

## Factors Causing Non-Performing Loans in the Financial Sector Listed on the Indonesia Stock Exchange in 2017-2022

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### ABSTRACT

This study aims to obtain empirical evidence on the effect of inflation, capital adequacy ratio, loan-to-deposit ratio, operating expenses, and operating income on non-performing loans. This study uses quantitative research. This research was conducted by observing financial sector companies listed on the Indonesia Stock Exchange, totaling 47 companies. The data source used is the company's annual report from 2017-2022. To obtain the results of this study, researchers used Eviews12. The results of this study found that inflation has a negative and statistically insignificant effect on non-performing loans, while the capital adequacy ratio has a positive and statistically insignificant effect on non-performing loans, while the loan to deposit ratio has a positive and statistically insignificant effect on non-performing loans. Furthermore, operating expenses and operating income weaken the effect of inflation on non-performing loans. loan to deposit ratio also strengthens the effect of capital adequacy ratio on non-performing loans. operating expenses and operating income also strengthen the effect of capital adequacy ratio on non-performing loans. This study discusses non-performing loans and the factors that influence them in financial sector companies.

**Keywords:** inflation, capital adequacy ratio, loan to deposit ratio, operating expenses, operating income

### INTRODUCTION

Indonesia's rapid economic development cannot be separated from the important role of banking as one of the main elements in a country's economic cycle. As a financial institution, banks play a crucial role in fund management and providing loans to those in need, known as lending. However, not all loans provided by banks can be fully repaid, because there are challenges referred to as *non-performing loans* (NPLs) or non-performing loans.

Non-performing credit occurs when the debtor is unable to repay the loan and interest within a predetermined period. This situation is often referred to as bad credit or NPL, where the debtor



cannot pay off his loan, even exceeding 90 days. Non-performing loans reflect the bank's ability to manage credit risk and implement risk management during the lending process. The percentage of non-performing loans is calculated by comparing the amount of bad loans with the total loans provided by the bank. Banks have to take a high risk of bad loans due to the high number of bad loans (Faisal 2018; Faisal et al. 2023)

Non-performing loans are ratios used to measure a bank's ability to conclude the risk of failure in credit repayment by debtors, the smaller the non-performing loan, the smaller the credit risk borne by the bank (Kasmir, & Liniarti, 2022). (M.Spence 1973) In the signal theory proposed by (M.Spence 1973) in 1973, it can be explained that the occurrence of non-performing loans is caused by actions taken by the company to give investors an indication of management's view of the company's prospects. These signals include information about the steps that have been taken by management. This information has important value for investors and businesspeople because it basically provides comprehensive descriptions, notes, or pictures related to past conditions, current situations, and projections of the company's future. This has a significant impact on the sustainability of the company and how it affects the principals (Citra et al. 2021).

This study examines banking sub-sector companies, the banking sub-sector includes companies that provide financial services to commercial and retail customers, including investment fund companies, banks, and insurance (Mirza, 2021). Part of the banking sector can be considered the lifeblood of a country's economy, as it is a crucial sector in the economy, providing financial services to individuals and businesses, influencing economic growth, and undergoing significant changes due to digital transformation and adoption of sustainable finance. The banking sub-sector has played a strategic role, primarily through intermediation and funding functions, in driving Indonesia's economic growth over the past few decades.

The banking sub-sector contributed a positive figure to the JCI (Composite Stock Price Index) strengthened by 0.37% to 6754.82. The increase in JCI this time was driven by the positive performance of banking stocks. Of the total stocks traded, 269 stocks advanced, 260 stocks declined, and 196 other stocks were stagnant or unchanged. Thus, around 10.84 billion shares were involved which changed hands 815 thousand times. In addition, the trade value was recorded at Rp. 5.4 trillion (cnbcindonesia.com, 2023). This shows the banking sub-sector that provides positive or negative sentiment for the banking sub-sector. This situation indicates that banks will have high confidence in the debtor's ability to repay all loans provided by the bank. This is influenced by various factors, both internal and external. Internal factors that can affect the occurrence of non-performing loans involve inaccurate analysis, collusion between bank officials handling credit and customers, limited knowledge of bank officials regarding the type of business

of the debtor, too large interference from related parties, and weaknesses in the implementation of coaching and monitoring debtor credit. In this context, external elements that have the potential to influence the occurrence of non-performing loans involve intentional factors, such as customer non-compliance that deliberately avoids installment payments to banks, business expansion by excessive debtors, use of funds that are not in accordance with the purpose, and the like. In addition, accidental factors also have an impact, such as the debtor's business limitations, the inability of the debtor's business to compete in the market, changes in government policies, and the consequences of natural disasters. One of the major scandals related to non-performing credit problems at the international level that is known abroad is the Fortress Re case in 2001. In this case, Fortress Re engaged in inadequate financial reporting, even though the company had suffered losses. The flagrant actions of Fortress Re lie in the manipulation of financial reporting, where this company deceives and misleads its business partners into believing that they have protection in case of heavy losses.

In this scheme, an agent does not write insurance, but rather sells the policy on behalf of the insurance company. As a result, Fortress Re violated its agreement with a Japanese reinsurance company, and Deloitte helped Fortress Re by using improper accounting methods to reduce the company's liabilities. In December 2003, an arbitration panel found Fortress Re guilty of fraud and willful misconduct, resulting in \$1 billion in damages to the insurance company and a \$100 million fine. (Maremont 2003). The Fortress Re case attracted public attention and shook the confidence of third-party funds or banks as well as financial markets. The scandal caused a change for a bank company in providing loans to debtors in repaying its loans. (publications.aaahq.org,2012).

One of the scandals related to non-performing loans in Indonesia, especially in the banking sub-sector, involved PT. Bank Mandiri (Persero), Tbk and PT. Tirta Amarta Bottling Company (TAB) in 2008. In the framework of the Overview of Examination Results (IHPS) semester II/2017, it was conveyed that Bank Mandiri has receivables that have the potential to be uncollectible amounting to Rp2.94 trillion. According to the report, lending to 5 creditors, namely PT TAB, PT AMBE, PT RA, PT CSI, and PT PI, is considered to have high risk and does not fully apply the precautionary principle. In particular, the provision of credit facilities to PT Tirta Amarta Bottling (TAB) Company by PT Bank Mandiri (Persero) Tbk Commercial Banking Center Bandung is known to have experienced problems and caused state losses of Rp1.83 trillion in 2008. (finansial.bisnis.com, 2015). PT. Tirta Amarta Bottling Company (TAB) utilizes the credit facility by obtaining an extension to the credit facility provided by PT. Bank Mandiri (Persero), Tbk in 2008.

According to the Financial Services Authority (OJK), the ratio of non-performing loans (NPL) in the banking industry in February 2021 recorded an increase, with gross NPL ratio reaching 3.21% and net NPL ratio of 1.04%. This position shows an increase compared to the previous month and year, namely in 2020. In 2021, gross NPL was at 3.17% and net NPL was 1.03%. Meanwhile, at the end of 2020, gross NPL was recorded at 3.06%. The increase in credit risk was further exacerbated by an increase in credit disbursement to reach 2.15% as of February, an increase from the previous month's contraction of 1.92%. (keuangan.kontan.co.id, 2021).

Based on the Indonesia Stock Exchange report, PT Bank Mandiri (Persero) Tbk. or BMRI recorded a net non-performing loan (NPL) of 0.41% in 2021, a decrease of 0.02 points compared to 2020 which reached 0.43%. In 2021, Bank Mandiri also succeeded in disbursing loans totaling IDR 1,050.16 trillion, showing an increase of 8.8% on an annual basis. PT Bank Rakyat Indonesia (Persero) Tbk. or BBRI, which is also a state-owned bank, has a net NPL of 0.70%, a decrease of 0.1 points from the previous year which reached 0.80% in 2020. In total, Bank BRI provided loans of IDR 994.41 trillion in 2021.

Furthermore, PT Bank Negara Indonesia (Persero) Tbk. or BBNI recorded a net NPL of 0.73%, a decrease of 0.23 points from 2020 which reached 0.95%. In 2021, overall, Bank BNI managed to disburse loans totaling IDR 582.43 trillion, recording an increase of 5.3% on an annual basis. In 2021, PT Bank Tabungan Negara (Persero) Tbk or BBTN recorded a net NPL of 1.20%, a decrease of around 0.86 points compared to the previous year, namely 2.06% in 2020. With this NPL level, Bank BTN managed to increase its lending by 5.20% on an annual basis, reaching an amount of Rp247.28 trillion.(www.idx.co.id)

Non-performing loans can be affected by various factors, one of which is inflation. Inflation refers to the tendency to increase prices in general and sustainably. An increase in the price of goods within the country as a result of inflation can have a significant impact. Inflation tends to increase the prices of goods, which can affect the decline in people's real income. As a result, debtors may also experience difficulties in making credit payments. (Nainggolan Novi Arina, Pandia Frianto 2020) According to research conducted by (Tasya Feby Windasari 2018) it was found that inflation has a positive influence in part on non-performing loans. That is, an increase in the inflation rate contributes to a partial increase in non-performing loans. Furthermore, based on the results of research conducted by research (Arfan Rachmadias Saputro, Susi Sarumpaet 2018) it was found that if inflation is explained by reasonable growth, banks do not need to worry about lending. This is because Indonesians still prioritize their obligations in paying or paying off financing debts, so that inflation that occurs along with stable economic growth does not significantly affect the level of non-performing loans.

In addition, *the capital adequacy ratio* is also one of the factors that play a role in the level of non-performing loans. *Capital adequacy ratio* or known as capital adequacy is a capital ratio that reflects the ability of a bank to provide funds for development purposes and bear the risk of loss of funds that may occur due to bank operational activities. (Widowati 2022). In research conducted (Widowati 2022) shows that *the capital adequacy ratio* has a negative influence on *non-performing loans*. and, furthermore, based on the results of research from (TClimate Suryani, 2021) explained that *the capital adequacy ratio* has a negative influence on *non-performing loans*. The research conducted by (Desty Dwi Lestari 2022) shows that *the capital adequacy ratio* has a negative influence on *non-performing loans*. While research conducted by (Km. Suli Astrini, I Wayan Suwendra 2004) states that *capital adequacy ratio* has a negative influence on *non-performing loans*.

Furthermore, the loan to deposit ratio or known as the *loan to deposit ratio* (LDR), is also included as one of the factors that have an impact on the level of non-performing loans (NPL). LDR or the ratio between loans and deposits is a variable that has relatively little influence on NPL levels. When LDR increases, it tends to lower NPL levels, because more money in circulation can provide more opportunities for people to expand their businesses. This can generate additional income, so NPL levels are likely to decrease. (Sarita and Zubadi 2018). Based on the results of research ((Rati Pratiwi, Jummaini, Yanita 2023) states that the *loan to deposit ratio* has a negative effect on *non-performing loans*. Furthermore, research conducted by (Kosim Permana, Sri Mulyati 2021) shows that the *loan to deposit ratio* negatively affects *non-performing loans*. The research conducted by (Siti Choiriyah, and G. Anggana Lisiantara, 2021) explained that *the loan to deposit ratio* negatively affects *non-performing loans*.

Furthermore, operating expenses and operating income are also included as factors that affect the level of non-performing loans (NPL). Operating expenses and operating income can be measured using the ratio of operating expenses to operating income (BOPO). BOPO is a ratio that calculates the proportion of operating expenses in relation to operating income, calculated by formulating operating expenses and dividing them by operating income. This ratio provides an overview of a bank's operational efficiency, and can affect NPL levels, where a high BOPO can indicate a lack of efficiency that potentially increases the risk of non-performing loans. (Azizzah and Setiawan 2021).

Based on the results of research conducted by (Angel Deijeni Mamahit 2022) explained that operating costs and operating income have a negative influence on *non-performing loans*. The factors that do not affect inflation of *non-performing loans* (Wulandari Bayu, Ketrin 2021) (Tedy Setiawan Saputra, Isnurhadi, Harsi Romli, Saputra et al., 2019), (Agustina, Ismawati, Sudirman, Muhammad Taufiq 2020), (Fauziah Zagita Pratama, Ali Anis 2020 Pratama, F. Z., & Anis 2022). In addition,

factors that do not affect *the capital adequacy ratio to non-performing loans* (Haharap, M. A. G., & Cakranegara 2021) (Putra A 2021) (Ida Ayu Mas Indira Pramesti, I Gede Ary Wirajaya 2019 Delay et al. 2021) (LuhNadi, 2021). Furthermore, factors that do not affect the *loan to deposit ratio to non-performing loans* (Arniati, Tulus Rohana dan Effendi Sinuhaji, 2018 Arniati et al. 2018) (Dendawijaya 2000) (Siti Choiriyah 2021) (Nanda Galuh Widiawati, Muhammad Faisal, 2020), (Tina Nurul Martiana, Yulianto Hadi, Mega Sukmawati 2022), (Nurani 2021). The factors that do not affect operating costs and operating income for *non-performing loans* (Amalia Nur Azizzah, Kristianingsih, Iwan Setiawan, 2021), (Refo Putraseto, and Imam Mukhlis, 2021), (Rizal Abidi, dan Usman Sastradipraja Sastradipraja, U., Dan, E., Universitas, B., Achmad, J., & Cimahi 2021), (Tria Novitasari, and Nurhayati Novitasari, T., Accounting, N. P., Economics, F., & Business, 2021), (Alexandra Santika Ma'ruf, Maximus L Taolin, Desmon Redikson Manane Rati Pratiwi, Jummaini, Yanita, 2023), (M Jusmansyah Jusmansyah, 2018), (TClimate Suryani, 2021), (Evi Rahma Dewi, Nurdin Rahma Evi & Nurdin, 2018).

## RESEARCH METHOD

The population in this study is companies in the basic materials sector listed on the Indonesia Stock Exchange. The population in this study is 47 companies from the *finance* sector that have conducted audits. The sample in this study uses the *purposive sampling* method which means sample research based on certain criteria. The criteria are as follows:

1. Banking sub-sector in conventional commercial banks that are not listed on the Indonesia Stock Exchange in the 2017-2022 period.
2. Banking sub-sector in conventional commercial banks that do not publish annual financial statements and complete sustainability reports in the 2017-2022 period.
3. Banking sub-sector in conventional commercial banks that once had negative annual financial report data related to research variables in 2017-2022.

So that it was found that the number of banking sub-sectors in conventional commercial banks in accordance with research variables in 2017-2022 was 27 companies sourced from financial data and other supporting data on Banking Companies that have been listed on the IDX for the 2017-2022 period obtained from [www.idx.co.id](http://www.idx.co.id). Data on financial statements, annual reports, and sustainability are obtained from the official website of each company

## RESULT AND DISCUSSION

**Table 1 Descriptive Statistics**

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	NPL	INF	CAR	LDR	BOPO
Mean	0.064217	0.093966	2.500753	0.830380	1.234515
Median	0.022600	0.018200	0.210050	0.843050	0.904500
Maximum	4.743100	0.289200	183.9679	2.711000	9.919400
Minimum	0.000400	0.001400	0.069200	0.000100	0.081100
Std. Dev.	0.381476	0.123255	19.70169	0.350447	1.232703
Skewness	11.84779	0.709230	8.746519	1.190770	4.130890
Kurtosis	145.1886	1.578299	77.68784	10.06606	22.93813
Jarque-Bera	136795.6	26.55230	38738.18	366.0396	3066.424
Probability	0.000000	0.000002	0.000000	0.000000	0.000000
Sum	10.14630	14.84670	395.1190	131.2001	195.0534
Sum Sq. Dev.	22.84723	2.385123	60940.59	19.28169	238.5704
Observations	158	158	158	158	158

Source: processed data 2023

Tabel di atas menunjukkan terdapat 158 observasi (*unbalanced*) periode tahun penelitian 2017-2022. Adapun penjelasan deskriptif statistik pada data di atas berarti :

1. Kredit bermasalah (*nonperforming loan*) memiliki rentang nilai antara terendah 0,0040 sampai dengan 4,743 dengan nilai rata-rata sebesar 0,0642. Perusahaan perbankan dengan kredit bermasalah yang terendah yaitu PT. Bank Mandiri (Persero) Tbk pada tahun 2022.
2. Inflasi memiliki rentang nilai antara terendah antara 0,0014 sampai dengan 0,0289 dengan nilai rata-rata sebesar 0,0939. Perusahaan perbankan dengan nilai inflasi tertinggi yaitu PT. Bank Mandiri (Persero) Tbk pada tahun 2019.
3. Kecukupan modal (*capital adequacy ratio*) memiliki rentang nilai yang terendah 0,069 sampai dengan 183,96 dengan nilai rata-rata sebesar 2,5007. Perusahaan perbankan yaitu PT. Bank Tabungan Negara Indonesia Tbk pada tahun 2019.
4. Pinjaman yang diberikan (*loan to deposit ratio*) memiliki rentang nilai yang terendah antara 0,00010 sampai dengan 2,711 dengan nilai rata-rata sebesar 0,8303. Perusahaan perbankan yaitu PT. Bank Ina Perdana Tbk pada tahun 2021.
5. Biaya operasional dan pendapatan operasional memiliki rentang nilai yang terendah antara 0,081 sampai dengan 9,919 dengan nilai rata-rata 1,2345. Perusahaan perbankan yaitu PT. Bank Central Asia Tbk pada tahun 2023.

**Table 2: Uji Chow**

Effects Test	Statistic	d.f.	Prob.

Cross-section F	1.577717	(26,127)	0.0513	<i>Source: processed</i>
Cross-section Chi-square	44.224160	26	0.0143	<i>data 2023</i>

Based

on the results of the Chow Test using Eviews9 states that the probability value of *Cross Section F* is 0.05 which is more than the significance level value ( $\alpha = 0.05$ ). This means that the best model used is the *Common Effect Model* (CEM). Then the hausman test will not be used to select the best model between *the Fixed Effect Model* and *the Random Effect Model*, but the researcher still provides the hausman test as a form of real conformity to the results found in the Lagrange Multipler test.

**Table 3: Hausman Test**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	<i>Source: processed</i>
Cross-section random	39.363941	4	0.0000	<i>data 2023</i>

Based

on the results of the Hausman Test, *the probability value* is 0.0000 where this result is less than the significant level value ( $\alpha = 0.05$ ). In this case, it means that the model used is *Fixed Effect Model* (FEM). So it is necessary to have a Lagrange Multipler Test in order to choose the best model between *the Common Effect Model* and *the Random Effect Model*.

**Table 4: Water Lagrange Multipler**

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.015984 (0.8994)	0.122733 (0.7261)	0.138718 (0.7096)
Honda	0.126429 (0.4497)	0.350333 (0.3630)	0.337122 (0.3680)
King-Wu	0.126429 (0.4497)	0.350333 (0.3630)	0.371541 (0.3551)
Standardized Honda	0.331642 (0.3701)	0.774690 (0.2193)	-3.753019 --
Standardized King-Wu	0.331642 (0.3701)	0.774690 (0.2193)	-2.827411 --
Gourieriou, et al.*	--	--	0.138718 ( $\geq 0.10$ )

\*Mixed chi-square asymptotic critical values:

1%	7.289
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5%	4.321
10%	2.952

*Source: processed data 2023*

Based on the results of the Lagrange Multiplier Test, the significant value of Both is 0.7096 where this result is more than the value of the significant level ( $\alpha = 0.05$ ). In this case, it means that the best model to use is the *Common Effect Model (CEM)*.

**Table 1: Test Coefficient of Determination**

R-squared	0.321758	Mean dependent var	0.064217
Adjusted R-squared	0.304026	S.D. dependent var	0.381476
S.E. of regression	0.318246	Akaike info criterion	0.579152
Sum squared resid	15.49596	Schwarz criterion	0.676070
Log likelihood	-40.75303	Hannan-Quinn criter.	0.618512
F-statistic	18.14577	Durbin-Watson stat	2.192172
Prob(F-statistic)	0.000000		

*Source: processed data 2023*

Based on the *R-Squared table* shows a value of 0.321758 which means that 0.33% of the variables Inflation, *Capital adequacy ratio*, *Loan to deposit ratio*, and Operating expenses and operating income can explain the variables *non-performing loan*.

**Table 2: Partial Test**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.220589	0.084513	-2.610107	0.0100
INF	-0.063688	0.206464	-0.308468	0.7581
CAR	0.000144	0.001291	0.111775	0.9111
LDR	0.079925	0.076947	1.038707	0.3006
BOPO	0.181498	0.021877	8.296309	0.0000

*Source: processed data 2023*

The test results using the *Common Effect Model (CEM)* can be described as follows:

1. Inflation with a probability value of  $0.7581/2 = 0.37905$ , insignificant at the level of  $\alpha = 5\%$  (0.05) and seen from t calculate  $< t$  table which is  $-0.308468 < 1.703$  can be interpreted that the hypothesis is unacceptable where the inflation variable has a negative and statistically insignificant effect on *non-performing loans*.
2. The independent variable *Capital adequacy ratio* with a probability value of  $0.9111/2 = 0.45555$ , is not significant at the level of  $\alpha = 5\%$  (0.05) and judging from the t count  $< t$  table which is

$0.111775 < 1.703$  it can be interpreted that the hypothesis is acceptable where the variable *capital adequacy ratio* has a positive and statistically insignificant effect on *non-performing loans*.

3. The independent variable *Loan to deposit ratio* with a probability value of  $0.3006/2 = 0.1503$ , is not significant at the level of  $\alpha = 5\%$  (0.05) and seen from t calculate  $< t$  table which is  $1.038707 < 1.703$  it can be interpreted that the hypothesis cannot be accepted where the variable *loan to deposit ratio* has a positive and statistical effect and is not significant on *non-performing loans*.
4. The independent variables of operating costs and operating income with a probability value of  $0.0000/2 = 0$ , significant at the level of  $\alpha = 5\%$  (0.05) and viewed from t calculate  $> t$  table which is  $8.296309 > 1.703$  can be interpreted that the hypothesis can be accepted where the variables operating costs and operating income have a positive and statistically and significant effect on *non-performing loans*.

#### Effects of Inflation on *Non-Performing Loans*

Inflation proposed by (Ali Ibrahim Hasyim 2017, p. 186) Inflation can be explained as an economic phenomenon that characterizes a general and sustained increase in the price level. Inflation can be considered to occur when there is a general and continuous increase in prices. It is important to note that inflation is not a temporary increase in prices or limited to one or two types of goods. Price increases that occur due to seasonal factors, certain events such as the eve of holidays, disasters, and others cannot be considered as inflation. Based on the results of this study is associated with the signal theory proposed by (M.Spence 1973) about the theory that explains how companies should analyze financial statements to their employees. Which means that the signal theory corresponds to the results of this study in banking companies in the period 2017-2022. Where this explains that the higher the inflation value in the company will experience a decrease in non-performing loans. This happens because high inflation will give the prices of basic goods to increase. The increase in the price of basic goods makes it difficult for people to save to the bank, which has an impact on decreasing third-party funds. The decline in third party funds makes it difficult for banks to disburse credit funds, making the ratio of nonperforming loans decrease. Thus, the first hypothesis was declared not accepted. Furthermore, the results of research that have been tested with the best test results findings are the common effect model (CEM) by (Wulandari Bayu, Ketrin, 2021a) which examines banking companies for the 2014-2018 period in Indonesia, (Setiawan, Saputra Tedy & Harsi, 2019) which examines companies in finance companies in the city of Palembang in the 2015-2018 period, as for those who examine Islamic commercial bank companies for the 2016-2018 period studied by (Harahap et al., 2019), while the research examined by (Agustina, Ismawati, Sudirman, Muhammad Taufiq, 2020) on Islamic commercial bank companies in the 2015-2020 period, and (Fauziah Zagita Pratama, Ali Anis 2020)

which examined commercial bank companies in the 2005-2020 period in Indonesia, which stated that inflation negatively affected *non-performing loans*.

### **Effect of *Capital Adequacy Ratio* on *Non-Performing Loans***

*Capital Adequacy Ratio* in research presented by (Mudrajad Kuncoro and Suhardjono 2002: 573, p. 97) explained that *capital adequacy ratio* (CAR) is a crucial element in business development, provides protection against loss risk, and increases the bank's ability to bear the risk of credit or productive assets that have potential risks. The higher the CAR rate, the stronger the bank's ability to bear the risk. Based on the results of this study is associated with the signal theory proposed by (M.Spence 1973) about the theory that explains how companies should analyze financial statements to their employees. Which means that the signal theory corresponds to the results of this study in banking companies in the period 2017-2022.

This explains that there are several important factors in various economic scenarios, namely balancing the source and use of anticipated funds to meet liquidity and capital adequacy constraints while maximizing profitability, allocating funds between assets based on risk and liquidity classification, maturity, and rate of return, and adjusting the bank's financial structure in terms of liquidity, capital adequacy and leverage. By balancing the source and use of anticipated funds to meet capital adequacy. Thus, the higher the capital adequacy ratio that will increase the confidence of a bank in channeling its funds in the form of credit. Therefore, if the capital adequacy ratio is high, the risk of non-performing loans will be lower, the low level of risk will affect the performance of the bank. Thus, the second hypothesis is not accepted. Furthermore, the results of research that have been tested with the best test results findings are the common effect model (CEM) by (Haharap, M. A. G., & Cakranegara, 2021) which examined conventional banking companies in the 2014-2019 period in Indonesia. Furthermore, the findings examined by (Desty Dwi Lestari, 2022) who researched in conventional banking companies in the 2019-2021 period in Indonesia, in addition, which have been researched by (Putra A, 2021) in banking companies listed on the IDX in the 2016-2019 period in Indonesia, (Km. Suli Astrini, I Wayan Suwendra, 2004) who researched on conventional banking companies listed on the IDX in the 2016-2019 period in Indonesia. Where it states that the capital adequacy ratio has a positive effect on non-performing loans.

### **Pengaruh *Loan to Deposit Ratio* terhadap *Non Performing Loan***

*Loan to deposit ratio* stated by (Ni Made Sri Ayuni, S.E., M.M; Dr. A.A.N. Oka Suryadinatha Gorda, S.E., M.M., 2020, p. 19) that the *loan to deposit ratio* is a comparison between the total loans provided by banks with funds received from third parties. The purpose is to evaluate the ratio of loans provided by banks to funds received, including deposits and savings of the public, as well as

loans from banks or other financial institutions. Based on the results of this study is associated with the signal theory proposed by (M.Spence 1973) about the theory that explains how companies should analyze financial statements to their employees. Which means that the signal theory corresponds to the results of this study in banking companies in the period 2017-2022. Where this explains that the Loan to Deposit Ratio (LDR) is used to assess bank liquidity by comparing total bank loans to total deposits in the same period. A higher loan-to-deposit ratio indicates that the bank has more loans than deposits, which can be a sign of lower liquidity. Traditionally, the ideal loan-to-deposit ratio is considered to be 80% to 90%. A high LDR can indicate that the bank does not have enough liquidity to cover unexpected funding needs (i.e., legal and legality, insurance, late payments, employee resignation, and fraud). Thus, the third hypothesis was declared not accepted. Furthermore, the results of research that have been tested with the best test results findings, namely the common effect model (CEM) by (Arniati et al., 2018) research was conducted in banking companies listed on the Indonesia Stock Exchange, then that it was found that researched in banking companies listed on the Indonesia Stock Exchange by (Kosim Permana, Sri Mulyati 2021), while (Siti Choiriyah, 2021) who researched in OJK companies in the 2016-2020 period in Indonesia, (Nanda Galuh Widiawati & Muhammad Faisal, 2020) who researched in state-owned commercial bank companies in the 2005-2019 period in Indonesia, The research researched by (Tina Nurul Martiana, Yulianto Hadi, Mega Sukmawati, 2022) was carried out in banking companies listed on the IDX in the 2012-2016 period in Indonesia, In addition, those studied (Nurani, 2021) conducted research in companies registered with the Indonesian OJK. which states that the *loan to deposit ratio* has a positive effect on *non-performing loans*.

### **Effect of Operating Expenses and Operating Income on *Non-Performing Loans***

Operating expenses and operating income stated by (Dendawijaya 2001, Dikson, 2022, p. 31) states that operating expenses and operating income can be considered as ratios that are generally used to assess the level of efficiency and ability of banks to carry out their operational activities. The lower the ratio of operating expenses and operating income, the more efficient the bank is in carrying out its business activities. Based on the results of this study is associated with the signal theory proposed by (M.Spence 1973) about the theory that explains how companies should analyze financial statements to their employees. Which means that the signal theory corresponds to the results of this study in banking companies in the period 2017-2022. Where this explains that the higher operating costs and operating income indicate that the company is unable to maximize revenue to cover or cover its operating costs, which means the company's ability to generate profits (profitability) will also decrease. Meanwhile, efficiency in managing operational

costs, namely companies that are inefficient in managing operational costs will experience an increase in the value of BOPO, which shows that the company is unable to maximize revenue to cover or cover its operational costs. Thus, the fourth hypothesis was accepted. Thus, it was found that the findings of this study were in accordance with the findings of the best test results, namely the common effect model (CEM) by (Azizzah Amalia Nur et al., 2021) who examined commercial bank companies listed on the IDX for the 2010-2020 period in Indonesia, then research conducted by (Refo Putraseto, and Imam Mukhlis, 2021) who examined at Conventional BPR companies in Batu City before and after Covid-19 in the 2020-2021 period in Indonesia, while research conducted by (Sudirman, Afrizal Afrizal, and Sri Kurniawati Sudirman, Afrizal, & Kurniawati, 2020) who examined conventional commercial bank companies in the 2011-2018 period in Indonesia, which examined conventional commercial bank companies in the 2017-2021 period in Indonesia by (Sastradipraja, U., Dan, E., University, B., Achmad, J., & Cimahi, 2021), then research conducted by (Novitasari, T., Accounting, N. P., Economics, F., & Business, 2021) who researched in conventional commercial bank companies in the 2015-2018 period in Indonesia, as for research conducted by (Jusmansyah, 2018) who researched at PT. NTT Regional Development Bank in Indonesia, (Iklim Suryani; Laely Aghe Africa, 2021) who researched in private commercial bank companies in Indonesia, in addition, who researched in foreign exchange bank companies listed on the IDX in the 2013-2017 period in Indonesia by (Rahma Evi & Nurdin, 2018). So this result states that operating costs and operating income have a positive effect on *non-performing loans*.

## CONCLUSION

Based on the results of research conducted on the effect of inflation, *capital adequacy ratio*, *loan to deposit ratio* and operating expenses and operating income on *non-performing loans*, the conclusions of this study are:

- a. Inflation has a statistically negative and insignificant effect on *non-performing loans*. This can be seen from the negative sign on the *coefficient* in the common *effect model* (CEM) table as well as the significance value on the probability value below 0.05. From this study it was also found that  $H_0$  is not accepted or the hypothesis is not accepted seen from  $t$  count <  $t$  table. Which means that inflation is getting lower as well as non-performing loans are getting higher in banking companies. Thus, lower levels of inflation or even deflation can present the risk of economic stagnation, where consumers tend to delay purchases because they expect prices to be lower in the future.
- b. *Capital adequacy ratio* has a positive and statistical effect and is not significant for *non-performing loans*. This can be seen from the positive sign on the *coefficient* in the common *effect model* (CEM)

table as well as the significance value on the probability value below 0.05. From this study it was also found that  $H_0$  is not accepted or the hypothesis is not accepted seen from  $t$  count  $<$   $t$  table. Which means that the *higher the capital adequacy ratio*, the lower the non-performing loan in banking companies. The higher the pressure of capital adequacy owned by the company, the more stable and safer it will be to cover all losses incurred against non-performing loans.

- c. *Loan to deposit* has a positive and statistical and insignificant effect on *non-performing loans*. This can be seen from the positive sign on the *coefficient* in the common *effect model* (CEM) table as well as the significance value on the probability value below 0.05. From this study it was also found that  $H_0$  is not accepted or the hypothesis is not accepted seen from  $t$  count  $<$   $t$  table. Which means that inflation is getting lower as well as *non-performing loans* are increasing in banking companies. The higher *loan to deposit ratio* indicates that the company's financial condition does not have enough liquidity to cover unexpected funding needs, namely law and legality, insurance, late payments, employee resignation, and fraud).
- d. Operating expenses and operating income have a positive and statistically significant effect on *non-performing loans*. This can be seen from the positive sign on the coefficient in the common *effect model* (CEM) table as well as the significance value on the probability value above 0.05. From this study it was also found that  $H_a$  is accepted, or the hypothesis is accepted seen from  $t$  count  $>$   $t$  table. The higher the value of operating costs and operating income, it shows that the company is not able to maximize revenue to cover or cover its operating costs, which means the company's ability to generate profits (profitability) will also decrease.

This research was conducted with several research limitations that with these limitations can affect the results of the study, namely the type of data in this study is secondary data in the form of numbers in the financial statements that have been published by the company. In addition, not all companies publish financial statements, so research samples are needed. The desired data is difficult to obtain or there are restrictions on access to the data. Researchers can then consider other variables that have the potential to affect non-performing loans such as *loan to value ratio*, *debt service coverage ratio*, *borrower's credit history* and economic factors. It can also compare the financial sector with other sectors such as *the basic material* or *industrial* sectors, to find out whether these variables have a negative or positive effect on non-performing loans between these sectors. Researchers can then make moderation variables and mediation variables from the relationship between inflation, *capital adequacy ratio*, *loan to deposit ratio* and operating expenses and operating income, which has a role as moderation and mediation

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