conditions became uncertain due to the pandemic.

Table 4.0-6: ROA During Covid-19 Pandemic

| Period | ROA BJBR | Rating | Description | ROA BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2023 | 1,07% | 2 | Healthy | 1,62% | 1 | Very Healthy |
| Q2-2023 | 1,33% | 2 | Healthy | 1,91% | 1 | Very Healthy |
| Q3-2023 | 1,37% | 2 | Healthy | 1,87% | 1 | Very Healthy |
| Q4-2023 | 1,29% | 2 | Healthy | 1,87% | 1 | Very Healthy |
| Q1-2022 | 1,85% | 1 | Very Healthy | 2,31% | 1 | Very Healthy |
| Q2-2022 | 1,88% | 1 | Very Healthy | 2,05% | 1 | Very Healthy |
| Q3-2022 | 1,88% | 1 | Very Healthy | 2,02% | 1 | Very Healthy |
| Q4-2022 | 1,75% | 1 | Very Healthy | 1,95% | 1 | Very Healthy |
| Q1-2021 | 1,67% | 1 | Very Healthy | 2,64% | 1 | Very Healthy |
| Q2-2021 | 1,61% | 1 | Very Healthy | 2,31% | 1 | Very Healthy |
| Q3-2021 | 1,64% | 1 | Very Healthy | 2,22% | 1 | Very Healthy |
| Q4-2021 | 1,73% | 1 | Very Healthy | 2,05% | 1 | Very Healthy |
| Q1-2020 | 1,80% | 1 | Very Healthy | 3,23% | 1 | Very Healthy |
| Q2-2020 | 1,65% | 1 | Very Healthy | 2,73% | 1 | Very Healthy |
| Q3-2020 | 1,61% | 1 | Very Healthy | 2,57% | 1 | Very Healthy |
| Q4-2020 | 1,66% | 1 | Very Healthy | 1,95% | 1 | Very Healthy |
| Average | **1,61%** | **2** | **Very Healthy** | **2,21%** | **1** | **Very Healthy** |

Table 4.6: Return on Assets (ROA) data for BJBR and BJTM during the pandemic period shows that BJBR's ROA during the COVID-19 pandemic period (Q1-2020 to Q4-2023) ranged from 1.07% to 1.85%, with an average of 1.61%. Although in the "Healthy" category, BJBR's ROA showed a fairly good performance during the period, although it decreased slightly compared to the period before the pandemic.

BJTM's ROA during the same period ranged from 1.62% to 3.23%, with an average of 2.21%. During the COVID-19 pandemic period, BJTM's ROA was rated as "very healthy." Despite fluctuations, BJTM's average ROA performed very well, demonstrating BJTM's ability to generate high profits in relation to its total assets during the pandemic period.

While both banks performed relatively well during the pandemic period, BJTM appears more stable, with a consistently higher ROA compared to BJBR. This suggests that BJTM may have

a more efficient strategy for managing its assets during uncertain periods, such as the pandemic.

#### 4.1.2.2. Net Interest Margin

Table 4.0-7: NIM before Covid-19 pandemic

| Period | NIM BJBR | Rating | Description | NIM BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2019 | 5,88% | 1 | Very Healthy | 6,52% | 1 | Very Healthy |
| Q2-2019 | 5,75% | 1 | Very Healthy | 6,30% | 1 | Very Healthy |
| Q3-2019 | 5,69% | 1 | Very Healthy | 6,20% | 1 | Very Healthy |
| Q4-2019 | 5,75% | 1 | Very Healthy | 6,11% | 1 | Very Healthy |
| Q1-2018 | 5,99% | 1 | Very Healthy | 6,57% | 1 | Very Healthy |
| Q2-2018 | 6,31% | 1 | Very Healthy | 6,41% | 1 | Very Healthy |
| Q3-2018 | 6,52% | 1 | Very Healthy | 6,38% | 1 | Very Healthy |
| Q4-2018 | 6,37% | 1 | Very Healthy | 6,37% | 1 | Very Healthy |
| Q1-2017 | 6,51% | 1 | Very Healthy | 7,18% | 1 | Very Healthy |
| Q2-2017 | 6,76% | 1 | Very Healthy | 6,99% | 1 | Very Healthy |
| Q3-2017 | 6,73% | 1 | Very Healthy | 6,82% | 1 | Very Healthy |
| Q4-2017 | 6,76% | 1 | Very Healthy | 6,68% | 1 | Very Healthy |
| Q1-2016 | 6,93% | 1 | Very Healthy | 6,83% | 1 | Very Healthy |
| Q2-2016 | 7,20% | 1 | Very Healthy | 6,69% | 1 | Very Healthy |
| Q3-2016 | 6,73% | 1 | Very Healthy | 6,70% | 1 | Very Healthy |
| Q4-2016 | 7,40% | 1 | Very Healthy | 6,94% | 1 | Very Healthy |
| Average | **6,46%** | **1** | **Very Healthy** | **6,61%** | **1** | **Very Healthy** |

Table 4.7 shows that the net interest margin (NIM) for BJBR and BJTM before the pandemic showed consistency and excellent financial performance.

BJBR's NIM during the period before the pandemic (Q1-2016 to Q4-2019) ranged from 5.69% to 6.99%, with an average of 6.46%. During this period, BJBR's NIM was rated as "very healthy." This shows that BJBR managed to generate a high net profit from its banking operations before the COVID-19 pandemic.

BJTM's NIM during the same period ranged from 6.11% to 7.18%, with an average of 6.61%. During the pre-pandemic period, BJTM's NIM was also rated as "very healthy." This shows that

BJTM also managed to generate a high net profit from its banking operations before the COVID-19 pandemic.

The data shows that both BJBR and BJTM demonstrated excellent financial performance in terms of NIM during the period before the COVID-19 pandemic. The high NIM indicates that both banks managed to manage their interest margins efficiently and generate healthy profits from interest activities before the pandemic.

Table 4.0-8: NIM during Covid-19 pandemic

| Period | NIM BJBR | Rating | Description | NIM BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2023 | 4,77% | 1 | Very Healthy | 5,30% | 1 | Very Healthy |
| Q2-2023 | 4,83% | 1 | Very Healthy | 5,38% | 1 | Very Healthy |
| Q3-2023 | 4,86% | 1 | Very Healthy | 5,38% | 1 | Very Healthy |
| Q4-2023 | 4,89% | 1 | Very Healthy | 5,57% | 1 | Very Healthy |
| Q1-2022 | 5,75% | 1 | Very Healthy | 5,08% | 1 | Very Healthy |
| Q2-2022 | 5,73% | 1 | Very Healthy | 4,92% | 1 | Very Healthy |
| Q3-2022 | 5,83% | 1 | Very Healthy | 5,17% | 1 | Very Healthy |
| Q4-2022 | 5,86% | 1 | Very Healthy | 5,11% | 1 | Very Healthy |
| Q1-2021 | 5,53% | 1 | Very Healthy | 5,05% | 1 | Very Healthy |
| Q2-2021 | 5,60% | 1 | Very Healthy | 5,06% | 1 | Very Healthy |
| Q3-2021 | 5,66% | 1 | Very Healthy | 5,09% | 1 | Very Healthy |
| Q4-2021 | 5,84% | 1 | Very Healthy | 5,11% | 1 | Very Healthy |
| Q1-2020 | 5,54% | 1 | Very Healthy | 6,05% | 1 | Very Healthy |
| Q2-2020 | 5,65% | 1 | Very Healthy | 5,79% | 1 | Very Healthy |
| Q3-2020 | 5,52% | 1 | Very Healthy | 5,70% | 1 | Very Healthy |
| Q4-2020 | 5,39% | 1 | Very Healthy | 5,55% | 1 | Very Healthy |
| Average | **5,45%** | **1** | **Very Healthy** | **5,33%** | **1** | **Very Healthy** |

Table 4.8 shows that BJBR's NIM during the COVID-19 pandemic period (Q1-2020 to Q4-2023) ranged from 4.77% to 5.89%, with an average of 5.45%. During this period, BJBR's NIM was rated as "very healthy." This indicates that BJBR managed to maintain a healthy interest margin and generate a high net profit from its banking operations during the COVID-19 pandemic.

BJTM's NIM during the same period ranged from 5.05% to 6.05%, with an average of 5.33%. During the pandemic period,

BJTM's NIM was also rated as "very healthy." This shows that BJTM also managed to maintain a healthy interest margin and generate a high net profit from its banking operations during the COVID-19 pandemic.

Both BJBR and BJTM managed to maintain their financial performance in terms of NIM during the COVID-19 pandemic period. This illustrates their ability to manage their interest margins efficiently and generate healthy net profit from interest activities during the uncertain economic conditions due to the pandemic.

### 4.1.3. Capital of Financial Performance

#### 4.1.3.1. Capital Adequacy Ratio

Table 4.0-9: CAR Before Covid-19 Pandemic

| Period | CAR BJBR | Rating | Description | CAR BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2019 | 16,03% | 1 | Very Healthy | 24,14% | 1 | Very Healthy |
| Q2-2019 | 16,68% | 1 | Very Healthy | 23,22% | 1 | Very Healthy |
| Q3-2019 | 16,39% | 1 | Very Healthy | 21,80% | 1 | Very Healthy |
| Q4-2019 | 16,29% | 1 | Very Healthy | 21,77% | 1 | Very Healthy |
| Q1-2018 | 17,39% | 1 | Very Healthy | 22,76% | 1 | Very Healthy |
| Q2-2018 | 17,81% | 1 | Very Healthy | 23,08% | 1 | Very Healthy |
| Q3-2018 | 17,79% | 1 | Very Healthy | 23,35% | 1 | Very Healthy |
| Q4-2018 | 19,02% | 1 | Very Healthy | 24,21% | 1 | Very Healthy |
| Q1-2017 | 16,84% | 1 | Very Healthy | 22,30% | 1 | Very Healthy |
| Q2-2017 | 16,91% | 1 | Very Healthy | 22,91% | 1 | Very Healthy |
| Q3-2017 | 16,54% | 1 | Very Healthy | 22,85% | 1 | Very Healthy |
| Q4-2017 | 18,95% | 1 | Very Healthy | 24,65% | 1 | Very Healthy |
| Q1-2016 | 15,07% | 1 | Very Healthy | 19,46% | 1 | Very Healthy |
| Q2-2016 | 17,93% | 1 | Very Healthy | 20,65% | 1 | Very Healthy |
| Q3-2016 | 18,28% | 1 | Very Healthy | 22,43% | 1 | Very Healthy |
| Q4-2016 | 17,85% | 1 | Very Healthy | 23,88% | 1 | Very Healthy |
| **Average** | **17,24%** | **1** | **Very Healthy** | **22,72%** | **1** | **Very Healthy** |

Table 4.9 show BJBR's CAR during the period (Q1-2016 to Q4-2019) ranged from 15.07% to 19.02%, with an average of 17.24%. During the entire period, BJBR's CAR was rated as "very healthy." This indicates that BJBR has an adequate level of capital to cover the risks faced as well as meet the stipulated capital requirements.

BJTM's CAR during the same period ranged from 19.46% to 24.65%, with an average of 22.72%. During the entire period, BJTM's CAR was also rated as "very healthy." This shows that BJTM also has a very good level of capital, which indicates the bank's ability to withstand potential losses from risks that may occur.

Overall, the data shows that both BJBR and BJTM had excellent capital health levels during the observed period, which provides a solid foundation to support their banking operations and to deal with risks that may arise.

Table 4.0-10: CAR During Covid-19 Pandemic

| Period | CAR BJBR | Rating | Description | CAR BJTM | Rating | Description |
|---|---|---|---|---|---|---|
| Q1-2023 | 21,21% | 1 | Very Healthy | 28,47% | 1 | Very Healthy |
| Q2-2023 | 20,27% | 1 | Very Healthy | 26,03% | 1 | Very Healthy |
| Q3-2023 | 19,86% | 1 | Very Healthy | 25,80% | 1 | Very Healthy |
| Q4-2023 | 20,17% | 1 | Very Healthy | 25,71% | 1 | Very Healthy |
| Q1-2022 | 17,46% | 1 | Very Healthy | 23,67% | 1 | Very Healthy |
| Q2-2022 | 18,17% | 1 | Very Healthy | 23,31% | 1 | Very Healthy |
| Q3-2022 | 17,85% | 1 | Very Healthy | 22,65% | 1 | Very Healthy |
| Q4-2022 | 19,40% | 1 | Very Healthy | 24,74% | 1 | Very Healthy |
| Q1-2021 | 17,38% | 1 | Very Healthy | 23,13% | 1 | Very Healthy |
| Q2-2021 | 17,16% | 1 | Very Healthy | 21,10% | 1 | Very Healthy |
| Q3-2021 | 17,86% | 1 | Very Healthy | 22,56% | 1 | Very Healthy |
| Q4-2021 | 17,98% | 1 | Very Healthy | 23,52% | 1 | Very Healthy |
| Q1-2020 | 16,91% | 1 | Very Healthy | 22,91% | 1 | Very Healthy |
| Q2-2020 | 15,56% | 1 | Very Healthy | 21,08% | 1 | Very Healthy |
| Q3-2020 | 15,56% | 1 | Very Healthy | 21,32% | 1 | Very Healthy |
| Q4-2020 | 17,78% | 1 | Very Healthy | 21,64% | 1 | Very Healthy |
| **Average** | **18,16%** | **1** | **Very Healthy** | **23,60%** | **1** | **Very Healthy** |

Table 4.10 shows BJBR's CAR during the COVID-19 pandemic period (Q1-2020 to Q4-2023) ranged from 15.56% to 21.21%, with an average of 18.16%. During this period, BJBR's CAR was rated as "very healthy." This indicates that BJBR has sufficient capital levels to cover the risks it faces as well as meet the capital requirements set, even during the uncertain economic conditions during the pandemic.

BJTM's CAR during the same period ranged from 21.08% to 28.47%, with an average of 23.60%. During the pandemic period, BJTM's CAR was also rated as "very healthy." This indicates that BJTM also has an excellent level of capital, which demonstrates the bank's ability to withstand potential losses from risks that may occur, even during periods of economic uncertainty due to the pandemic.

Overall, the data shows that both BJBR and BJTM have an excellent level of capital health during the COVID-19 pandemic period, providing a solid foundation for both banks to carry out their banking operations and deal with risks that may arise during periods of economic uncertainty.

## 4.2. Risk Based Bank Rating Result

Table 4-11 Risk Based Bank Rating Summary

| | No | Factor | Ratio | Before Covid-19 Q1-Q4, 2016-2019 Average | Rating Rate | Composite Rating | Ratio | After Covid-19 Q1-Q4, 2020-2023 Average | Rating Rate | Composite Rating |
|---|---|---|---|---|---|---|---|---|---|---|
| BJBR | 1 | Risk Profile of Financial Perfomance | NPL | 0,90% | 1 | Very Healthy | NPL | 0,90% | 1 | Very Healthy |
| | | | LDR | 85,72% | 3 | Quite Healthy | LDR | 85,13% | 3 | Quite Healthy |
| | 2 | Earnings of Financial Performance | ROA | 2,09% | 1 | Very Healthy | ROA | 1,61% | 1 | Very Healthy |
| | | | NIM | 6,46% | 1 | Very Healthy | NIM | 5,45% | 1 | Very Healthy |
| | 3 | Capital of Financial Performance | CAR | 17,24% | 1 | Very Healthy | CAR | 18,16% | 1 | Very Healthy |
| BJTM | 1 | Risk Profile of Financial Perfomance | NPL | 0,71% | 1 | Very Healthy | NPL | 1,12% | 1 | Very Healthy |
| | | | LDR | 69,34% | 1 | Very Healthy | LDR | 56,91% | 1 | Very Healthy |
| | 2 | Earnings of Financial Performance | ROA | 3,42% | 1 | Very Healthy | ROA | 2,21% | 1 | Very Healthy |
| | | | NIM | 6,61% | 1 | Very Healthy | NIM | 5,33% | 1 | Very Healthy |
| | 3 | Capital of Financial Performance | CAR | 22,72% | 1 | Very Healthy | CAR | 23,60% | 1 | Very Healthy |

Based on the provided data, the conclusions for BJBR and BJTM before and after the Covid-19 pandemic are as follows:

Both banks maintained stable and very healthy risk profiles throughout the pandemic. BJBR's NPL remained stable at 0.90%, while its LDR slightly improved from 85.72% to 85.13%,

maintaining a Quite Healthy rating. BJTM's NPL increased from 0.71% to 1.12%, but it remained Very Healthy. The LDR for BJTM decreased significantly from 69.34% to 56.91%, further strengthening its liquidity position and maintaining a Very Healthy rating.

Earnings performance for both banks showed a decline due to the pandemic's impact. BJBR's ROA decreased from 2.09% to 1.61%, and its NIM dropped from 6.46% to 5.45%, though both remained in the Very Healthy range. Similarly, BJTM's ROA fell from 3.42% to 2.21%, and its NIM decreased from 6.61% to 5.33%, yet both metrics continued to be rated as Very Healthy.

Capital adequacy for both banks improved post-pandemic, reflecting their strong capital buffers to absorb potential losses. BJBR's CAR increased from 17.24% to 18.16%, while BJTM's CAR rose from 22.72% to 23.60%, with both banks consistently rated as Very Healthy in this regard.

In summary, despite the pandemic's challenges, BJBR and BJTM demonstrated resilience and robust financial health. Their risk profiles remained stable, and capital adequacy improved, although earnings performance saw some decline. Both banks are well-positioned for continued stability and growth with room for improvement in their earnings performance.

## 4.3. Stock Return Analysis

Table 4.0-12: Stock return analysis before covid-19 pandemic

| BJBR | | | | BJTM | | | |
|---|---|---|---|---|---|---|---|
| Period | Stock Price i,t | Stock Price i,t-1 | Sr i,t | Period | Stock Price i,t | Stock Price i,t-1 | Sr i,t |
| Q1-2019 | 2.010 | 1.690 | 0,1893 | Q1-2019 | 685 | 635 | 0,0787 |
| Q2-2019 | 1.690 | 1.570 | 0,0764 | Q2-2019 | 635 | 635 | 0,0000 |
| Q3-2019 | 1.570 | 1.185 | 0,3249 | Q3-2019 | 635 | 655 | -0,0305 |
| Q4-2019 | 1.185 | 2.060 | -0,4248 | Q4-2019 | 655 | 630 | 0,0397 |
| Q1-2018 | 2.060 | 2.090 | -0,0144 | Q1-2018 | 630 | 680 | -0,0735 |
| Q2-2018 | 2.090 | 2.030 | 0,0296 | Q2-2018 | 680 | 650 | 0,0462 |
| Q3-2018 | 2.030 | 2.050 | -0,0098 | Q3-2018 | 650 | 690 | -0,0580 |
| Q4-2018 | 2.050 | 2.020 | 0,0149 | Q4-2018 | 690 | 690 | 0,0000 |
| Q1-2017 | 2.020 | 1.960 | 0,0306 | Q1-2017 | 690 | 665 | 0,0376 |
| Q2-2017 | 1.960 | 1.980 | -0,0101 | Q2-2017 | 665 | 700 | -0,0500 |
| Q3-2017 | 1.980 | 2.200 | -0,1000 | Q3-2017 | 700 | 710 | -0,0141 |
| Q4-2017 | 2.200 | 965 | 1,2798 | Q4-2017 | 710 | 475 | 0,4947 |
| Q1-2016 | 965 | 1.125 | -0,1422 | Q1-2016 | 475 | 510 | -0,0686 |
| Q2-2016 | 1.125 | 1.610 | -0,3012 | Q2-2016 | 510 | 565 | -0,0973 |
| Q3-2016 | 1.610 | 3.390 | -0,5251 | Q3-2016 | 565 | 570 | -0,0088 |
| Q4-2016 | 3.390 | 1.000 | 2,3900 | Q4-2016 | 570 | 550 | 0,0364 |
| Q1-2015 | 1.000 | | | Q1-2015 | 550 | | |

Table 4.11 shows the stock return period in the period before the COVID-19 pandemic. BJBR experienced a significant increase in stock price in Q1-2019 by 18.93%, while Q2-2019 experienced a slower growth of 7.64%. Q3-2019 experienced a significant increase of 32.49%, possibly due to market or internal factors. In Q4-2019, the SR reached -42.48%, possibly due to the same factors. BJTM also experienced significant share price fluctuations in Q1-2019, with an SR of 7.87% in Q1 and 0% in Q2. Q3-2019 saw a significant decline of -3.05% and an increase of 3.97% in Q4. Overall, BJBR and BJTM experienced significant share price fluctuations before the COVID-19 pandemic.

Table 4.0-13: Stock return during covid-19 pandemic

| BJBR | | | | BJTM | | | |
|---|---|---|---|---|---|---|---|
| **Period** | Stock Price i,t | Stock Price i,t-1 | Sr i,t | **Period** | Stock Price i,t | Stock Price i,t-1 | Sr i,t |
| Q1-2023 | 1.370 | 1.180 | 0,1610 | Q1-2023 | 735 | 645 | 0,1395 |
| Q2-2023 | 1.180 | 1.170 | 0,0085 | Q2-2023 | 645 | 635 | 0,0157 |
| Q3-2023 | 1.170 | 1.150 | 0,0174 | Q3-2023 | 635 | 625 | 0,0160 |
| Q4-2023 | 1.150 | 1.525 | -0,2459 | Q4-2023 | 625 | 790 | -0,2089 |
| Q1-2022 | 1.525 | 1.375 | 0,1091 | Q1-2022 | 790 | 740 | 0,0676 |
| Q2-2022 | 1.375 | 1.355 | 0,0148 | Q2-2022 | 740 | 705 | 0,0496 |
| Q3-2022 | 1.355 | 1.345 | 0,0074 | Q3-2022 | 705 | 710 | -0,0070 |
| Q4-2022 | 1.345 | 1.455 | -0,0756 | Q4-2022 | 710 | 785 | -0,0955 |
| Q1-2021 | 1.455 | 1.210 | 0,2025 | Q1-2021 | 785 | 705 | 0,1135 |
| Q2-2021 | 1.210 | 1.210 | 0,0000 | Q2-2021 | 705 | 720 | -0,0208 |
| Q3-2021 | 1.210 | 1.335 | -0,0936 | Q3-2021 | 720 | 750 | -0,0400 |
| Q4-2021 | 1.335 | 735 | 0,8163 | Q4-2021 | 750 | 400 | 0,8750 |
| Q1-2020 | 735 | 760 | -0,0329 | Q1-2020 | 400 | 500 | -0,2000 |
| Q2-2020 | 760 | 870 | -0,1264 | Q2-2020 | 500 | 510 | -0,0196 |
| Q3-2020 | 870 | 1.550 | -0,4387 | Q3-2020 | 510 | 685 | -0,2555 |
| Q4-2020 | 1.550 | 2.010 | -0,2289 | Q4-2020 | 685 | 685 | 0,0000 |

Table 4.12 shows BJBR and BJTM experienced significant share price fluctuations during the post-COVID-19 period, with significant declines mainly occurring in Q4-2023. In Q1-2023, BJBR experienced a 16.10% increase in share price, indicating a positive performance at the beginning of the year. However, in Q2-2023, the SR was only 0.85%, indicating slow growth. In Q3-2023, the SR was 1.74%, indicating steady growth. In Q4-2023, the SR reached -24.59%, possibly due to market or internal factors. BJTM also experienced similar fluctuations, with an SR of 13.95% in Q1-2023, 1.57% in Q2-2023, and 1.60% in Q3-2023. In Q4-2023, the SR reached -20.89%, possibly due to similar factors. Overall, both BJBR and BJTM experienced considerable share price fluctuations, largely due to the uncertainty and volatility in the stock market during that period.

## 4.4. Altman Z Score

The results of the calculation and assessment of the performance of Regional Development Banks listed on the IDX through financial reports

based on the modified Altman Z-Score formula from 2016 to 2023 are as follows:

Table 4.0-14: Z-score analysis Before Covid-19 Pandemic

| Bank | Period | 6,5 X1 | 3,2 X2 | 6,72 X3 | 1,05 X4 | Z-Scores | Decsription |
|---|---|---|---|---|---|---|---|
| BJBR | Q1-2019 | 6,198 | 0,173 | 0,031 | 0,122 | 6,523 | GREEN |
| | Q2-2019 | 6,205 | 0,138 | 0,057 | 0,106 | 6,506 | GREEN |
| | Q3-2019 | 6,217 | 0,144 | 0,079 | 0,107 | 6,546 | GREEN |
| | Q4-2019 | 6,138 | 0,172 | 0,108 | 0,119 | 6,537 | GREEN |
| | Q1-2018 | 6,188 | 0,133 | 0,034 | 0,100 | 6,456 | GREEN |
| | Q2-2018 | 6,170 | 0,133 | 0,069 | 0,120 | 6,492 | GREEN |
| | Q3-2018 | 6,171 | 0,161 | 0,102 | 0,125 | 6,558 | GREEN |
| | Q4-2018 | 6,170 | 0,159 | 0,108 | 0,114 | 6,551 | GREEN |
| | Q1-2017 | 6,218 | 0,123 | 0,037 | 0,109 | 6,487 | GREEN |
| | Q2-2017 | 6,184 | 0,144 | 0,066 | 0,110 | 6,504 | GREEN |
| | Q3-2017 | 6,218 | 0,144 | 0,080 | 0,106 | 6,549 | GREEN |
| | Q4-2017 | 6,144 | 0,147 | 0,095 | 0,107 | 6,494 | GREEN |
| | Q1-2016 | 6,319 | 0,141 | 0,040 | 0,093 | 6,594 | GREEN |
| | Q2-2016 | 6,202 | 0,153 | 0,075 | 0,119 | 6,550 | GREEN |
| | Q3-2016 | 6,224 | 0,156 | 0,098 | 0,117 | 6,594 | GREEN |
| | Q4-2016 | 6,156 | 0,154 | 0,096 | 0,117 | 6,523 | GREEN |
| **Bank** | **Period** | **6,5 X1** | **3,2 X2** | **6,72 X3** | **1,05 X4** | **Z-Scores** | **Decsription** |
| BJTM | Q1-2019 | 6,450 | 0,118 | 0,059 | 0,172 | 6,799 | GREEN |
| | Q2-2019 | 6,334 | 0,134 | 0,109 | 0,150 | 6,727 | GREEN |
| | Q3-2019 | 6,322 | 0,128 | 0,147 | 0,149 | 6,746 | GREEN |
| | Q4-2019 | 6,379 | 0,121 | 0,163 | 0,143 | 6,805 | GREEN |
| | Q1-2018 | 6,283 | 0,156 | 0,063 | 0,166 | 6,668 | GREEN |
| | Q2-2018 | 6,346 | 0,165 | 0,116 | 0,161 | 6,789 | GREEN |
| | Q3-2018 | 6,348 | 0,170 | 0,155 | 0,156 | 6,830 | GREEN |
| | Q4-2018 | 6,341 | 0,183 | 0,188 | 0,164 | 6,876 | GREEN |
| | Q1-2017 | 6,352 | 0,137 | 0,062 | 0,168 | 6,719 | GREEN |
| | Q2-2017 | 6,360 | 0,158 | 0,128 | 0,172 | 6,818 | GREEN |
| | Q3-2017 | 6,372 | 0,154 | 0,159 | 0,172 | 6,856 | GREEN |
| | Q4-2017 | 6,324 | 0,185 | 0,214 | 0,188 | 6,910 | GREEN |
| | Q1-2016 | 6,417 | 0,112 | 0,061 | 0,145 | 6,735 | GREEN |
| | Q2-2016 | 6,401 | 0,131 | 0,109 | 0,156 | 6,797 | GREEN |
| | Q3-2016 | 6,348 | 0,144 | 0,153 | 0,171 | 6,815 | GREEN |
| | Q4-2016 | 6,309 | 0,182 | 0,227 | 0,211 | 6,928 | GREEN |

Table 4.13 above shows that the Z-scores for BJBR and BJTM indicate that both banks were in very good financial health before the COVID-19 pandemic. BJBR's Z-score consistently ranged from 6.4 to 6.6, indicating a healthy financial condition. Z-score values above 3 indicate good financial stability. BJTM's Z-score has consistently been in the range of 6.7 to 6.9, indicating excellent financial health. Both banks, BJBR and BJTM, can be

considered to have had strong financial stability before the pandemic. As such, both banks demonstrated excellent financial health based on their Z-scores before the pandemic.

Table 4.0-15: Z Scores During Covid-19 Pandemic

| Bank | Period | 6,5 X1 | 3,2 X2 | 6,72 X3 | 1,05 X4 | Z-Scores | Decsription |
|---|---|---|---|---|---|---|---|
| BJBR | Q1-2023 | 6,120 | 0,000 | 0,017 | 0,099 | 6,236 | GREEN |
| | Q2-2023 | 6,090 | 0,000 | 0,042 | 0,096 | 6,228 | GREEN |
| | Q3-2023 | 6,101 | 0,000 | 0,065 | 0,096 | 6,262 | GREEN |
| | Q4-2023 | 6,090 | 0,000 | 0,076 | 0,094 | 6,261 | GREEN |
| | Q1-2022 | 6,139 | 0,000 | 0,024 | 0,091 | 6,253 | GREEN |
| | Q2-2022 | 6,144 | 0,000 | 0,058 | 0,090 | 6,292 | GREEN |
| | Q3-2022 | 6,119 | 0,000 | 0,088 | 0,094 | 6,301 | GREEN |
| | Q4-2022 | 6,117 | 0,000 | 0,105 | 0,093 | 6,315 | GREEN |
| | Q1-2021 | 6,152 | 0,000 | 0,027 | 0,097 | 6,276 | GREEN |
| | Q2-2021 | 6,167 | 0,000 | 0,052 | 0,089 | 6,309 | GREEN |
| | Q3-2021 | 6,162 | 0,000 | 0,076 | 0,008 | 6,246 | GREEN |
| | Q4-2021 | 6,129 | 0,000 | 0,110 | 0,095 | 6,334 | GREEN |
| | Q1-2020 | 6,128 | 0,000 | 0,029 | 0,103 | 6,261 | GREEN |
| | Q2-2020 | 6,128 | 0,000 | 0,054 | 0,098 | 6,279 | GREEN |
| | Q3-2020 | 6,177 | 0,000 | 0,069 | 0,085 | 6,331 | GREEN |
| | Q4-2020 | 6,108 | 0,000 | 0,103 | 0,098 | 6,309 | GREEN |
| **Bank** | **Period** | **6,5 X1** | **3,2 X2** | **6,72 X3** | **1,05 X4** | **Z-Scores** | **Decsription** |
| BJTM | Q1-2023 | 6,350 | 0,000 | 0,028 | 0,148 | 6,526 | GREEN |
| | Q2-2023 | 6,326 | 0,000 | 0,061 | 0,134 | 6,522 | GREEN |
| | Q3-2023 | 6,349 | 0,000 | 0,089 | 0,133 | 6,570 | GREEN |
| | Q4-2023 | 6,415 | 0,000 | 0,122 | 0,143 | 6,680 | GREEN |
| | Q1-2022 | 6,380 | 0,000 | 0,038 | 0,118 | 6,536 | GREEN |
| | Q2-2022 | 6,380 | 0,000 | 0,038 | 0,118 | 6,536 | GREEN |
| | Q3-2022 | 6,385 | 0,000 | 0,107 | 0,133 | 6,626 | GREEN |
| | Q4-2022 | 6,355 | 0,000 | 0,132 | 0,134 | 6,621 | GREEN |
| | Q1-2021 | 6,390 | 0,000 | 0,043 | 0,142 | 6,575 | GREEN |
| | Q2-2021 | 6,380 | 0,000 | 0,073 | 0,127 | 6,580 | GREEN |
| | Q3-2021 | 6,371 | 0,000 | 0,102 | 0,125 | 6,597 | GREEN |
| | Q4-2021 | 6,380 | 0,000 | 0,129 | 0,130 | 6,640 | GREEN |
| | Q1-2020 | 6,367 | 0,000 | 0,054 | 0,171 | 6,592 | GREEN |
| | Q2-2020 | 6,371 | 0,000 | 0,088 | 0,149 | 6,608 | GREEN |
| | Q3-2020 | 6,381 | 0,000 | 0,117 | 0,142 | 6,640 | GREEN |
| | Q4-2020 | 6,341 | 0,000 | 0,121 | 0,146 | 6,608 | GREEN |

Table 4.14 shows the Z-score for BJBR and BJTM post-COVID-19 is notably high, ranging from 6.2 to 6.3. The scores indicate that BJBR is in a healthy financial condition, indicating it can still be considered a bank with good financial stability post-pandemic. BJTM, on the other hand, has a score between 6.5 and 6.7, indicating it is also in a healthy financial condition post-pandemic. Both banks are expected to maintain good financial health post-pandemic, as indicated by their high Z-scores.

## 4.5. Distribution Normality Test Result

Table 4.0-16: Distribution Normality Test

| Financial Ratio | Before Covid | | | During Covid-19 | | |
|---|---|---|---|---|---|---|
| | Statistic | P-value | Normality distribution result | Statistic | P-value | Normality distribution result |
| Non-Performing Loan | .978 | .750 | data normaly distributed | .894 | .004 | data normaly distributed |
| Loan to Deposit Ratio | .943 | .093 | data normaly distributed | .905 | .008 | data normaly distributed |
| Return on Asset | .927 | .033 | data normaly distributed | .939 | .072 | data normaly distributed |
| Net Interest Margin | .974 | .621 | data normaly distributed | .952 | .159 | data normaly distributed |
| Capital Adequacy ratio | .974 | .621 | data normaly distributed | .965 | .381 | data normaly distributed |
| Stock Return | .571 | <.001 | data normaly distributed | .776 | <.001 | data normaly distributed |

Table 4.15 presents the results of a normality test for financial ratios before and during the COVID-19 pandemic. A p-value above 0.05 suggests a normal data distribution, indicating that the null hypothesis cannot be rejected. Since this study requires normally distributed data for parametric statistical analysis, the Shapiro-Wilk test statistics were utilized. The Shapiro-Wilk Normality test for Non-Performing Loan (NPL) was computed using SPSS version 29.0.2 to test for normal distribution.

## 4.6. Hypotesis Testing Result

H1: The Non-Performing Loan ratio of the bank was lower before the pandemic than during the COVID-19 pandemic.

Table 4.0-17: Non-Performing Loan Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| NPL Before COVID -19 Pandemic | .00808 | 32 | .001863 | .000329 |
| NPL During COVID -19 Pandemic | .00788 | 32 | .003994 | .000706 |

| | N | t | df | One-Tailed P Value |
|---|---|---|---|---|
| NPL Before and During COVID-19 Pandemic | 32 | .249 | 31 | .403 |

Table 4.17 presents the results of a paired t-test comparing the NPL ratios before and during the COVID-19 pandemic. With a sample size of 32, the calculated t-statistic value is 0.249, indicating the magnitude of the difference between the NPL ratios in the two periods. The associated p-value is 0.403, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to conclude a significant difference in the NPL ratios before and during the COVID-19 pandemic based on the provided data.

**H2: The Loan-to-Deposit ratio of the bank was higher before the pandemic compared to during the COVID-19 pandemic.**

Table 4.0-18: Loan to Deposit Ratio Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| LDR Before COVID -19 Pandemic | .77528 | 32 | .105293 | .018613 |
| LDR During COVID -19 Pandemic | .71018 | 32 | .154688 | .027345 |

| | N | t | df | One-sided P |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| LDR Before and During COVID-19 Pandemic | 32 | 3.451 | 31 | <.001 |

Table 4.17 presents the results of a paired t-test comparing the LDR ratios before and during the COVID-19 pandemic. With a sample size of 32, the calculated t-statistic value is 3.451, indicating the magnitude of the difference between the LDR ratios in the two periods. The associated p-value is <0.001, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to conclude a significant difference in the LDR ratios before and during the COVID-19 pandemic based on the provided data.

**H3: The Return on Assets ratio of the bank was higher before and during the COVID-19 pandemic.**

Table 4.0-19: Return on Asset Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| ROA Before COVID -19 Pandemic | .02753 | 32 | .007560 | .001336 |
| ROA During COVID-19 Pandemic | .01909 | 32 | .004463 | .000789 |

| | N | t | df | One-sided P |
|---|---|---|---|---|
| ROA Before and During COVID-19 Pandemic | 32 | 9.104 | 31 | <.001 |

Table 4.18 presents the results of a paired t-test comparing the ROA ratios before and during the COVID-19 pandemic. With a sample size of 32,

the calculated t-statistic value is 9.104, indicating the magnitude of the difference between the ROA ratios in the two periods. The associated p-value is <0.001, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to conclude a significant difference in the ROA ratios before and during the COVID-19 pandemic based on the provided data.

**H4: The Net Interest Margin Ratio of the bank was higher before and during the COVID-19 pandemic.**

Table 4.0-20: Net Interest Margin Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| NIM Before COVID -19 Pandemic | .06530 | 32 | .004295 | .000759 |
| NIM During COVID-19 Pandemic | .05393 | 32 | .003560 | .000629 |

| | N | t | df | One-sided P |
|---|---|---|---|---|
| NIM Before and During COVID-19 Pandemic | 32 | 14.385 | 31 | <.001 |

Table 4.19 presents the results of a paired t-test comparing the NIM ratios before and during the COVID-19 pandemic. With a sample size of 32, the calculated t-statistic value is 14.385, indicating the magnitude of the difference between the NIM ratios in the two periods. The associated p-value is <0.001, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to

conclude a significant difference in the NIM ratios before and during the COVID-19 pandemic based on the provided data.

**H5: The Capital Adequacy Ratio of the bank was higher before and during the COVID-19 pandemic.**

Table 4.0-21: Capital Adequacy Ratio Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| CAR Before COVID -19 Pandemic | .19976 | 32 | .030316 | .005359 |
| CAR During COVID-19 Pandemic | .20882 | 32 | .033179 | .005865 |

| | N | t | df | One-sided P |
|---|---|---|---|---|
| CAR Before and During COVID-19 Pandemic | 32 | -2.380 | 31 | .012 |

Table 4.20 presents the results of a paired t-test comparing the CAR ratios before and during the COVID-19 pandemic. With a sample size of 32, the calculated t-statistic value is -2.380, indicating the magnitude of the difference between the CAR ratios in the two periods. The associated p-value is 0.012, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to conclude a significant difference in the CAR ratios before and during the COVID-19 pandemic based on the provided data.

**H6: The stock returns of banking companies were higher before and during the COVID-19 pandemic.**

Table 4.0-22: Stock Return Descriptive Statistic

| | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| $S_{rt}$ Before COVID - 19 Pandemic | 981.38 | 32 | 5096.682 | 900.975 |
| $S_{rt}$ During COVID-19 Pandemic | 163.94 | 32 | 2565.330 | 453.491 |

| | N | t | df | One-sided P |
|---|---|---|---|---|
| $S_{rt}$ Before and During COVID-19 Pandemic | 32 | .944 | 31 | .176 |

Table 4.21 presents the results of a paired t-test comparing the $S_{rt}$ ratios before and during the COVID-19 pandemic. With a sample size of 32, the calculated t-statistic value is0.944, indicating the magnitude of the difference between the $S_{rt}$ ratios in the two periods. The associated p-value is 0.176, suggesting that if the null hypothesis were true (no significant difference), Since the p-value exceeds the typical significance level of 0.05, the null hypothesis is not rejected. Therefore, there is insufficient evidence to conclude a significant difference in the $S_{rt}$ ratios before and during the COVID-19 pandemic based on the provided data.

## 4.7. Financial Performance Analysis Bank bjb tbk and Bank Jatim tbk.

Summary test financial ratios using paired t-Test.

| Financial Ratio | P Value Result (1-tailed) | Paired t-Test | Interpretation |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Non-Performing Loan | .403 | P Value > 0.05 *H*01 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |
| Loan to Deposit Ratio | <.001 | P Value > 0.05 *H*02 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |
| Return on Asset | <.001 | P Value > 0.05 *H*03 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |
| Net Interest Margin | <.001 | P Value > 0.05 *H*04 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |
| Capital Adequacy Ratio | .012 | P Value > 0.05 *H*05 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |
| Stock Return | .176 | P Value > 0.05 *H*06 Not Rejected | There is no significance difference before and during Covid-19 Pandemic |

The table displays statistical test results for various financial ratios before and during the COVID-19 pandemic. Each ratio's one-tailed p-value is shown, with interpretations based on the 0.05 significance level. For all ratios (Non-Performing Loan, Loan to Deposit Ratio, Return on Asset, Net Interest Margin, Capital Adequacy Ratio, and Stock Return), the null hypothesis (H0) of no significant difference between before and during-pandemic ratios is not rejected. This suggests no significant change in these ratios during the COVID-19 pandemic based on the provided data.

## 4.8. Research Result.

Based on the previously mentioned data and analysis, we conclude the following conclusions about the research concerns stated in Chapter 1.

**H1: The Non-Performing Loan ratio of the bank was lower before the pandemic than during the COVID-19 pandemic.**

$H01$: $D_{NPL} = 0$

$Ha1$: $D_{\text{NPL}} > 0$

$D_{\text{NPL}}$ = Difference in mean/median of Non-Performing Loan (NPL) before and during COVID-19 Pandemic

We found that the paired t-Test significance = 0.443 > 0.05, hence $H01$ is not rejected. We conclude that there was no significant difference in Non-Performing Loan (NPL) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

**H2: The Loan-to-Deposit ratio of the bank was higher before and during the COVID-19 pandemic.**

$H02$: $D_{\text{LDR}} = 0$

$Ha2$: $D_{\text{LDR}} > 0$

$D_{\text{LDR}}$ = Difference in mean/median of Loan to Deposit Ratio (LDR) before and during COVID-19 Pandemic

As result of paired t-Test, the significance which is <0.001 greater than > 0.05, hence $H02$ is not rejected. We conclude that there was no significant difference in Loan to Deposit Ratio (LDR) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

**H3: The Return on Assets ratio of the bank was higher before and during the COVID-19 pandemic.**

$H03$: $D_{\text{ROA}} = 0$

$Ha3$: $D_{\text{ROA}} > 0$

$D_{\mathrm{ROA}}$ = Difference in mean/median of Return on Assets (ROA) before and during COVID-19 Pandemic

Following a paired t-Test, the significance value was found to be <0.001, which is greater than > 0.05; therefore, $H03$ is not rejected. conclude that there was no significant difference in Return on Assets (ROA) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

**H4: The Net Interest Margin ratio of the bank was higher before and during the COVID-19 pandemic.**

$H04$: $D_{\mathrm{NIM}} = 0$

$Ha4$: $D_{\mathrm{NIM}} > 0$

$D_{\mathrm{NIM}}$ = Difference in mean/median of Net Interest Margin (NIM) before and during COVID-19 Pandemic

Following a paired t-Test, the significance value was found to be <0.001, which is greater than > 0.05; therefore, $H04$ is not rejected. conclude that there was no significant difference in Net Interest Margin (NIM) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

**H5: The Capital Adequacy Ratio of the bank was higher before and during the COVID-19 pandemic.**

$H05$: $D_{\mathrm{CAR}} = 0$

$Ha5$: $D_{\mathrm{CAR}} > 0$

$D_{CAR}$ = Difference in mean/median of Total Capital Adequacy Ratio (CAR) before and during COVID-19 Pandemic

The paired t-Test resulted in a significance value of 0.012, which is greater than 0.05; hence, $H05$ is not rejected. Conclude that there was no significant difference in the Capital Adequacy Ratio (CAR) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

**H6: The stock returns of banking companies were higher before and during the COVID-19 pandemic.**

$H06$: $D_{Srt} = 0$

$Ha6$: $D_{Srt} > 0$

$D_{Srt}$ = Difference in mean/median of Stock of Return ($S_{rt}$) before and during COVID-19 Pandemic

The paired t-Test resulted in a significance value of 0.176, which is greater than 0.05; hence, $H06$ is not rejected. Conclude that there was no significant difference in the Stock of Return ($S_{rt}$) of Regional Banks listed on IDX in Indonesia before and during the COVID-19 Pandemic.

## 4.9. Disscussion

**Impact of COVID-19 Pandemic on Risk Profile of Regional Banks listed on IDX in Indonesia.**

Risk Profile industry showed a relatively stable trend from before and during the COVID-19 Pandemic. Risk Profile at banking indicate by NPL and

LDR, there both remained stable before and during Covid-19 Pandemic. As resulted of Paired t-Test statistic there is no significance difference before and during Covid-19 pandemic.

One of the key areas affected by the pandemic is the overall risk profile of the banking industry. The pandemic has led to heightened risks across various dimensions, with no exception for BJBR and BJTM, including credit risk, market risk, liquidity risk, and operational risk.

In conclusion, the data shows that both BJBR and BJTM performed admirably financially during the COVID-19 epidemic. Despite variations, their NPL ratios were continuously low, demonstrating strong risk management techniques and resilience in addressing bad debts. Furthermore, both banks exhibited excellent financial management, as seen by their Loan-to-Deposit Ratios. BJBR and BJTM's LDRs were steady, demonstrating efficient use of customer deposits and prudent lending practices. These findings highlight the banks' resilience and adaptation to economic problems, putting them in a favorable position for financial health and stability in the face of pandemic-related uncertainty.

**Impact of the COVID-19 Pandemic on Earnings of Regional Banks Listed on IDX in Indonesia**

The analysis of BJBR and BJTM's financial performance before and during the COVID-19 pandemic period indicates consistent and commendable earnings performance, particularly in terms of Return on Assets (ROA) and Net Interest Margin (NIM).

Before the pandemic, both banks demonstrated excellent financial health, with BJBR's ROA ranging from 1.68% to 2.32% and BJTM's ranging from 2.73% to 4.01%. Similarly, their NIMs were robust, with BJBR's averaging 6.46% and BJTM's averaging 6.61%.

During the pandemic, although there were slight declines in ROA and NIM, both banks maintained healthy levels. BJBR's ROA averaged 1.61% and NIM averaged 5.45%, while BJTM's ROA averaged 2.21% and NIM averaged 5.33%.

Statistical analysis using paired t-tests indicated no significant difference in ROA and NIM ratios before and during the pandemic, reinforcing the consistency in earnings performance over time. The findings suggest that both BJBR and BJTM managed to navigate the challenges posed by the COVID-19 pandemic while maintaining commendable financial health and stability.

**Impact of the COVID-19 Pandemic on Capital of Regional Banks Listed on IDX in Indonesia**

The analysis of the Capital Adequacy Ratio (CAR) for BJBR and BJTM provides valuable insights into the impact of the COVID-19 pandemic on the capital health of regional banks listed on IDX in Indonesia.

Before the pandemic, both BJBR and BJTM maintained a "very healthy" CAR, indicating robust capital positions to withstand risks and meet regulatory requirements. BJBR's CAR ranged from 15.07% to 19.02%, with an average of 17.24%, while BJTM's CAR ranged from 19.46% to 24.65%, averaging 22.72%.

During the COVID-19 pandemic, despite economic uncertainties, both banks continued to exhibit strong capital health. BJBR's CAR ranged from 15.56% to 21.21%, averaging 18.16%, and BJTM's CAR ranged from 21.08% to 28.47%, averaging 23.60%. These figures reflect the banks' resilience and ability to maintain adequate capital levels to mitigate risks during challenging times.

Furthermore, statistical analysis using paired t-tests indicated no significant difference in CAR ratios before and during the pandemic for both banks. This suggests that the pandemic did not significantly impact the capital health of BJBR and BJTM, reinforcing their consistent performance in managing capital adequacy ratio.

**Impact of the COVID-19 Pandemic on Stock Return of Regional Banks Listed on IDX in Indonesia**

Statistical analysis using a paired t-test indicates no significant difference in SR ratios before and during the COVID-19 pandemic for both banks. This suggests that the pandemic did not have a significant impact on the SR of BJBR and BJTM, despite fluctuations in stock prices.

The analysis of BJBR and BJTM's SR performance before and during the COVID-19 pandemic reveals significant fluctuations in stock prices, indicating the pandemic's impact on the stock returns of regional banks listed on the IDX in Indonesia.

Before the pandemic, both banks experienced significant SR fluctuations, with periods of growth and decline. However, the post-COVID-

19 period shows continued volatility in SR, particularly in Q4-2023, indicating ongoing uncertainty in the stock market.

Despite these fluctuations, statistical analysis did not find a significant difference in SR ratios before and during the COVID-19 pandemic for both banks. This suggests that while the pandemic may have influenced stock return volatility, it did not have a substantial impact on the overall SR of BJBR and BJTM.

# BAB V

# CONCLUSIONS AND RECOMMENDATIONS

## 5.1. Conclusion

The objective of this study is to analyze the financial performance measurement, analysis, and evaluation of the financial healthiness of regional banks listed on IDX in Indonesia before the COVID-19 pandemic, considering several factors including risk profile, earnings, capital, and stock return analysis before and during the COVID-19 pandemic. The variables examined are non-performing loan (NPL), loan-to-deposit ratio (LDR), return on asset (ROA), net interest margin (NIM), capital adequacy ratio (CAR), and Stocks Return ($S_{rt}$). The Shapiro-Wilk test is employed to test the normality of the data, and a paired t-test is used to determine if there is a statistically significant difference between the median of each variable before and during the COVID-19 pandemic.

Statistical tests reveal no significant difference in the distribution of the Non-Performing Loan (NPL) Ratio, Loan to Deposit Ratio, Return on Asset (ROA), Net Interest Margin (NIM), and Capital Adequacy Ratio (CAR) and Stocks Return ($S_{rt}$) before and during COVID-19. This suggests stability in banks' financial health across both periods. However, there are significant differences in the distribution of bank stock returns, although they remain within normal bounds. This implies that despite fluctuations in stock returns, banks maintained relative financial stability amidst COVID-19 challenges.

The conclusions made from the research questions and objectives are as follows:

1. To evaluate the financial performance of banking companies before and during the COVID-19 pandemic in terms of Risk-Based Rating Ratios. Financial performance measurements have been carried out to analyses the variables based on chapter 4, both company performance in risk profile, earning, capital and stock return remain stability before and during COVID-19 pandemic.
2. To assess the differences in the financial performance of banking companies between before and during the COVID-19 pandemic.

   Assessing the financial performance of the banking industry, especially regional bank development before and during the COVID-19 pandemic, demonstrates the durability and adaptation of regional banks such as BJBR and BJTM. Despite the exceptional challenges posed by the pandemic, these companies have shown consistency in their risk profiles, earnings, and capital health. Consistent performance in key financial parameters before and during the pandemic, combined with statistical analysis that revealed no significant differences, suggests that these institutions efficiently managed the pandemic's unpredictability. This demonstrates their ability to retain financial stability and navigate difficult economic situations, ultimately setting them well for future growth and stability in the pandemic scenario.
3. To analyze the financial health of banking companies before and during the COVID-19 pandemic.

The analysis of financial health highlights the resilience and adaptation of regional banks such as BJBR and BJTM in dealing with the COVID-19 pandemic. Their steady risk profiles, consistent earnings performance, strong capital sufficiency, and stock return resilience position them well in terms of financial health prior to and throughout the pandemic, demonstrating their ability to weather uncertainty and maintain stability in the banking industry.

## 5.2. Limitation

This study only focuses on analyzing several financial ratios between the two banking companies. Some of these factors are determined based on risk-based ratings, ignoring GCG factors. The data sources used in this study are secondary data taken from annual reports published by these companies, as well as data obtained from the IDX website, which is a data provider for companies listed on the stock exchange.

There may be other factors besides the COVID-19 pandemic that affect financial and stock performance from 2016 to 2023, such as the Russia-Ukraine War, marketing strategies, changes in consumer trends, and macroeconomic policies. However, the authors were not able to explore all these factors in just one study, thus affecting the validity of the results. Therefore, the financial ratio analysis conducted cannot provide a comprehensive picture of the financial and stock performance of the IDX-listed Regional Development Bank industry.

## 5.3. Research Implications.

### 5.3.1. Theoretical Implication

This study has theoretical significance in a thorough examination of the financial performance and soundness of regional development banks listed on the Indonesia Stock Exchange (IDX). Using the risk-based bank rating and Altman Z-score models, this study aims to provide a comprehensive analysis of regional development banks, particularly focusing on Bank bjb and Bank Jatim. In addition, this research contributes to the advancement of knowledge regarding risk assessment models that can be applied to regional banks, explaining the implementation and effectiveness of risk-based bank rating and Altman Z-score models in this context. To strengthen the analysis results, this study also conducted a data normality test and used the Shapiro-Wilk test to determine differentiation.

### 5.3.2. Practical Implication

This research holds practical significance for stakeholders including investors, regulators, and policymakers as it facilitates the assessment of the stability and viability of the banks. By leveraging the findings derived from the RBBR and Altman Z-Score models, stakeholders can make informed decisions regarding investment, regulation, and policy formulation. The insights gleaned from this study can inform regulatory policies concerning Regional Development Banks, aiding supervisors in devising effective measures to uphold the stability and sustainability of the banks' operations.

## 5.4. Recommendation

Based on the results and conclusions, there are some recommendations that can be addressed for the regional development banking company in Indonesia:

1. Although the results from this study show the stability of BJBR and BJTM's risk profiles during the pandemic, it is imperative for banks to continue strengthening their risk management practices. Given the increasing risks across multiple dimensions, including credit risk, market risk, liquidity risk, and operational risk, banks should improve their risk assessment mechanisms and develop proactive strategies to reduce potential vulnerabilities.
2. BJBR and BJTM demonstrated good financial performance during the pandemic, with consistent earnings and strong capital health. To sustain this performance, it is important for banks to maintain prudent financial management practices, such as optimizing asset allocation, controlling costs, and maintaining adequate capital levels. In addition, banks must also remain vigilant to adapt to evolving economic conditions and regulatory requirements.
3. The Capital Adequacy Ratio (CAR) analysis shows the resilience of BJBR and BJTM in maintaining a strong capital position during the pandemic. Regional banks should continue to prioritize capital adequacy to ensure their capacity to absorb potential losses and meet regulatory thresholds. This may involve exploring avenues for capital optimization and strategic capital allocation to support long-term sustainability.

4. While there is no significant difference in stock return ratios before and during the pandemic, the observed fluctuations indicate ongoing volatility in the stock market. Banks should closely monitor stock return volatility and implement strategies to effectively manage market risk. This may include diversifying investment portfolios and improving communication with investors to maintain market confidence.

## REFERENCES


Altman, E. I., & Hotchkiss, E. (1993). Corporate financial distress and bankruptcy (Vol. 1998, pp. 105-110). New York: John Wiley & Sons.

Ambarita, A. S., & Tristiarto, Y. (2024). Analisis Tingkat Kesehatan PT. Bank Pembangunan Daerah Jawa Barat dan Banten, Tbk dengan Metode Risk Based Bank Rating (RBBR). *Journal of Young Entrepreneurs*, *3*(1).

Andini Nurwulandari, Hasanudin Hasanudin, Bambang Subiyanto & Yulia Catur Pratiwi (2022) Risk Based Bank rating and financial performance of Indonesian commercial Banks with GCG as intervening variable, Cogent Economics & Finance, 10:1, 2127486.

Bank Indonesia Circular Letter No. 13/24/DPNP/2011

Brigham, E. F. and Houston , J. F. (2014). *Dasar-dasar manajemen Keuangan.* Eds 11. Jakarta: Salemba Empat.

Brigham, E. F., dan Daves, P. R. 2013. *Intermediate Financial Management Eleventh Edition United States of America*, Thomson-South Western.

Brown, A., & Ronen, J. (2013). Justifications for audits of financial statements. In Handbook of key global financial markets, institutions, and infrastructure (pp. 345–356). Academic Press

Daryanto, W. M. (2022). The Impacts of Risk-Based Bank Rating (RBBR) Ratios on Stock Return of BUKU III Banks Listed on The Indonesia Stock Exchange, 2011-2020. *Jurnal Manajemen Teknologi*, *21*(2), 219-233.

Daryanto, W. M., & Meiliawati, P. T. (2022). The Effects of Risk Based Bank Rating on Stock Return During Covid-19 Of BUKU IV Banks in Indonesia. *Amwaluna: Jurnal Ekonomi dan Keuangan Syariah*, *6*(1), 181-200.

Ester, Manik., Azhar, Affandi., Sidik, Priadana., Dedi, Hadian., Dyah, Ayu, Puspitaningrum. (2023). Comparison of normality testing with chi quadrat

calculations and tables for the statistical value departement of elementary school education student at the University of Jember. Nucleation and Atmospheric Aerosols, doi: 10.1063/5.0111307

Ferrari, W., & Daryanto, W. M. The Effects of Risk-Based Bank Rating on Stock Return: Evidence of Buku II Banks in Indonesia.

Laerd Statistic, (2018). Wilcoxon Signed-Rank Test using SPSS Statistics https://statistics-laerd-com.translate.goog/spss-tutorials/wilcoxon-signed-rank-test-using-spss-statistics.php?_x_tr_sl=en&_x_tr_tl=id&_x_tr_hl=id&_x_tr_pto=tc

Melati, W.P., (2023, Apr 12). Pandemi Covid-19 Dan Menurunnya Perekonomian Indonesia. https://www.djkn.kemenkeu.go.id/artikel/baca/16064/Pandemi-Covid-19-Dan-Menurunnya-Perekonomian-Indonesia.html

Mitchell, W. C. (1925). Quantitative analysis in economic theory. *The American Economic Review*, *15*(1), 1-12.

Nasution, D. A. D., Erlina, E., Muda, I. (2020). Dampak pandemi covid-19 terhadap perekonomian Indonesia. *Jurnal Benefita,* *5*(2), 212-223. http://doi.org/10.22216/jbe.v5i2.5313

Peraturan Otoritas Jasa Keuangan No. 55/POJK.03/2016 Tentang Penerapan Tata Kelola bagi Bank Umum.

PT Bank Pembangunan Daerah Jawa Barat dan Banten. (2023). Company Profile Bank bjb. https://www.bankbjb.co.id/files/2023/03/company-profile-bank-bjb-2023-final.pdf

PT Bank Pembangunan Daerah Jawa Timur. (2023). Company Profile Bank Jatim. https://www.bankjatim.co.id/files/iru/bahan_rups/laporan_tahunan/2023/ar_2023_bjtm_ind.pdf

Rudianto, E., & Rudianto, E. (2013). Akuntansi Manajemen Informasi Untuk Pengambilan Keputusan Strategis. *Jakarta: Erlangga*.

Sagho, M. F., & Merkusiwati, N. K. L. A. (2015). Penggunaan Metode Altman Z-Score Modifikasi Untuk Memprediksi Kebangkrutan Bank Yang Terdaftar

Di Bursa Efek Indonesia. E-Jurnal Akuntansi Universitas Udayana, 11(3), 730-742.

Subagyo, I. I., Achsani, N. A., & Sasongko, H. (2022). Understanding The Effects of Bank Rating on Stock Return in Indonesia. International Journal of Finance & Banking Studies (2147-4486), 11(4), 24-36.

Sugiyono. 2010. Metodologi Penelitian. Bandung: Alfabeta.

Surat Edaran Otoritas Jasa Keuangan No. 14/SEOJK.03/2017 Tentang Penilaian Tingkat Kesehatan Bank Umum.

Suryani, Y., & Habibie, A. (2017). Analisis Pengaruh Rasio–Rasio Risk Based Bank Rating Terhadap Pertumbuhan Laba Pada Perusahaan PerBankan yang Terdaftar di BEI. *KITABAH: Jurnal Akuntansi dan Keuangan Syariah*, *1*(1).

Susilowati, W. C., Kristianto, D., & Harimurti, F. (2019). Analisis Altman Z-Score Untuk Memprediksi Kebangkrutan Pada PerBankan Umum Syariah Tahun 2013–2017. *Jurnal Akuntansi dan Sistem Teknologi Informasi*, *15*(4).

Syafril, H., & Daryanto, W. M. (2019). SHARIA BANKING IN INDONESIA: WHAT WENT WRONG? *Southeast Asia Journal of Contemporary Business, Economics and Law*, *20*(1), 45-57.

Theodorus, S., & Artini, L. G. S. (2018). Studi Financial Distress Pada Perusahaan PerBankan Di Bei (Doctoral dissertation, Udayana University).

Van Greuning, H., & Iqbal, Z. (2011). Analisis risiko perbankan syariah. *Jakarta: Salemba Empat*.

World Health Organization 2023 data.who.int, WHO Coronavirus (COVID-19 dashboard > cases [Dashboard]. https://data.who.int/dashboards/covid19/cases?n=c