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THE EFFECTS OF RISK BASED BANK RATING ON STOCK RETURN DURING COVID-19 OF BUKU IV BANKS IN INDONESIA

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Abstract

On December 31, 2019, the Wuhan City Health Commission, China, announced a cluster of cases of pneumonia, which causes the disease Covid-19. Indonesia's Gross Domestic Product (GDP) began to weaken at the end of the first quarter of 2020 from 4.9% to 2.9% (Q-o-Q), and then declined sharply in the second quarter of around -5.32%. The next quarter still saw negative growth but with less severity. Due to the Covid-19 crisis, investors began to hesitate to invest and withdraw their funds from the stock market, causing the Indonesian stock exchange (IDX) in Q1-2020 to fall 29.83% (YoY). In addition, it also led to a decline in banking stock prices, where the INFOBANK15 index fell from Rp.1,033.43 in Q4-2019 to Rp.732.54 in Q1-2020, or decreased by 29.12%. This study aims to determine the level of soundness based on the Risk Based Rating (RBBR) and the effect of the health level of the bank-on-bank stock returns. This research uses purposive sampling technique. RBBR analysis is used to determine the soundness of each RBBR ratio and is obtained from secondary data on the quarterly financial statements of seven publicly audited banks in Q4-2018 to Q1-2021. Banks under BUKU IV are in a healthy and very healthy condition based on the RBBR method, and research shows that NPL, LDR, ROA have a significant and positive effect on stock returns. Meanwhile, NIM and CAR have no effect on stock returns.

Keywords: BUKU IV; bank's health; Risk-Based Bank Rating; stock return; Covid-19

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I. Introduction

Wuhan Municipal Health Commission, China, announced a cluster of cases of pneumonia on 31st of December, 2019. The virus was famous as a novel coronavirus namely SARS-CoV-2 and it caused Covid-19 diseases. The virus has capability to transmit between human to human from droplets or aerosol as its medium and start to spread outside of the country. World Health Organization's (WHO) reported 7,818 confirmed cases worldwide on January 30th, 2020, with the majority incurred in China, and 82 cases reported in 18 countries outside China. Due to the levels of spread and severity are alarming, WHO decided Covid-19 as a pandemic and released a strategic plan for countries around the world to help them prepare to fight and solve the pandemic (World Health Organization, 2020).

The decision strategy decided by WHO was to limit human-to-human transmission, by limiting people movement through regulation in each country. This action has shown that restricting the movement of people during public health emergencies have a negative impact on the economies of affected countries. However, this strategy was approved to be useful to provide the countries time to prepare their healthcare systems in the beginning to prevent collapse of the healthcare systems because of the increased number of patients during the pandemic (World Health Organization, 2020).

The Covid-19 pandemic caused half of the world's population to be placed on lockdown to stop the spread of Covid-19. It has led to severe repercussions for economies around the world, causing recession in some countries and depression in others. The recession has seen unusually high and rapid increases in unemployment in many countries (Bloomberg, 2020)

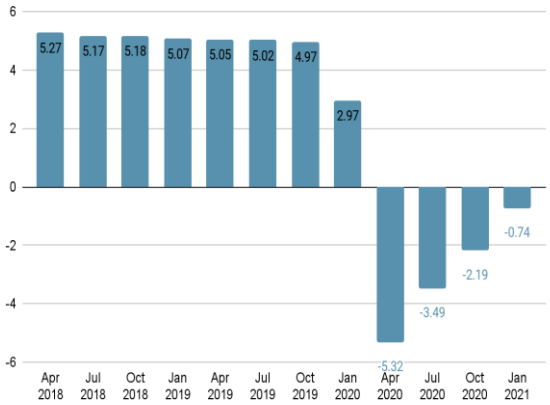

Figure 1.1. Indonesia Gross Domestic Product (GDP) Growth (%)

(Source: Badan Pusat Statistik, 2020)

The Indonesian economy started to weaken at the end of the first quarter of 2020, and then decreased deeply in the second quarter. Later quarters still saw negative growth but with less severity. The record of the year 2020 was negative two percent Q-o-Q. Figure 1.1 shows that growth was still negative in the first quarter of 2021, but recovery should take place in subsequent quarters. Still, for the Gross

Domestic Product (GDP) level to return to pre-pandemic levels may take longer time. Policy choices taken to mitigate the recession will have consequences, as returning fiscal and monetary policies to normal will take some time. The banking sector and financial markets, specifically, will also need time to go back to normal behavior, as these sectors are not immune to the COVID-19 effects.

Table 1.1 Key Lending Statistic

Data	**19-Dec**	**20-Mar**	**20-Jun**	**20-Sept**	**20-Dec**
Lender Accounts (000)	606	640	659	682	717
Asset (IDR Trillion)	3	3.7	3.2	3.3	3.7
Average Disbursed Loans (IDR Million)	99.7	122.5	135.7	142.5	113.8
Outstanding Loans (IDR Trillion)	13.2	14.8	11.8	12.7	15.3
NPL (Over 90 Days Due)	3.7%	4.2%	6.1%	8.3%	4.8%

(Source: Otoritas Jasa Keuangan, 2020)

As depicted in Table 1.1, the number of borrowers rose faster, which resulted in a decline in the average size of loans. The number of borrows spiked in the fourth quarter of 2020, which was when the economic activity was recovering and restrictions on peoples' movement were relaxed. At the same time, government social handouts were still taking place. Hence, the increase in borrowers may point to a higher number of workers losing their jobs, and they are likely to run out of cash for consumption. In other side, the bank also has to bear a growing ratio of Non-Performing Loans (NPL) with the obligation to form a provision or reserve for allowance for impairment losses or called "Cadangan Kerugian Penurunan Nilai" (CKPN) soaring, as it is affected by Covid-19.

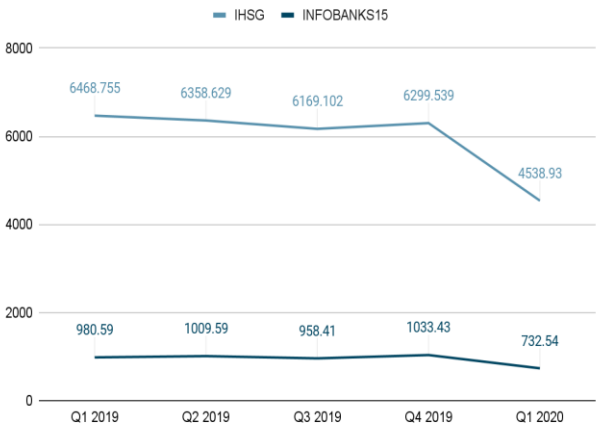

Figure 1.2 IDX and INFOBANK15 index (Source: IDX.co.id 2020)

It is undoubtedly that this banking performance for all BUKU categories experienced a significant correction. Due to the Covid-19 crisis, investors began to hesitate and withdraw their funds from the stock market causing a crash on the Indonesia Stock Exchange (IDX) in Q1 2020 where the IDX fell 29.83% (YoY) as shown in Figure 1.2. It is also causing a

decline in banking stock prices in Indonesia, where the INFOBANK15 index fell, approximately 25.29% (YoY). Considering the banking sector is one of the essential sectors to bolster economic growth, the government has provided a stimulus policy for the banking sector to continue to play its role as intermediary institutions. This research aims to the determine the health level based on Risk-Based Rating (RBBR) and to understand the effect of all seven bank's health rate on the stock return which are listed in Indonesia Stock Exchange (IDX) and it is categorized as BUKU IV during pandemic Covid-19 of 2020-2021. Bank's health rate is assessed through Risk-Based Bank Rating method which includes five financial ratios; 1) Non-Performing Loan (NPL); 2) Loan to Deposit Ratio (LDR); 3) Net Interest Margin (NIM), 4) Return on Assets (ROA); and 5) Capital Adequacy Ratio (CAR).

Literature Review

The measurement of banks' health and sustainability is also considered important. The early 1998 crisis has caused liquidity difficulties due to a decline in asset quality, depletion of tin capital and the inability to generate income which triggered the banking industry crisis (Chitya, 2015), hence, this event has taught us that it is required to do banks' health assessment. The previous policy was the CAMELS ratio based on Peraturan Bank Indonesia No. 6/10/2004 concerning Rating of Health Level of Commercial Banks with the CAMELS.

The updated approach to evaluate bank soundness with a risk approach called Risk Based Bank Rating (RBBR) 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).

POJK No. 6/POJK.03/2016 concerning Business Activities and Office Networks Based on Bank Core Capital states that Banks are divided into four BUKU categories are, as follows:

- BUKU I is a Bank with a Core Capital of up to less than Rp1,000,000,000,000.00 (one trillion rupiah).
- BUKU II is a Bank with a Core Capital of at least Rp1,000,000,000,000.00 (one trillion rupiah) to less than Rp5,000,000,000,000.00 (five trillion rupiah).
- BUKU III is a bank with a minimum core capital of Rp. 5,000,000,000,000.00 (five trillion rupiah) up to less than Rp. 30,000,000,000.00 (thirty trillion rupiah).

- BUKU IV is a bank with a minimum core capital of Rp. 30,000,000,000.00 (thirty trillion rupiah).

Enormous previous researchers have implemented RBBRs' as methodology. Heryana, R (2018) used RBRR ratios to measure the effect of banks' health rating on stock return of companies listed in Indonesia Stock Exchange. The samples were 150 banks listed in period 2012-2016, with independent variables; NPL, LDR, ROE, NIM, Good Corporate Governance (GCG); and dependent variables; Stock Return. The result showed that NPL, LDR, GCG, ROE, NIM have insignificant effects towards Stock Return.

(Ananda et.al, 2017) Conducted a study about the effect of bank rating, based RBBR on stock returns. The sample in this research were 15 banks actively traded in the period 2013 to 2015. The dependent variable was Stock Return; and independent variables were NPL, GCG, NIM, CAR. The findings showed NPL, GCG, NIM, and CAR have insignificant effects on Stock Return.

(Sianturi, N, 2019) conducted a study about the effect of bank soundness' rating on stock returns in the banking industry listed on the Indonesia Stock Exchange for the period 2010-2017. The sample in this research were 206 banks for the period of 2010-2017. The dependent variable was Stock Return; on the other hand, the independent variables were LDR, GCG, CAR, ROA. The findings indicated that LDR, GCG, and CAR have insignificant effect on Stock Return, ROA have significant effect on Stock Return.

In addition, a study from (Syafril, H., & Daryanto, W. M., 2019) also analyse syariah banking performance with sample or two largest syariah banks; PT Bank Muamalat Indonesia Tbk (BMI) and PT Bank Syariah Mandiri (BSM), compared to two largest conventional banks; Bank Rakyat Indonesia (BRI) and Bank Central Asia (BCA). The study used CAMELS methodology; the previous regulatory for banking sector that assessed the Capital (C), Asset Quality (A), Management (M), Earning (E), and Liquidity (L). The findings indicated that the performances of BSM and BMI were far below the two largest Conventional Banks, BRI and BCA.

Effect of Risk Profile on Stock Return

According to (Heryana, 2018), NPL is used in measuring non-performing loans to third parties such as private customers or institutional bodies. When the level of credit risk is high, this indicates that the bank's operational activities are experiencing less effective risk management application. Hence, if something like that happens it will have an effect if the stock return falls, because the company is in trouble and

investors tend to be afraid to invest. Previous research that has been conducted by (Heryana, 2018) and (Ananda et.al, 2017) argued that NPL has no effect on stock returns. Liquidity risk is represented by the LDR ratio. LDR ratio shows whether the credit issued by the bank is able to fulfill the banks' obligation to fulfill the demand of depositors who want to withdraw the money that has been used by the bank to extend credit. The lower the bank's liquidity capacity, the higher the LDR ratio value. However, according to research by (Heryana, 2018) that LDR does not have an effect on stock returns. Based on the information, hypothesis can be developed by the following:

H1 : NPL has negative effect on stock returns

H2 : LDR has negative effect on stock returns

Effect of Earnings on Stock Return

According to (Heryana, 2018), earnings/profitability is the ratio obtained illustrated by the bank's ability to increase profits and effectiveness of bank performance, so this has an important role in decision making. Return on Assets (ROE) is a ratio used to measure the amount of a rate of return based on a company's total assets. Investors' interest will be higher in investing where when the ROA ratio is high, it can make stock returns and banking stock trading volumes increase.

The NIM ratio measures the ability of a bank management to manage productive assets so that it can generate net interest income. The profitability of a bank will increase if the value of the NIM ratio is higher so that it can have a positive effect on stock returns. Investors' interest in buying shares is supported by the information regarding ROA and NIM which is related to banking health. However, in previous research according to (Oktaviani, 2016; Asna & Nu, 2006), ROA has no effect on stock return. And according to (Heryana, 2018; Ananda et al, 2017), NIM has no effect on stock return. Based on the results of previous researches, the author decided to make a hypothesis regarding the earning factors are, as follows:

H3 : NIM has positive effect on stock returns

H4 : ROA has positive effect on stock returns

Effect of Capital on Stock Return

The factor to determine the ability of capital is Capital Adequacy Ratio (CAR) which reflects the company's own capital to make a profit. According to (Praditasari, 2017) CAR aspect can be used to cover possible losses in terms of crediting or trading securities. When investors buy bank stocks, they pay attention to the aspect of capital which can be measured by the CAR ratio. When the health of the banking sector

improves, the CAR ratio will also increase so that investors will also be interested in buying stocks. It can also be interpreted that when the CAR of a bank is higher, the bank is more able to absorb the losses that arise so that the possibility of liquidation will be smaller. Good news is defined as when a company is able to generate profits, it can avoid liquidation because of information when the company has high capital. It makes investors feel safe when investing and still get the expected return so as to increase share prices. However, research done by (Praditasari, 2017; Sianturi, 2019) show results CAR has no effect on stock return. So that the author can hypothesize the CAR as follows:

H5 : CAR has positive effect on stock returns

Methodology

Population and Samples

This study used a quantitative approach, with purposive sampling technique-that defines as a technique, which rely on specific objective or researchers' own judgment when choosing members of the population. There were two considerations, the first is the observation period, which is Q4 2018 to Q1 2021 (QoQ). Second is banks involved in BUKU IV that actively traded in Indonesia Stock Exchange (IDX). There are a total of seven publicly listed banks used as samples, or 100 percent of the population, 1) PT. Bank Rakyat Indonesia, Tbk. (BBRI); 2) PT. Bank Mandiri, Tbk (BMRI); 3) PT. Bank Negara Indonesia, Tbk. (BBNI); 4) PT. Bank Central Asia, Tbk (BBCA); 5) PT. Bank Panin Indonesia, Tbk. (PNBN); 6) PT. Bank Danamon Indonesia, Tbk (BDMN); and 7) PT. Bank CIMB Niaga, Tbk (BNGA).

Independent Variable

1.1 The Risk-Based Bank Rating (RBBR)

The Risk-Based Bank Rating (RBBR) is a current method used to measure the health of a banks' financial performance, following the applicable regulation of Peraturan Bank Indonesia (PBI) Regulation No.13/1/PBI/2011. According to the regulation, the banks' performance must be assessed using a risk approach, or RBBR, and the results are reflected in four categories, namely a) risk profile, b) good corporate governance, c) earnings, and d) capital.

Risk Profile

There are eight types of the assessed risk which are 1) credit risk, 2) market risk, 3) liquidity risk, 4) operational risk, 5) legal risk, 6) reputation risk, 7) strategic risk, and 8) compliance risk. In this study, NPL ratio is selected for credit risk and LDR ratio for liquidity risk which can be categorized as the significant risk profile used to measure risk profile, as shown in Table 3.1.

Table 3.1 Risk Profile Calculation

Risk Based Bank Rating	Ratio
Risk Profile	Non-Performing Loan (NPL)
	Loan Deposit Ratio (LDR)

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

Non Performing Loan (NPL)

Non-performing loans are considered as substandard, doubtful, and loss. NPL ratio is calculated by dividing non-performing loans to total loans. The smaller the credit risk endured by the bank, the smaller the NPL ratio. The higher the NPL ratio, the greater the potential number of uncollected loans, and can result in declining bank profitability (Gerald, 2003).

According to the Circular Letter of Bank Indonesia No. 13/30/ DPNP dated December 16th, 2011, the maximum non-performing loan ratio compared to total loans given is five percent as shown in Table 3.2.

Table 3.2 NPL Parameter Criteria

Criteria	Category
NPL<2%	Very Healthy
2%<= NPL < 5%	Healthy
5% <= NPL < 8%	Quite Healthy
8% <= NPL < 12%	Less Healthy
NPL >= 12%	Unhealthy

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NPL >= 12%	Unhealthy

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

The NPL formula is, as follows:

$$Non\ Performing\ Loan\ Ratio = \frac{Total\ Non\ Performing\ Loan}{Total\ Loan}$$

Loan Deposit Ratio (LDR)

The Loan-to-Deposit Ratio (LDR) is the ratio of loans to third parties in Rupiah and foreign currencies, excluding loans to other banks, to third party funds which include demand deposits, savings, and time deposits in Rupiah (IDR) and other foreign currencies as defined by PBI No.15/15/PBI/2013. The high ratio indicates that the bank may not have enough liquidity to cover any unanticipated fund requirements.

The Otoritas Jasa Keuangan (OJK) applied the regulation of LDR ideals from 75% to 85% as shown in Table 3.3.

Table 3.3 LDR Parameter Criteria

Criteria	Category
LDR<=75%	Very Healthy
75%< NPL <= 85%	Healthy
85% < NPL <= 100%	Quite Healthy
100% < NPL <= 120%	Less Healthy
NPL > 120%	Unhealthy

Source: SE OJK No.14/SEOJK.03/2017

The LDR formula is, as follows:

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

Good Corporate Governance (GCG)

Good Corporate Governance is a structure that consists of shareholders, stakeholders, commissioners, and managers to set and achieve corporate objectives and monitor performance. According to Bank Indonesia Regulation No. 4/8/PBI/2006, there are five basic principles included in GCG, which are 1) transparency, 2) accountability, 3) responsibility, 4) independence, and 5) fairness. Table 3.4 shows the factors and weight of GCG based on BI Circular Letter No. 13/24/DPNP/2011, as well as GCG criteria which is depicted in Table 3.5.

Table 3.4 Good Corporate Governance Criteria

Factor	Weight (%)
Implementation of duties and responsibilities of the board of commission	10
Implementation of duties and responsibilities of directors	20
Completeness and implementation of committee's duties	10
Handling conflicts of interest	10
Application of bank compliance functions	5
Implementation of the internal audit function	5
Implementation of the external audit function	5
Implementation of risk	7.5

management and internal control functions	
Provision of funds to related parties and large debtors (large exposures)	7.5
Transparency of bank financial and non-financial conditions, GCG implementation reports and internal reports	15
Bank's strategic plan	5
Total	100

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

Table 3.5 Good Corporate Governance Criteria

Criteria	**Category**
85% - 100%	Very Healthy
70% - 84%	Healthy
60% - 69%	Quite Healthy
40% - 59%	Less Healthy
<= 39%	Unhealthy

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

Earnings

Based on Circular Letter of Bank Indonesia No. 13/24/DPNP 2011, assessment of profitability factors includes evaluating earnings performance, sources of profitability, the sustainability of profitability, and management of earnings. There are two steps for analyzing banks' earnings which are ROA and NIM.

Return on Assets (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 Kane, 2014). Table 3.6 shows ROA parameter criteria.

Table 3.6 Return on Assets parameter criteria

Criteria	**Category**
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

The ROA formula is, as follows:

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

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). The NIM parameter criteria is shown in Table 3.7.

Table 3.7 Net Interest Margin parameter criteria

Criteria	Category
NIM>3%	Very Healthy
2%< NIM <= 3%	Healthy
1.5% <ROA <= 3%	Quite Healthy
1% < NIM <= 1.5%	Less Healthy
ROA <= 1%	Unhealthy

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

The Net Interest Margin formula is, as follows:

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

Capital

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). Capital assessment is based on the Capital Adequacy Ratio (CAR) determined by Bank Indonesia. CARs are useful to accommodate the risk of loss that may be faced by the bank. The higher the CAR reflects the bank's ability to be better in dealing with the possible risk of loss. The CAR parameter criteria is shown in Table 3.8.

Table 3.8 Capital Adequacy Ratio parameter criteria

Criteria	Category
CAR>=12%	Very Healthy
9%<= CAR < 12%	Healthy
8% <= ROA < 9%	Quite Healthy
6% <= ROA < 0.05%	Less Healthy
ROA <= 6%	Unhealthy

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

The Capital Adequacy Ratio formula is, as follows:

$$Capital\ Adequacy\ Ratio = \frac{Tier\ 1\ Capital\ - Tier\ 2\ Capital}{Risk\ Weight\ Exposures}$$

Dependent Variable

Stock Return

This study used stock returns of all publicly listed banks categorized in BUKU IV in the period of Q4 2018-Q1 2020 as the dependent variables which will be calculated on a quarterly basis. The actual return reflects the amount of the stock return, and it can be calculated as follows:

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

Where:

$SR_{i,t}$ = PER of company *i* at period of *t*

$Stock\ Price_{i,t}$= Stock Price of company *i* at period of *t*

$Stock\ Price_{i,t-1}$ = Earnings per Share of company *i* at period of *t*-1

Data Analysis Technique

Data analysis techniques used to determine the effect of NPL, LDR, ROA, NIM and CAR on stock return in 8 (eight) actively traded banks in Indonesia Stock Exchange, is multiple regression. The equation of multiple regression is, as follows:

$$R_{it} = \alpha + \beta_1 NPL_{it} + \beta_1 LDR_{it} + \beta_3 ROA_{it} + \beta_4 CAR_{it} + \beta_5 \text{COV}t + \beta_6 NPL_{it}\ x\ COVt + \beta_7 LDR_{it}\ x\ COVt + \beta_8 ROA_{it}\ x\ COVt + \beta_9 CAR_{it}\ x\ COVt + \beta_{10} \text{MR} + \varepsilon_{it}$$

$$R_{it} = \alpha + \beta_1 NPL_{it} + \beta_1 LDR_{it} + \beta_3 ROE + \beta_4 CAR_{it} + \beta_5 \text{COV}t + \beta_6 NPL_{it}\ x\ COVt + \beta_7 LDR_{it}\ x\ COVt + \beta_8 ROE\ x\ COVt + \beta_9 CAR_{it}\ x\ COVt + \beta_{10} \text{MR} + \varepsilon_{it}$$

Where,

R_{it} = The stock return of company *i* on *t* period of time

α = regression model intercept

β = Regression coefficient

NPL_{it} = Non-performing loan of company *i* on *t* period of time

LDR_{it} = Loan deposit ratio of company *i* on *t* period of time

ROA_{it} = Return to asset of company *i* on *t* period of time

ROE_{it} = Return to equity of company *i* on *t* period of time

CAR_{it} = Capital adequacy ratio of company *i* on *t* period of time

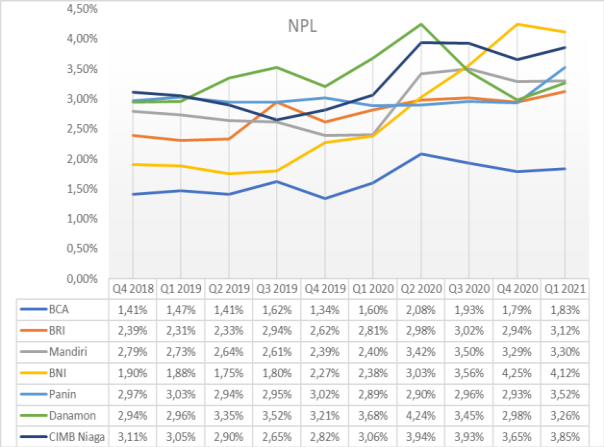
ε_{it} = Regression error terms for company *i* on *t* period of time

II. Discussion

Descriptive Result

The Risk Based Bank Rating (RBBR) ratios

i. Risk Factor



	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
BCA	1,41%	1,47%	1,41%	1,62%	1,34%	1,60%	2,08%	1,93%	1,79%	1,83%
BRI	2,39%	2,31%	2,33%	2,94%	2,62%	2,81%	2,98%	3,02%	2,94%	3,12%
Mandiri	2,79%	2,73%	2,64%	2,61%	2,39%	2,40%	3,42%	3,50%	3,29%	3,30%
BNI	1,90%	1,88%	1,75%	1,80%	2,27%	2,38%	3,03%	3,56%	4,25%	4,12%
Panin	2,97%	3,03%	2,94%	2,95%	3,02%	2,89%	2,90%	2,96%	2,93%	3,52%
Danamon	2,94%	2,96%	3,35%	3,52%	3,21%	3,68%	4,24%	3,45%	2,98%	3,26%
CIMB Niaga	3,11%	3,05%	2,90%	2,65%	2,82%	3,06%	3,94%	3,93%	3,65%	3,85%

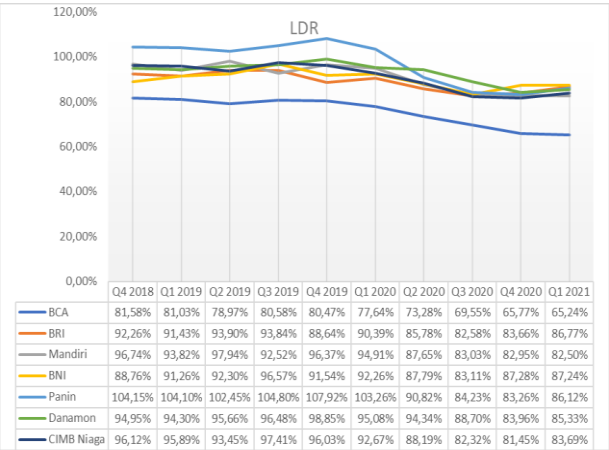
Figure 4.1 NPL of Public Listed Book IV Banks

Source: BCA,BRI,Mandiri,BNI,Panin,Danamon,CIMB Niaga Quartal Reports of Q4 2018-Q1 2021

Figure 4.1 showed NPL ratios-gross of all public listed book IV banks in Indonesia

from Q4 2018 to Q1 2021, which indicate that all banks have experienced an increase of NPL in Q1 2020-Q2 2020. In Q3 2020-Q4 2020, BCA, Danamon, and CIMB Niaga experienced a decrease in NPL. BRI,Mandiri, and Panin experienced continued increase of NPL in Q3 2020 and started to decrease in Q4 2020. BNI experienced continued increase of NPL in Q2 2020-Q4 2020. In Q1 2021, all the banks experienced an increase of NPL except for BNI, but BNI's NPL ratio is the highest of all banks.

Loan-to-Deposit Ratio



	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
BCA	81,58%	81,03%	78,97%	80,58%	80,47%	77,64%	73,28%	69,55%	65,77%	65,24%
BRI	92,26%	91,43%	93,90%	93,84%	88,64%	90,39%	85,78%	82,58%	83,66%	86,77%
Mandiri	96,74%	93,82%	97,94%	92,52%	96,37%	94,91%	87,65%	83,03%	82,95%	82,50%
BNI	88,76%	91,26%	92,30%	96,57%	91,54%	92,26%	87,79%	83,11%	87,28%	87,24%
Panin	104,15%	104,10%	102,45%	104,80%	107,92%	103,26%	90,82%	84,23%	83,26%	86,12%
Danamon	94,95%	94,30%	95,66%	96,48%	98,85%	95,08%	94,34%	88,70%	83,96%	85,33%
CIMB Niaga	96,12%	95,89%	93,45%	97,41%	96,03%	92,67%	88,19%	82,32%	81,45%	83,69%

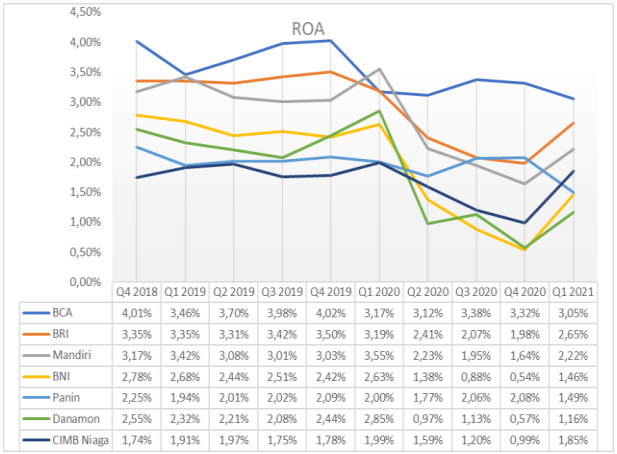
Figure 4.2 LDR of Public Listed Book IV Banks

(Source: BCA,BRI,Mandiri,BNI,Panin,Danamon,CIMB Niaga Quartal Reports from Q4 2018-Q1 2021)

Figure 4.2 showed that the LDR of all public listed book-IV banks decreased in Q2 2020-Q4 2020 and increased in Q1 2021 except for BCA, Mandiri, and BNI which still have continued decreases in LDR. Overall the LDR rating of all public listed book-IV banks is still in the range of OJK measurement standard, which is between 78%-92%.

ii. Earning Factor

Return on Asset



	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
BCA	4,01%	3,46%	3,70%	3,98%	4,02%	3,17%	3,12%	3,38%	3,32%	3,05%
BRI	3,35%	3,35%	3,31%	3,42%	3,50%	3,19%	2,41%	2,07%	1,98%	2,65%
Mandiri	3,17%	3,42%	3,08%	3,01%	3,03%	3,55%	2,23%	1,95%	1,64%	2,22%
BNI	2,78%	2,68%	2,44%	2,51%	2,42%	2,63%	1,38%	0,88%	0,54%	1,46%
Panin	2,25%	1,94%	2,01%	2,02%	2,09%	2,00%	1,77%	2,06%	2,08%	1,49%
Danamon	2,55%	2,32%	2,21%	2,08%	2,44%	2,85%	0,97%	1,13%	0,57%	1,16%
CIMB Niaga	1,74%	1,91%	1,97%	1,75%	1,78%	1,99%	1,59%	1,20%	0,99%	1,85%

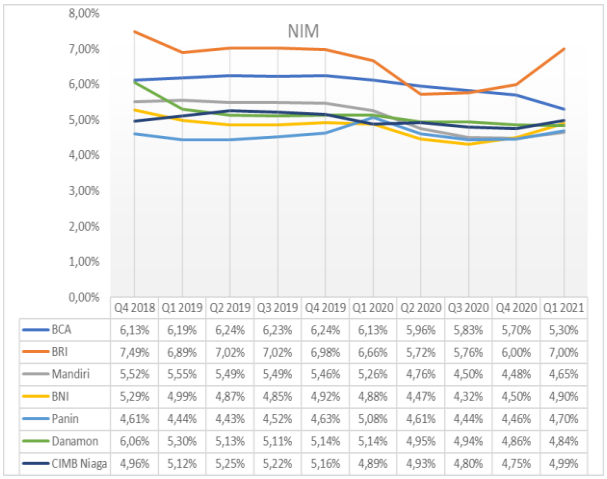
Figure 4.3 ROA of Public Listed Book IV Banks

(Source: BCA,BRI,Mandiri,BNI,Panin,Danamon,CIMB Niaga Quartal Reports from Q4 2018-Q1 2021)

Figure 4.3 showed ROA ratios of all public listed book IV banks in Indonesia from Q4 2018 to Q1 2021. The graphic showed that all banks, except for Panin, experienced a decrease of ROA in Q1 2020-Q4 2020 and the ROA increased again in Q1 2021 even though it's not as high as Q4 2019 before the pandemic arose. Meanwhile, Panin bank experienced an increase of ROA in Q3 2020 after Q1 2020-Q2 2020'S decrease, but the ROA decreased again in Q1 2021 while

other banks experienced ROA increase in ROA in Q1 2021.

Net Profit Margin



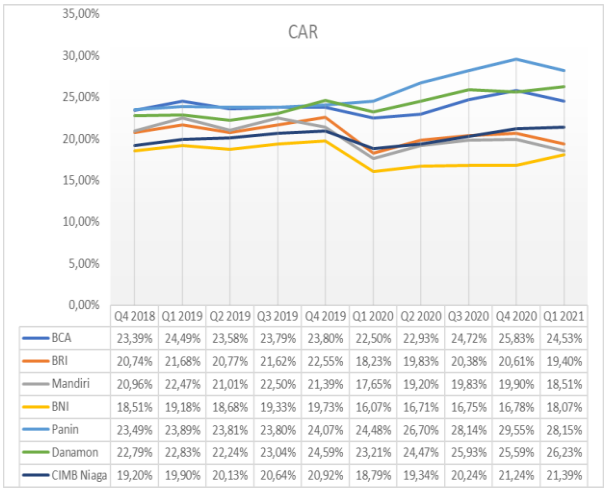
	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
BCA	6,13%	6,19%	6,24%	6,23%	6,24%	6,13%	5,96%	5,83%	5,70%	5,30%
BRI	7,49%	6,89%	7,02%	7,02%	6,98%	6,66%	5,72%	5,76%	6,00%	7,00%
Mandiri	5,52%	5,55%	5,49%	5,49%	5,46%	5,26%	4,76%	4,50%	4,48%	4,65%
BNI	5,29%	4,99%	4,87%	4,85%	4,92%	4,88%	4,47%	4,32%	4,50%	4,90%
Panin	4,61%	4,44%	4,43%	4,52%	4,63%	5,08%	4,61%	4,44%	4,46%	4,70%
Danamon	6,06%	5,30%	5,13%	5,11%	5,14%	5,14%	4,95%	4,94%	4,86%	4,84%
CIMB Niaga	4,96%	5,12%	5,25%	5,22%	5,16%	4,89%	4,93%	4,80%	4,75%	4,99%

Figure 4.4 NIM of Public Listed Book IV Banks
(Source: BCA,BRI,Mandiri,BNI,Panin,Danamon,CIMB Niaga Quartal Reports from Q4 2018-Q1 2021)

Figure 4.4 showed NIM ratios of all public listed book IV banks in Indonesia from Q4 2018 to Q1 2021. The graphic shows that all banks, except for BRI, experienced a decrease of NIM in Q1 2020-Q4 2020 and the NIM increased again in Q1 2021 even though it's not as high as Q4 2019 before the pandemic arose. Meanwhile, BRI experienced an increase of NIM in Q3 2020 after Q1 2020-Q2 2020'S decrease, and BRI's NIM continued to increase in Q1 2021, exceeding the NIM in Q4 2019.

iii. Capital Factor

Capital Adequacy Ratio



	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
BCA	23,39%	24,49%	23,58%	23,79%	23,80%	22,50%	22,93%	24,72%	25,83%	24,53%
BRI	20,74%	21,68%	20,77%	21,62%	22,55%	18,23%	19,83%	20,38%	20,61%	19,40%
Mandiri	20,96%	22,47%	21,01%	22,50%	21,39%	17,65%	19,20%	19,83%	19,90%	18,51%
BNI	18,51%	19,18%	18,68%	19,33%	19,73%	16,07%	16,71%	16,75%	16,78%	18,07%
Panin	23,49%	23,89%	23,81%	23,80%	24,07%	24,48%	26,70%	28,14%	29,55%	28,15%
Danamon	22,79%	22,83%	22,24%	23,04%	24,59%	23,21%	24,47%	25,93%	25,59%	26,23%
CIMB Niaga	19,20%	19,90%	20,13%	20,64%	20,92%	18,79%	19,34%	20,24%	21,24%	21,39%

Figure 4.5 CAR of Public Listed Book IV Banks
(Source: BCA,BRI,Mandiri,BNI,Panin,Danamon,CIMB Niaga Quartal Reports from Q4 2018-Q1 2021)

Figure 4.5 showed CAR ratios of all public listed book IV banks in Indonesia from Q4 2018 to Q1 2021. All banks showed a decreased trend from Q4 2019-Q1 2020 and started to increase during Q2 2020-Q4 2020. BCA, BRI, Mandiri, and panin showed decreased CAR IN Q1 2021 while BNI, Danamon, and CIMB Niaga showed increased CAR in Q1 2021.

Classical Assumption Test

Normality Test

Based on the results of data processing, the results of the normality test are obtained, as follows:

Table 4.1 Normality Test with Kolmogorov Smirnov Test (K-S)

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		70
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	4338.76222100
Most Extreme Differences	Absolute	.056
	Positive	.056
	Negative	-.052
Test Statistic		.056
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

(Source: Data Processing by Author, 2021)

Based on Table 4.1, the results of the normality test with the Kolmogorov Smirnov test obtained the significance of asymp. sig. (2-tailed) of 0.200, due to the significance of 0.200>0.05, so it can be stated that the data is normally distributed. Furthermore, the results of the normality test with the normality P-plot graph, obtained the following results:

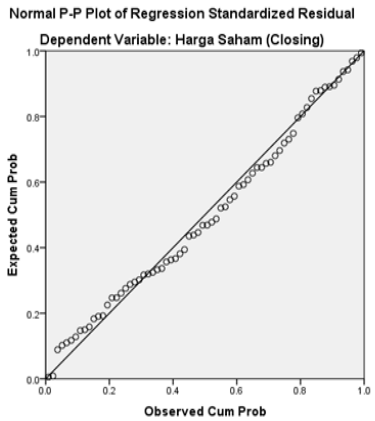


Figure 4.5 Normal P-P Plot of Regression Standardized Residual

(Source: Data Processing by Author, 2021)

Based on Figure 4.5, it can be seen that the data spreads around the diagonal line and follows the direction of the diagonal line, so it can be stated that the data is normally distributed.

From the results of the two tests of normality above, consistent results are obtained that the data in this study are normally distributed.

Multicollinearity Test

Based on the results of data processing, the results of the multicollinearity test are obtained, as follows:

Table 4.2 Multicollinearity Test

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	NPL	.366	2.731
	LDR	.885	1.130
	ROA	.243	4.123
	NIM	.460	2.173
	CAR	.969	1.032
a. Dependent Variable: Harga Saham (Closing)			

(Source: Data Processing by Author, 2021)

Based on Table 4.2, the results show that the five independent variables have tolerance values > 0.10 and VIF < 10, so it can be stated that there is no multicollinearity problem in this study.

Heteroscedasticity Test

Based on the results of data processing, the results of the heteroscedasticity test were obtained, as follows:

Table 4.3 Heteroscedasticity Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	629.157	5724.319		.110	.913
	NPL	470.509	733.349	.126	.642	.523
	LDR	-52.843	38.981	-.171	-1.356	.180
	ROA	312.050	754.760	.100	.413	.681
	NIM	130.714	608.121	.038	.215	.830
	CAR	216.963	110.286	.237	1.967	.053
a. Dependent Variable: RES2						

Source: Data Processing by Authors, 2021

Based on Table 4.3, the results of the heteroscedasticity test with the glesjer test, obtained the results of significance (p-value) on the five independent variables having a value> 0.05, so it can be stated that there is no heteroscedasticity problem in this regression model.

Significance Test

Based on the results of data processing, the partial hypothesis results obtained by T-test, as follows:

Table 4.4 T-Test (Partial Test)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	67851.113	9806.241		6.919	.000
	NPL	-5031.231	1256.289	-.381	-4.005	.000
	LDR	-569.171	66.778	-.521	-8.523	.000
	ROA	3742.966	1292.968	.338	2.895	.005
	NIM	-1709.910	1041.762	-.139	-1.641	.106
	CAR	226.009	188.929	.070	1.196	.236
a. Dependent Variable: Harga Saham (Closing)						

(Source: Data Processing by Author, 2021)

Based on Table 4.4, the results of each test between the independent variables and the dependent variable are obtained, as follows:

Effect of NPL on Stock Price

Testing the hypothesis on the effect of NPL on stock prices, obtained a tcount of -4.005 with a significance (p-value) of 0.000, because the results of tcount> ttable (-4.005>1.995) and a significance of 0.000<0.05, then Ho is rejected and Ha is accepted, the result of tcount is negative. indicates the opposite direction, so it can be stated that there is a positive effect of the NPL on the stock prices of 8 banks on the IDX.

Effect of LDR on Stock Price

Testing the hypothesis on the effect of LDR on stock prices, obtained a tcount of -8,523 with a significance (p-value) of 0.000, because the results of tcount> ttable (-8,523 >1.995) and a significance of 0.000<0.05, then Ho is rejected and Ha is accepted, the result of tcount is negative. indicates the opposite direction, so it can be stated that there is a positive effect of the LDR on the stock prices of 8 banks on the IDX.

Effect of ROA on Stock Price

Testing the hypothesis on the effect of ROA on stock prices, obtained a tcount of 2.895 with a significance (p-value) of 0.005,

because the results of tcount> ttable (2.895>1.995) and a significance of 0.005<0.05, then Ho is rejected and Ha is accepted, so it can be stated that there is a positive effect of ROA on stock prices in 8 banks on the IDX.

Effect of NIM on Stock Price

Testing the hypothesis on the effect of NIM on stock prices, obtained a tcount of -1.641 with a significance (p-value) of 0.106, because the results of tcount < ttable (-1.641>1.995) and a significance of 0.106>0.05, then Ho is accepted and Ha is rejected, so it can be stated that there is no positive effect of NIM on stock prices.

Effect of CAR on Stock Price

Testing the hypothesis on the effect of CAR on stock prices, obtained a tcount of 1.196 with a significance (p-value) of 0.236, because the results of tcount < ttable (1,196 > 1,995) and a significance of 0.236> 0.05, then Ho is accepted and Ha is rejected, so it can be stated that there is no positive effect of CAR on stock prices.

III. Conclusion

This study aimed to measure the effect of RBBRs' rating ratios on stock return of 7 respective banks actively traded in Indonesia Stock Exchange for the period of Q4 2018 to Q1 2021 (Q-o-Q). The result of the study, showed that:

On the subject of risk profile from credit risk measurement, The NPL of all 7 banks are increase during Q1 2020-Q1 2021. The NPL assessment parameter criteria still ranged from very healthy to healthy. BCA is the only bank which is assessed as very healthy with a 1,85% NPL ratio in Q1 2021. The bank that has the highest increase in NPL is BNI which have 4,12% NPL ratio in Q1 2021. The NPL trend from Q4 2018-Q1 2021 has tendency to increase, which shows that the banking risk profile is maintained but with potential increase in credit risk which is necessary to have precaution in the future.

On the subject of risk profile from liquidity risk measurement, LDR of all public listed BUKU-IV banks are decreasing in trend during Q4 2018-Q1 2021. Overall the LDR rating of all public listed book-IV banks is still in the range of OJK measurement standard, which is between 78%-92%. BCA is assessed as very healthy, BRI is assessed as healthy, Mandiri, BNI, Panin, Danamon, and CIMB Niaga are assessed as quite healthy.

On the subject of earning factor from ROA measurement, overall, all publicly listed BUKU-IV banks have declined on their ROA, which shows the ROA trend has decreased. BCA, BRI, Mandiri, Panin, and CIMB Niaga are assessed as very healthy while BNI and Danamon are assessed as

healthy.

On the subject of the earning factor from NIM measurement, the trend for NIM is considered as downtrend and rebound in Q1 2021. All public listed book-IV banks are assessed as very healthy. The decrease of all bank NIM is due to declining public purchasing power and restrictions on economic activity in order to suppress the corona virus that resulted in many business actors delaying credit applications to banks. This condition clearly has an impact on the performance of bank lending, which of course begins to erode the NIM of the bank itself. In Q1 2021, BRI had the highest NIM of all publicly listed book-IV banks.

On the subject of capital factor from CAR measurement, all public listed book-IV banks are assessed as very healthy in CAR. Danamon has the highest CAR and BNI has the lowest CAR. The general resilience condition of public listed Book-IV banks is still maintained, as reflected in all bank's capital factors are quite solid with CAR recorded in the range of 16%-29.50%. Capital resilience in the banking sector is still relatively solid with adequate liquidity conditions, although there is decreased profitability.

Based on the multiple linear regression analysis, the study found that there was a simultaneous influence of NPL, LDR, ROA, NIM and CAR on stock prices in 8 banks on the Indonesia Stock Exchange. NPL, LDR, and ROA have a significant positive effect on the stock prices of 8 banks on the IDX, while NIM and CAR have a negative effect on stock prices in 8 banks on the IDX for the period of Q4 2018 to Q1 2021 (Q-o-Q).

Recommendation

This study has limitations including the focus of study only in BUKU IV banks category and observation period which is in Q4-2018 to Q1-2021. Therefore, the recommendations for future studies are, as follows:

- As the study only focus on one BUKUs' category, which is BUKU-IV, it is suggested to do further study in the condition of other BUKU-I, BUKU-II, and BUKU-III banks in regards of how the COVID-19 pandemic affect their business to complete this study to have broader view of the banking industry in Indonesia during the COVID-19 pandemic era.
- As the samples only compromise the conventional banks, it is suggested to further expand the research with samples of shariah banks in Indonesia.
- As the variables were not broad enough to explain the correlation towards stock return entirely, hence, it is recommended to include another factor such as GCG as a factor, and gather more

extensive data daily or weekly so the study results can be more fleshed out and have more accurate representation of facts. Next research could also incorporate external independent variables such as BI rate, inflation rate, etc. And add market return or JCI return as a control variable towards stock return.

Meanwhile, for the companies, the recommendation are, as follows:

- Since the Non-performing Loan (NPL) spiked, it is necessary for all banks to maintain their NPLs' level below 5.0%. Several ways to do that are; carry out a restructuring process based on a mandate from the Financial Services Authority Regulation (POJK) No. 11 (2020), in conjunction with POJK Number 48/POJK.03/2020; maintain strict monitoring on debtors; and increase efficiency of the auction process for assets that are used as collateral to accelerate the settlement of bad loans.
- The COVID-19 pandemic and the accompanying social restriction policies have transformed people's behavior and expectations for digital financial services. Hence, reform structural steps need to be carried out by banks to accelerate the digitization of their business processes in order to be able to present products and services that are compatible with stakeholder expectations. This will strengthen the banking sector's resilience.

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