Comparative Analysis of Credit Quality Before and During Covid-19 at Banks in the Category of Commercial Banks with Category 4 Business Activities Listed on the Indonesia Stock Exchange

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Abstract. The economic impact of the Corona Virus pandemic has resulted in many creditors having difficulty paying their loans to banks. This is due to the difficulty in getting money from their economic activities. The purpose of this research is to look at bank credit performance before and during the COVID-19 pandemic. This research is quantitative with a comparative approach and the sampling method used is the saturated sample method which will make all banks that fall into the BUKU 4 category as the research sample. This study compares the performance of lending and non-performing loans of banks in the category of commercial banks with business activities (BUKU 4). Data were analyzed using SPSS 16. The results showed that the H1 hypothesis with the NPL indicator found differences in credit quality before and during Covid-19. Likewise with the H2 hypothesis with the credit channeling indicator getting the result that there is a difference in credit quality before and during the Covid-19 period in Indonesia. These results also encourage Category 4 General Business Activities banks to maintain and optimize NPLs and lending to improve credit quality.

Keywords: Banking Credit Management, Credit Management, Bank Performance

1 Introduction

Banks usually collect money from the public and then give back the money to the public in the form of credit. People who keep their money in the bank will get interest as a yield, and people who take credit from the bank will be charged interest. The difference between the interest given by the bank to customers who deposit money at the bank and those who receive bank loans will become the bank's income. Based on this explanation, the bank functions as an intermediary that connects people who need money with people who have money. Therefore, they should keep their money with a trustworthy institution [3] Banks keep customer money safe and can be withdrawn at any time. Therefore, banks must monitor credit to ensure that creditors can pay on time. The creditor's financial situation greatly affects the creditor's ability to pay; when the creditor's finances are good, they can repay credit on time, but when the creditor's finances are in trouble, bad credit is likely to occur, which increases bank credit risk. [1] explained that banks must follow prudential principles, namely prudence in granting credit, to maintain their credit quality. Bank Indonesia has set a maximum limit of five percent for NPLs or bad loans, which shows the quality of bank credit.

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Table 1. Development of Banking Credit Quality 2018-2019

Credit Quality	Des'18	Sep'19	Des'19	Portion	qtq		yoy	
					Sep'19	Des'19	Des'19	Des'19
1. Current	4.931	5.066	5.190	92,40%	0,85%	2,45%	12,32%	5,25%
-Non-Restructuring	4.806	4.938	5.059	90,07%	0,67%	2,46%	12,64%	5,27%
-Restructuring	125	128	131	2,33%	8,19%	1,88%	1,01%	4,52%
2. TPF	238	311	285	5,07%	1,34%	-8,46%	6,15%	19,59%
3. Non-Current	20	23	23	0,41%	27,24%	-0,34%	-9,08%	14,30%
4. Doubtful	17	18	27	0,48%	-17,60%	48,95%	-8,72%	62,43%
5. Bad Debt	88	105	91	1,63%	9,09%	-13,08%	7,26%	3,67%
NPL Amount	125	147	142		7,22%	-3,36%	1,90%	13,23%
NPL Ratio %	2,37%	2,66%	2,53%		15,33%	-0,05	-23	0,07
Loan at Risk	363	440	443		3,25%	0,80%	4,32%	21,95%
Ratio Loan at Risk %	6,86%	7,96%	7,89%		17,08	-0,01	-48,89	0,15
Total	5.295	5.524	5.617		1,03%	1,68%	11,75%	6,08%

From the data above it can be seen that there was an increase in non-performing loans (NPL) in 2019 compared to 2018. In 2019 there was an increase of 2.53% compared to 2018 of 2.37%. This increase in NPLs occurred due to an economic crisis in which the rupiah currency weakened [4]. At the end of 2019 countries were threatened with a crisis due to the Corona Virus or COVID 19. The Corona Virus weakened economic activity due to restrictions on human movement. Almost all industries have been negatively affected, such as the manufacturing sector, property sector, labor-intensive industries, and many other negatively affected industries. This impact will continue until 2022 because the spread of the Corona Virus has not subsided and vaccinations are still uneven.

Table 2. Development of Banking Credit Quality 2020-2021

Credit Quality (Rp T)	Des'20	Sep'21	Des'21	Portion	qtq		yoy	
					Sep'21	Des'21	Des'20	Des'21
1. Current	5070	5.184	5.359	92,89%	1,67%	3,37%	-2,31%	5,69%
-Non-Restructuring	4.200	4.433	4.645	80,52%	2,71%	4,79%	-16,99%	10,60%
-Restructuring	870	751	714	12,37%	-4,09%	-5,03%	565,75%	-18,02%
2. TPF	244	287	237	4,10%	-4,70%	-17,53%	-14,54%	-2,80%
3. Non-Current	27	25	22	0,38%	2,96%	-12,93%	16,74%	-19,92%

Credit Quality (Rp T)	Des’20	Sep’21	Des’21	Portion	qtq		yoy	
					Sep’21	Des’21	Des’20	Des’21
4. Doubtful	14	26	21	0,36%	-24,87%	-20,71%	-46,67%	42,59%
5. Bad Debt	126	131	131	2,27%	7,52%	-0,08%	37,87%	3,82%
NPL Amount	168	182	173	3,00%	0,71%	-4,80%	18,24%	3,32%
Gross NPL Ratio %	3,06%	3,22%	3,00%		-2	-22	53	-6
Net NPL Ratio %	0,98%	1,04%	0,88%		-2	-16	-21	-10
DPK Credit + Restructuring Current Credit	1.114	1.038	950		-4,26%	-8,49%	167,98%	-14,69%
Third Party Credit Ratio + Current Credit Ratio%	20,32%	18,37%	16,47%		-107	-190	1292	-385
Total Credit	5.482	5.653	5.769		1,29%	2,04%	-2,41%	5,24%

Based on data from the financial services authority, the economic impact due to the Corona Virus pandemic has resulted in many creditors having difficulty paying their loans to banks. The NPL ratio in 2021 will be at 3%, a decrease from 2019 of 3.06%. When compared to 2018 data, it has continued to increase.

With the continuous increase in bank NPL, it is necessary to increase vigilance. This is because if the NPL continues to increase it will endanger the financial condition of banks. What banks have done to deal with this problem is to tighten lending by being more selective in channeling credit, besides that banks also increase capital by issuing new shares. The banking industry that is interesting to study is the banking industry with banks belonging to commercial banks with business activities category 4 (BUKU 4). The reason for using a BUKU 4 category bank is that banks in this category have large capital with an extensive network throughout Indonesia. The requirement for a bank to enter into the BUKU 4 category is to have a minimum capital of 30 trillion. With very large capital, if credit management is not carried out properly, it will have a systemic impact on the economy.

This research will focus on managing credit quality at commercial banks in Commercial Bank Business Activities category 4. This research will compare the level of non-performing loans in banks before and during the COVID 19 pandemic. Previous research on bank credit quality has been conducted by [3] with research results stating that there was no difference in non-performing loans before and during the COVID 19 pandemic. [3] does not discuss the level of bank lending and only classifies banks based on their ownership, namely government and private ownership.

From the explanation of the background and also previous research, this research will look at an event study. Event Study is a method used in financial analysis to assess the effect of a certain event on the financial performance of a company or financial market. This method is often used to analyze the impact of events such as government policy announcements, regulatory changes, financial performance announcements, or other macroeconomic events. Based on the background described above, the writer is interested in conducting research with the title"Comparative Analysis of Credit Quality Before and During Covid-19 at Banks in the Category of Commercial Banks with Category 4 Business Activities Listed on the Indonesia Stock Exchange"

2 Literature Review

Stewardship Theory

The role of managers in the banking industry is very vital, this is the role of banks as one of the pillars of the economy which functions as a collector of funds from the public and distributes them to those who need funds in the form of credit. Therefore the role of managers is not only thinking about company profits but also managing company risks, such a concept is called the concept of stewardship. herself.

Bank

A bank is a company that collects money from people as savings and then gives that money to other people with credit and other methods to improve their quality of life. Apart from being a collector and channel of funds, the bank has a role as an intermediary for payments between two parties through the system. banking [9].

Bank Management

[1] explains that several steps that must be considered as a whole can be taken to effectively manage a bank that meets sound banking standards. Bank policies, internal controls, establishment of management systems, and development of management skills are steps that must be followed by bank management. The basic principles of bank management will be discussed here. The principle of prudence, or bank prudence, is prioritized to avoid liquidation and profitability problems.

Bank Credit Management

One type of service offered by banks to the public is credit. Basically, before giving credit to a potential beneficiary, the bank must ensure that the credit will actually be returned. [12]. This is due to the desire of banks to reduce the level of risk associated with extending credit. This confidence is obtained from the results of credit assessments carried out before credit is given. Credit assessment by banks can be carried out with the 5C principles, namely Character, Capacity, Capital, Collateral, Condition [5].

Credit Management on Bank Performance

[4] state that credit is a very important product for banks because it makes a significant contribution to bank performance. Good credit control will help banks reduce credit risk and generate greater profits. Credit risk management includes risk identification, risk measurement,

risk control and regular risk monitoring. Banks must also pay attention to overall economic conditions and make adjustments to credit policies and strategies according to these conditions.

Banking Credit Management (NPL)

[4] explains that banking credit management includes credit risk management, non-performing credit management, and current credit management. One important aspect of credit management is the management of non-performing loans (NPL). [4] explains Non-Performing Loans (NPL) are loans that are past due for more than 90 days or credits that are deemed unable to be repaid by the borrower. NPL is one of the most serious problems in the banking business, because it can affect a bank's liquidity, profitability and financial stability. the formula used to calculate the NPL ratio is

$$\text{NPL} = \frac{\text{Bad Credit}}{\text{Provided Credit}} \text{ x } 100\%$$

Regulation of Bank Business Activities

[9] explains that in terms of core capital owned by the Bank it is grouped into 4 business groups (BUKU Business Group Commercial Banks), namely BUKU 1, namely Banks with a core capital of less than IDR 1 trillion can only carry out activities in Rupiah such as raising and distributing funds, financing trading, agency and cooperation, electronic payment systems and temporary equity participation for credit rescue, and other services. BUKU 2 namely Banks with a core capital of between 1 trillion rupiah and less than 5 trillion rupiah which have the ability to carry out activities or transactions in rupiah and foreign currency on a wider scale. from BUKU 1. BUKU 2 can conduct limited treasury activities including spot and plain vanilla derivatives as well as invest 15% in domestic financial institutions. BUKU 3, namely banks with a core capital of between IDR 5 trillion and less than IDR 30 trillion have the ability to carry out all operations in Rupiah and foreign currencies and have a participation of 25 percent in limited financial institutions in the Asian region. BUKU 4, namely Banks with core capital above Rp. 30 trillion have the ability to carry out all business activities in rupiah and foreign currency, and have involvement of 35% in domestic and foreign financial institutions with a wider network than BUKU 3 (international world wide).

Hypothesis Development

Banks sell the funds they collect from the public through lending, which is better known as credit. [8] Many factors affect lending, one of which is economic conditions. During the Covid 19 pandemic, the economy experienced a decline as a result of large-scale restrictions on community activities. Therefore, it is suspected that there has been a decrease in lending to the public by banks. This research is in line with research conducted by [7] which explains that loan quality. Influence on credit risk management from the explanation above, the research hypothesis can be explained as follows:
H1 : There was a significant difference in bank lending before and during the COVID 19 pandemic

Bank credit risk is a danger that arises when a bank extends credit to debtors and they are late, in arrears, or stop paying their credit. The impact arising from credit risk is an increase in non-performing loans (NPL). In this study, we will look at the management of banking credit

in the category of commercial bank business activities (BUKU4) during the COVID 19 pandemic. To measure bank credit management, it can be measured by comparing the amount of credit extended by banks and the ratio of non-performing loans (NPL) to banks before and during during the COVID 19 pandemic. This is to measure the prudent principle of banks in lending. This research is in accordance with research conducted by [3] which states that changes in the external environment will affect the performance of bank credit management. From the explanation above, the hypothesis in this study is:
H2 : There was a significant difference in bank non-performing loans before and during the COVID 19 pandemic

3 Research Methods

This quantitative research uses a comparative approach. This study compares the performance of banks in the category of commercial bank business activities in terms of lending and non-performing loans. (BOOK 4). The sampling method used is the saturated sample method which will make all banks that fall into the BUKU 4 category as the research sample. Relevant sources, including the official website of the Indonesian Stock Exchange (IDX), financial services authorities, and reports of the Indonesian Stock Exchange, are sources of research data. The analytical method that will be used is a two-sided paired t analysis to answer the research hypothesis.

Population and Sample

The population in this study are general banking companies with BUKU 4 business activities for the 2017-2022 period. Researchers use non-probability sampling technique. Saturated sampling, also called census, was used in this study. (Sugiyono 2017) Explains the meaning of If the population size is relatively small (less than 100), each member of the population is taken as a saturated sample. The following is the sample in this study

Table 3. Sample Criteria

No	Criteria	Amount
	Population:*Commercial Bank Business Activities 4*	
1	There are banks that are classified as Commercial Banks with business activities category 4 (BUKU4) during 2017-2022	60
2	All Commercial Banks of the BUKU 4 category have gone public so that their performance reports are easier to obtain	60
3	Banks with BUKU 4 category are banks with large capital	60

Operational Variables and Measurements

Below are operational variables:
Credit distribution

The measurement method used is to compare the nominal lending before and during Covid-19 which occurred in Indonesia because it was suspected that there had been a decrease in the amount of funds channeled to the public in the form of credit [6]. Because during the Covid-19 pandemic the economy experienced a sharp decline due to the imposition of large-scale restrictions on community activities.

Bad credit (*Non performing loan*)

The level of non-performing loans can be calculated by dividing non-performing loans by loans granted, then multiplying the number of percent

$$\text{NPL} = \frac{\text{Bad Credit}}{\text{Provided Credit}} \text{ x } 100\%$$

4 Discussions

Descriptive Statistics Test

Table 4: Descriptive Statistical Test Results

	N	Min	Max	Mean	Std. Deviation
NPLs Before COVID-19	60	-0,1250	0,0460	-0,0270	0,0252
NPLs During COVID-19	60	-0.0584	0.1540	0.0511	0.0648
Valid N (listwise)	60				

Table 4 shows the mean value of NPL before COVID-19 in Commercial Bank Companies with Business Activities Category 4 of -0.0270 with a standard deviation of 0.0252. Then with the maximum and minimum NPL values before COVID-19 at Commercial Bank Companies Business Activities Category 4 of 0.0460 and -0.1250. Meanwhile, the NPL descriptive test during COVID-19 in Commercial Bank Companies with Business Activities in Category 4 shows a mean value of 0.0511 with a standard deviation of 0.0648. Then with the maximum and minimum NPL values during COVID-19 at Commercial Bank Companies Business Activities Category 4 of 0.1540 and -0.584.

Table 5: Descriptive Statistical Test Results

	N	Min	Max	Mean	Std. Deviation
Credit Disbursement Before COVID-19	60	0.0241	0.2451	0.1245	0.0315
Credit Disbursement During COVID-19	60	0.0615	0.5129	0.1618	0.0814
Valid N (listwise)	60				

Table 5 shows the average credit disbursement before COVID-19 in Indonesia was 0.1245 with a standard deviation of 0.0315. Then with the maximum and minimum credit distribution values before COVID-19 of 0.2451 and 0.0241. Meanwhile, the descriptive test for lending during COVID-19 in Indonesia showed an average value (mean) of 0.1618 with a standard deviation of 0.0814. Then the maximum and minimum values are 0.5129 and 0.0615.

From the mean results in the table above, credit distribution before and during the outbreak increased. According to the table above the mean values before the outbreak and during the outbreak experienced an increase in NPL.

Normality test

The normality test used isOne-Sample Kolmogorov-Smirnov Test. The normality test results are as follows:

Table 6: NPL & Credit Distribution Normality Test Results

One-Sample Kolmogorov-Smimov Test					
		NPLs Before Covid	NPL During Covid	Prior Credit Distribution	Credit Distribution During
N		60	60	60	60
Normal Parameters[a,b]	Mean	-,0270	,0511	,1245	,1618
	Std. Deviation	,0252	,0648	,0315	,0814
Most Extreme Differences	Absolute	,173	,160	,346	,294
	Positive	,173	,160	,346	,294
	Negative	-,042	-,054	-,106	-,058
Kolmogorov-Smimov Z		0,172	0,151	0,145	4,67
Asymp. Sig. (2-tailed)		,001	,0032	,005	,003

One of the purposes of this check is to find out whether the independent and dependent variables have a normal distribution. In this study the normality test was carried out using the non-parametric Kolmogorov-Smirnov (K-S) test method. The probability value of the significance of the residual data is the basis for making this K-S test decision. If the probability value is less than 0.05, then the variable does not have a normal distribution. Conversely, if the probability value is more than 0.05, then HA is rejected, which indicates that the variable has a normal distribution Table 6 shows the results of the Kolmogorov-Smirnov
Test (K-S) showing a value of 0.003 which means the data is not normally distributed. This can be seen because the probability value of 0.003 is smaller than 0.05. So this research model does not meet the classic assumption test of normality

Because the data were not normally distributed, the Wil Wilcoxon Signed Ranks hypothesis test was used. The results of hypothesis testing are as follows:

Table 7: Wilcoxon Signed Rank Test Results

Ranks				
		N	Mean Rank	Sum of Ranks
NPL during - NPL before	Negative Ranks	2[a]	08.00	81.00
	Positive Ranks	8[b]	13.58	691.00
	Ties	0[c]		
	Total	10		

Ranks				
		N	Mean Rank	Sum of Ranks
Distribution Before - Distribution During	Negative Ranks	8[a]	12.31	548.00
	Positive Ranks	2[b]	09.35	43.00
	Ties	0[c]		
	Total	10		

From the test results it is known that there were 2 companies that experienced a decrease in NPL during the Covid-19 period and as many as 8 companies that experienced an increase in NPL during the Covid-19 period which can be seen from the N value in the Negative ranks, which is 2 and the Positive ranks, which is 8. In the table above It is also known that as many as 8 companies experienced a decrease in lending before the Covid-19 period and there were 2 companies that experienced an increase in lending before the Covid-19 period.

Differences in Credit Quality were found before and during Covid-19 as measured using the NPL indicator

Tabel 8: Test Statistics

Test Statistics[a]		
	NPL during - NPL before	Distribution Before - Distribution During
WITH	-4.213[b]	-3.124[c]
Asymp. Sig. (2-tailed)	.002	.001

Based on the table above, it can be seen that the value of Sig. (2-tailed) NPL of 0.002. Because the value of 0.000 is less than <0.05, H1 is accepted. And for credit distribution, get a Sig. (2-tailed) NPL of 0.001. Because the value of 0.000 is less than <0.05, H2 is accepted. The results of this study are accepting H1 and H2 which state that there are differences in credit quality before and during Covid-19 at banks in the category of commercial banks with category 4 business activities listed on the Indonesia Stock Exchange

Table 9: Hypothesis Test Results

Hypothesis	**Results**
H1: found differences in credit quality before and during Covid-19 at Banks in the category of Commercial Banks with Category 4 Business Activities on the IDX using the NPL indicator.	Accepted
H2: the discovery of differences in credit quality before and during Covid-19 at Banks in the Category 4 Business Activity Commercial Bank category on the IDX using credit distribution indicators.	Accepted

Based on the tests carried out in this study, the results of the Wilcoxon Signed Rank Test which was carried out using SPSS 16 to test the NPL of Category 4 Commercial Banks on the IDX before and during COVID-19 in Indonesia showed that H1 was accepted. In managing bank credit, credit risk management is also important to identify and reduce credit risk. Credit risk management includes identifying credit risk, measuring credit risk, controlling credit risk, and monitoring credit risk on a regular basis. By carrying out effective credit risk management and non-performing credit management, banks can minimize credit risk and maximize profits from the credit business. The level of NPL can be caused by both internal and external factors. External conditions, namely economic conditions, often result in an increase in banking NPLs, namely when the economy experiences a contraction such as a recession or inflation. This condition caused economic activity to slow down and resulted in inadequate economic liquidity in the financial markets. This makes many debtors have difficulties in obtaining income which has an impact on the debtor's ability to pay credit and loan interest [11]

Differences in Credit Quality were found before and during Covid-19 as measured using the Credit Distribution indicator.

Based on the tests carried out in this study, the results of the Wilcoxon Signed Rank Test conducted using SPSS 16 to test Category 4 Commercial Bank Credit Distribution on the IDX before and during COVID-19 in Indonesia showed that H2 was accepted. Selling funds that have been collected from the public is known as channeling funds Banks provide funds through lending, which is known in society as credit. Many factors affect lending, one of which is economic conditions [10]. During the COVID-19 pandemic, the economy experienced a downturn, which led to gradual restrictions on people's activities. Therefore, it is suspected that there has been a decrease in lending to the public by banks.

5 Conclusion

This study concludes that the research results obtained show the results of the analysis of category 4 commercial bank credit quality on the IDX for the 2017-2022 period using 2 indicators namely, NPL and credit distribution, the conclusion H1 shows that the NPL indicator found differences in credit quality before and during COVID-19. And similar results were obtained for H2 with the Credit Distribution indicator showing that there were differences in credit quality before and during Covid-19 in Indonesia. The quality of the Bank category Commercial Bank Business Activities category 4 in terms of the financial ratios of Non Performing Loans (NPL) and Lending to the Community for 6 years has increased from 2017 to 2022. The increase in the NPL ratio from 2017 to 2022 shows that, while loans continue to increase, Indonesian banks manage credit risk on bad or non-current loans. The distribution of credit or funds made by banks is carried out through the provision of loans which are better known in the community as credit. Many factors affect lending, one of which is economic conditions. During the COVID-19 pandemic, the economy experienced a decline as a result of large-scale restrictions on community activities. Therefore, it is suspected that there has been a decrease in lending to the public by banks.

Based on the results of the above research, a suggestion can be given, that is, for banks in the category of Commercial Banks with Business Activities Category 4, they should be able to maintain and optimize NPLs and lending in order to improve credit quality. For further research, there are several things to note, one of which is how small the influence of the independent variables is. (NPL) is able to explain the credit quality variable, it is necessary to add other variables. The sector used can also be used other than Bank category Commercial Bank Business Activities category 4, can be used as a research population in the mining sector or other fields. To see a clearer picture, it is better in subsequent studies to add the number of samples and the study period

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