

DYNAMIC NON-PERFORMING LOAN IN INDONESIA (EMPIRICAL STUDY ON COMMERCIAL AND ISLAMIC BANKS)

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Abstract. This paper discusses non-performing loans in Islamic and commercial banking. This study tries to test internal and external factors such as CAR (Capital Adequacy Ratio), interest rate, ROE (Return on Equity), inflation rate, and GDP (Gross Domestic Product) against non-performing loans or NPL in Indonesia banking. It would also like to see the impact of the crisis that occurred during the period 2015 to 2020. A sample from this study consisted of 66 Banks. Results showed that of the four variables tested showed a significant influence on the NPL of commercial and Islamic banks, except on the testing of inflation and CAR variables on commercial banks that showed results did not affect the NPL.

Keywords: *Non-Performing Loans, Inflation, CAR, GDP, Interest Rates, ROE*

Abstrak. Penelitian ini membahas kredit bermasalah pada perbankan syariah dan komersial. Penelitian ini mencoba menguji faktor internal dan eksternal seperti CAR (Rasio Kecukupan Modal), suku bunga, ROE (Return on Equity), tingkat inflasi, dan PDB (Produk Domestik Bruto) terhadap kredit bermasalah atau NPL di perbankan Indonesia. Kami juga ingin melihat dampak krisis yang terjadi selama periode 2015 hingga 2020. Sampel dari penelitian ini terdiri dari 66 Bank. Hasil penelitian menunjukkan bahwa dari keempat variabel yang diuji menunjukkan pengaruh yang signifikan terhadap NPL bank umum dan bank syariah, kecuali pada pengujian variabel inflasi dan CAR pada bank umum yang menunjukkan hasil tidak berpengaruh terhadap NPL.

Kata Kunci: Kredit Macet, Inflasi, CAR, PDB, Suku Bunga, ROE

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INTRODUCTION

Non-performing loans (NPLs) have attracted new attention in recent years. NPL is one of the indicators that are very closely related to weaknesses in the financial system. Most of the banks integrate low NPL ratios as part of its corporate performance. In the financial sector, it turned out to impact the way the bank formulated its lending policy (Shrieves & Dahl, 2003). NPL is also closely related to the economic conditions.

NPL in Indonesia has become a particular and essential concern since the 1998 monetary crisis or the Asian Financial Crisis in which Indonesia was affected by the fall of regional financial markets in Southeast Asia. So massive is the NPL problem that BPPN (Indonesian Bank Recovery Agency) was formed to recover Indonesia's banking and economy. Scardovi (2016), in his book *Holistic Active Management of Non-Performing Loans*, identifies two contributing factors to the onset of NPLs in banking, macroeconomic factors, and internal banking factors (microeconomic factors).

The authors also want to see the impact of the covid-19 pandemic on banking conditions in Indonesia. According to Mc Kinsey in its September 2020 report, the world is experiencing a crisis with the onset of the Covid-19 pandemic in which trade flows and tourism suddenly stop, so it is mentioned that the IMF predicts that the global economy will contract by 4.9% in 2020. It also said that Indonesia had cut its GDP growth from 5.3% to 2.3% in April 2020. Even the Finance Minister once said if the crisis continues, it is possible to get into negative territory. Therefore, this paper tries to study more about the impact of these conditions on banking in Indonesia.

In this paper, the authors want to see banking conditions with the variables described earlier are then linked to the impact of the China-US trade war crisis, the Brexit case, even the covid-19 pandemic. Since Trump won the United States presidential election, American domestic and foreign policy has been led to the slogan "Make America Great Again." Trump wants to make the United States citizens proud and, if necessary, brave against the rest of the world. Peaking on July 6, 2018, the United States imposed a 25% tariff on imports of Chinese goods. According to Bekkers and Schroeter (2020), WTO researchers, in their report entitled *An Economic Analysis of the US-China Trade Conflict*, mentioned that imports from China are declining, thus creating opportunities for other countries to replace China's position as an exporter of goods needed by the United States. The immediate positive impact is to Japan, South Korea, Taiwan, and Vietnam. Unfortunately, this does not happen to Indonesia. Based on Pangestu (2019) in her report entitled *China-US Trade War: An Indonesian Perspective*, it is mentioned that the direct impact of the trade war is the slowdown of the world economy and the uncertainty caused by the world economy. Simultaneously, the indirect impact is the potential relocation of investment and transfer of trading partners (trade diversion). The IMF stated that the US and China trade wars are a significant source of world uncertainty. World trade is weakening, business confidence is falling, and investment is falling in many countries. Thus, the IMF lowered its prediction of growth of the world

economy, which also impacted the revision of Indonesia's economic figures. According to Maruti (2019), in the report entitled *How Indonesia Finds Itself in the Middle of US-China Trade War*, Indonesia adopted a strategy to minimize risk and maximize benefits. Indonesia expanded its volume and export market, where negotiations were conducted with Australia, Chile, Argentina, and the European Union. Also, look for opportunities for investment relocation from China to Indonesia. The AMRO report (ASEAN +3 Macroeconomic Research Office) in May 2019 says Southeast Asia is the destination for investment relocation from China.

METHOD

The type of data used in this study is quantitative. The data source used in this study is secondary data. The data used in the study is non-performing loan data accessed through the website ojk.go.id; inflation rate, interest rate, and gross domestic product data through website bi.go.id. The population in this study is Indonesian banks with a purposive sampling method, based on the criteria, namely (a) Banks in Indonesia between 2015 and 2020 consistently. The determination of year 2015 as a starting point sample of this research relates to the trade war US and China and the covid-19 pandemic, (b) The required research variable data, available in full during the research period of 2015 to 2020.

Hypothetical testing uses ordinary equations that link NPL with bank-specific variables, and macroeconomics as follows Us (2017):

$$Y_{it} = \alpha + \beta_1 PDB_{it} + \beta_2 SukuBung_{it} + \beta_3 Inflasi_{it} + \beta_4 CARBU_{it} + \beta_5 CARBS_{it} + \beta_6 ROEBU_{it} + \beta_7 ROEBS_{it} + \epsilon_{it}$$

Description:

Y_{it} : NPL (net performing loan)

Interest Rate : Interest rate level

Inflasi : Inflation

CARBU : Commercial Banks CAR

CARSY : Islamic Bank CAR

ROEBU : Commercial Banks ROE

ROEBS : Islamic Bank ROE

RESULTS**Table 1.** Descriptive Statistics

Variable	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std.	Variance Statistic
					Deviation Statistic	
PDB	66	6.33	6.45	6.3973	.03247	.001
Commercial_Banks _NPL	66	1.89	2.52	2.1841	.15350	.024
Islamic_Bank_NPL	66	3.23	6.17	4.4827	.83872	.703
Commercial_Banks _CAR	66	20.28	23.93	22.5068	.91714	.841
Islamic_Bank_CAR	66	14.09	21.39	17.6203	2.45983	6.051
Islamic_Bank_ROE	66	1.53	15.82	9.0559	3.49768	12.234
Commercial_Banks _ROE	66	12.29	18.72	14.8024	.99882	.998
Inflation	66	1.96	7.26	3.8611	1.37495	1.890
BI_RATE	66	4.25	7.75	5.6553	1.16335	1.353
Valid N (listwise)	66					

Table 1 NPL shows that commercial banks have an average value of 6.3, with a standard deviation of 0.03247. This illustrates that NPL or non-performing loan rates at commercial banks in Indonesia are low. In contrast, the spread of data of the commercial bank NPL sample is 0.001. Islamic banks are known to have an average value of 4.4827, with a standard deviation of 0.83872. This illustrates that NPL or non-performing credit rates at Islamic banks in Indonesia are also low. Meanwhile, the spread of islamic bank NPL data is 0.703.

Table 2. Pearson Correlation Matrix

	NPL	CAR	INFLATION	PDB	RATE	ROE
NPL	1.000000	-0.888032	0.566291	-0.869073	0.403682	-0.832446
CAR	-0.888032	1.000000	-0.656944	0.899476	-0.480390	0.804039
INFLATION	0.566291	-0.656944	1.000000	-0.687783	0.684601	-0.480518
PDB	-0.869073	0.899476	-0.687783	1.000000	-0.554205	0.786350
RATE	0.403682	-0.480390	0.684601	-0.554205	1.000000	-0.378029
ROE	-0.832446	0.804039	-0.480518	0.786350	-0.378029	1.000000

Table 2 shows a positive correlation of inflation and interest rates while for CAR, GDP, while ROE variables negatively correlate. A negative correlation indicates that the higher the value of a variable will reduce the NPL. In comparison, a positive correlation indicates that a higher variable value will increase the NPL.

DISCUSSION

Table 3. Regression Analysis Results

Hypo thesis	Independent Variable	Dependent Variable	F	R-Square	p-value	Regression Model $\hat{Y} = a + bX$	Conclusion
1	PDB	Commercial Banks NPL	5,285	0,076	0,025*	$\hat{Y} = 10,538 - 1,30X$	Reject H0
2		Islamic Bank NPL	166,71	0,723	0,000*	$\hat{Y} = 144,9 - 21,96X$	Reject H0
3	Rate	Commercial Banks NPL	4,449	0,065	0,039*	$\hat{Y} = 2,374 - 0,034X$	Reject H0
4		Islamic Bank NPL	14,288	0,183	0,000*	$\hat{Y} = 2,741 + 0,308X$	Reject H0
5	Inflation	Commercial Banks NPL	0,548	0,008	0,462	$\hat{Y} = 2,224 - 0,01X$	Accept H0
6		Islamic Bank NPL	34,261	0,351	0,000*	$\hat{Y} = 3,087 + 0,361X$	Reject H0
7	Commercial Banks CAR	Commercial Banks NPL	1,436	0,022	0,235	$\hat{Y} = 1,626 + 0,025X$	Accept H0
8	Islamic Bank CAR	Islamic Bank NPL	260,991	0,803	0,000*	$\hat{Y} = 9,867 - 0,306X$	Reject H0
9	Commercial Banks ROE	Commercial Banks NPL	17,222	0,212	0,000*	$\hat{Y} = 3,232 - 0,071X$	Reject H0
10	Islamic Bank ROE	Islamic Bank NPL	141,746	0,689	0,000*	$\hat{Y} = 6,285 - 0,199X$	Reject H0

Note. *, **, *** The significance level at 10%, 5%, and 1%.

Based on table 3, GDP has a negative influence on the NPL in commercial banks. It can be concluded that the higher the GDP, the lower the NPL. It also applies to Islamic banks that show that GDP has negative influence to the NPL. GDP (Gross Domestic Product) is a measure of a country's economy based on the total value of goods and services produced by that country. In his book entitled *Money, Banking and International Finance, 2014*, Szulczyk stated that the Central Bank and the government should implement monetary policy to influence critical macroeconomic variables such as GDP. With Indonesia's GDP increasing, it means that its economic activities are growing. With the development of Indonesia's economy, it also means economic actors, including debtors from commercial banks and Islamic banks. With the debtors' improving condition, the payment of obligations to

commercial banks and Islamic banks has not run into problems. This makes NPL in commercial banks and Islamic banks decrease.

On the one hand, loan growth rose while the value of non-performing loans declined. Moreover it is possible that debtors who were previously recorded as problematic (NPL) can smoothly repay their obligations so that the NPL becomes even lower. It is likely that the auction went successfully for debtors who are already in the collectibility 5 category and auctioned. When the collateral is sold, the proceeds are used to pay off and lowering the NPL loan's outstanding. The result is the NPL of commercial banks and Islamic banks even further down.

A variable interest rate indicates that interest rates affect the NPL. The nature of negative influences is based on regression equations. The higher the interest rate, then the NPL goes down. This result contradicts the theory and practice in general. Where usually, the effect of interest rates is positive on the NPL. Van Deventer, Imai, and Mesler (2013) stated that risk including interest rate risk is the possibility of a loss caused by uncertainty. In the data processed pattern, the highest interest rate data is in June 2015 at 12.88%. With that level of interest rate, Indonesia's debtors generally can still absorb a load of 12.88% so that the NPL does not rise or even fall. This can also be explained by Bank Indonesia data (August 2020), which shows that the working capital loan portion still dominates commercial loans by 70 to 75%. The nature of working capital loans is secured loans, and debtor businesses are already proven. So the phenomenon seen in the results of this study is understandable.

Meanwhile, Islamic banks for interest rates have a positive effect on the NPL. But NPL Islamic bank shows it is still within reasonable limits and can be controlled even though the pandemic period is still ongoing. One of Islamic banking principles is Murabaha, where monthly installments are fixed value so that it is not affected by the ups and downs of interest rates.

The results of the regression analysis are known that inflation does not affect the NPL. Theoretically, if inflation rises, then deposit rates also rise to dampen inflation against a deposit's value. Deposits and current accounts are one of the determinants of the bank's cost of fund. The cost of fund is then channeled to debtors by a margin. So theoretically, in the event of inflation, then loan interest rates will rise. This will inevitably add up to the debtor cost and potentially become problematic as the monthly burden increases. But from the regression results, it appears that inflation does not affect the NPL due to several aspects, namely:

1. Most debtors use loans as working capital. Resilience rising interest rates proved by the running of the business that has been going on all along.
2. The average interest rate data is about 12%, where the highest is 12.88%. Based on the data, there are two possibilities that the interest rate can be considered reasonable by the debtor to pay off his obligations so that the NPL does not increase. While the loan interest rate is not raised by the bank even though the cost of fund is rising. In other words, banks absorb rising interest rates and do not charge debtors.

With the rising of inflation banks also rising deposit rates. With the increase in the deposit rate, the loan interest rate will also rise. With the increase in interest rates, it is natural for debtors to have difficulty due to interest payments and installments becoming increasingly. However, according to Szulczyk (2014), central banks and governments should control the effectiveness of monetary policy and achieve a low inflation target.

Based on the data, commercial banks CAR value is about 20%-23%. This is rated good because the bank is ready to expand if necessary. However, more importantly, adequate CAR means that the bank is ready if there is a risk. Pandemic conditions could lead to credit worsening. The regression results that show that CAR does not affect the NPL can be concluded that the banks' capital reflected by the value of CAR is adequate in the face of any unexpected possibilities. Hubbard and O'Brian (2012) stated that a bank with a capital adequacy ratio $> 10\%$ means it is already very well-capitalized. In the event of emerging NPL, banks are ready to work out the NPL in the most efficient way possible so that there is minimal impact on financial markets or the Indonesian economy as a whole.

Islamic Bank CAR showed an improvement from about 14% in 2015 to 20 to 21% in 2020. This is very promising for Islamic banks' readiness to deal with the possibilities that will occur, such as the covid-19 pandemic that is taking place. Trivedy (2015) states that banks are required to manage capital adequacy within a specific limit to keep the bank from any possible risks. This means looking at the positive side of Islamic banks' capital development over the past 5 years. This is reflected in the data, where the NPL in 2015 decreased from above 5% to about 3% in 2020 (June data).

A good ROE signifies banks are very well and professionally managed so that they are profitable and do not face NPL problems. The ROE value indicates profitability. In general, if investors choose a bank as one of the elements in their portfolio, they will pay attention to the high ROE value and low NPL ratio. Faizulayev and Bektas (2018), states that efficiency is positively correlated with profitability (ROE).

CONCLUSION

Based on the discussion, it can be concluded that variable GDP, interest rates, inflation, CAR, and ROE affect the NPL in commercial banks and Islamic banks so that the economy and banking in Indonesia can continue to progress and develop well. The bank must prepare the right strategy and way if something happens from the Indonesian economy. This means credit recovery or loan workout becomes essential for the sustainability of a bank. On the macroeconomic aspect, it may not be able to do much, but a lot can be well prepared from banking's inner side. Starting from good credit initiation, to the credit has been disbursed, then credit management and settlement of non-performing loans should be carefully considered. The asset quality is a concern. If all banks can maintain good asset quality from the beginning of credit initiation, despite the economic crisis, banking remains strong. Each bank must have an NPL resolution strategy, good governance and sound operations so that all banks can quickly identify problems early on and resolve the NPL.

Another important thing is an excellent second way out of strategy. If all the ways that the NPL can be avoided are already implemented, but there is still an NPL flows, then the last alternative is the collateral execution. Thus in the initial initiation process, all bank officials responsible for credit initiation are provided with complete knowledge of the collateral process and system. Many of the collateral that at the beginning of initiation look good and enough to cover loan OS, however when it becomes an NPL, it turns out that the value is less and hard to execute.

Given the massive potential negative impact of the covid-19 pandemic, the initiatives that have been carried out by the government, Bank Indonesia, and OJK are very appropriate. In terms of fiscal assistance, the government has planned a substantial fiscal package worth more than Rp 1000 Trillion as of June 2020 (IMF data). However, support is needed for both formal and non-formal workers, including lecturers, teachers, education personnel, to socialize the assistance. Assistance can be financial or non-financial one. It is necessary to think about how to spot on target and can be done without harmful excesses. Assistance in the form of internet data package can be recommended to be improved, including hardware assistance in the form of mobile phones and laptops. Electricity subsidies also need to be recommended so that fiscal assistance can be more felt and help finance, especially for middle and lower class customers.

OJK has issued a relaxation policy to banks in terms of monetary policy and banking directions so that debtors who have difficulty paying obligations can do credit restructuring

and relaxation of loan classification. To further stabilize the difficult banking and debtor conditions, relaxation policies is recommended to be extended to a longer period. Efforts to help bank's balance sheets has also been decided to delay the mark-to-market of government securities and hopefully other securities.

Bank Indonesia hopefully push down reserve requirements for banks so that the cost component can be more suppressed, and loan interest rates can be lowered further. More help ease the burden on debtors, especially individual debtors who are in trouble. To lower the cost of funds, especially the cost of guaranteeing deposits by LPS, the government can help the bank's burden on the underwriting costs reduced and expected to be enjoyed by debtors with a decrease in loan interest rate.

RECOMMENDATIONS

Based on the discussion, it can be concluded that variable GDP, interest rates, inflation, CAR, and ROE affect the NPL in commercial banks as well as in Islamic banks. Except for variable of inflation in commercial banks as well as CAR in commercial banks. The regression results and the data patterns obtained show that banks and governments, in this case, Bank Indonesia and the Financial Services Authority managed banking very well. So it is expected that even though the covid-19 pandemic is predicted still a long way to go, Indonesian banks (commercial banks and Islamic banks) are ready to deal with it. So when this crisis is over, Indonesian banking can easily face the next challenge.

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