THE EFFECT OF RISK MANAGEMENT IMPLEMENTATION ON RETURN ON ASSETS OF INDONESIAN CONVENTIONAL COMMERCIAL BANKS AFTER THE COVID 19 PANDEMIC IN THE DIGITAL ECONOMY ERA

Sri Rahayu
Institut Teknologi dan Bisnis Bina Sarana Global, Tangerang, Indonesia

Ken Sabardiman Soetjipto
Institut Teknologi dan Bisnis Bina Sarana Global, Tangerang, Indonesia

Sutarman
Institut Teknologi dan Bisnis Bina Sarana Global, Tangerang, Indonesia

Ahmad Arifin
Institut Teknologi dan Bisnis Bina Sarana Global, Tangerang, Indonesia

Ahmad Bachtiar Zen
SMPN 111, Jakarta, Indonesia

ABSTRACT

Banks are essential for economic stability and growth. Capital adequacy and profitability of banks determine their stability. As one of the profitability metrics, Return on Assets (ROA) is positively correlated with financial performance and negatively correlated with risk-taking; therefore, the implementation of risk management greatly influences bank profitability and is considered important. In the era of the digital economy, accelerated by the COVID-19 pandemic, banks have embraced digital transformation in risk management practices, potentially altering traditional metrics' impact on profitability. This study uses a quantitative analysis approach, analyzing data from banking companies listed on the Indonesia Stock Exchange (IDX) during 2021-2022 through regression models to investigate the impact of risk management on ROA of conventional commercial banks in Indonesia after the COVID-19 pandemic in the digital economy era. The results showed that NIM has a positive influence and significant value on ROA of ordinary commercial banks. LDR has a negative and insignificant impact on ROA of conventional commercial banks, while BOPO has a positive and significant impact. The findings underscore the nuanced roles of NIM, LDR, and BOPO in shaping ROA in the digital economy era, offering insights for bank managers and policymakers to refine risk management strategies in Indonesia's evolving banking landscape.

Keywords: *Risk Management, Return On Asset, Conventional Commercial Bank*

INTRODUCTION

The banking industry, especially the conventional commercial banking sector in Indonesia, has been experiencing significant changes due to the emergence of digital technologies and the shift towards a digital economy. These changes have reshaped the way banks interact with their customers, deliver their services, and compete in the market. The focus of banks' corporate strategies is on three key directions of work: customer experience, operational processes, and business models based on digital transformation and the application of digital technologies, which provide a wider range of market choices. Banks need to improve their digital services to avoid losing customers. Digital technologies have revolutionized the conventional banking sector in Indonesia, leading to profound changes in customer interactions, service delivery, and competition within the market. Customers now have access to online banking platforms, where they can perform various transactions and access services conveniently from their own homes. Banks in Indonesia have been encouraging customers to rely on online banking, especially during the COVID-19 pandemic when social distancing measures are encouraged. This shift towards digital banking has brought numerous benefits to both banks and customers. Digital banking has significantly increased the speed, security, and efficiency of banking operations and services. Furthermore, the adoption of digital technologies has allowed banks to offer a wide range of innovative services and products. One such example is the integration of mobile banking apps, which allow customers to access their accounts, make payments, and manage their finances on-the-go. This has greatly improved convenience for customers, as they can engage with their banking needs through their preferred channel, at any time they choose, without having to visit a physical branch. Additionally, digital technologies have enabled banks to harness the power of data analytics, artificial intelligence, and cloud computing to gain valuable insights into customer behavior, personalize services, and streamline their operations. The COVID-19 pandemic has damaged many industries around the world, including the banking sector. In Indonesia, the unprecedented crisis has also impacted the banking sector, particularly the conventional commercial bank segment. Therefore, to ensure the continued profitability and stability of conventional commercial banks in Indonesia, a thorough evaluation of risk management practices is required. After the Covid 19 pandemic, the development of digital technology and digital economy has changed the banking business landscape, including Indonesian conventional commercial banks. These changes create new market shares, improve operational efficiency, and provide wider access to financial products and services. However, on the other hand, these changes also bring new risks that must be carefully managed by Indonesian conventional commercial banks. The banking industry, especially the conventional commercial banking sector in Indonesia, has been experiencing significant changes due to the emergence of digital technologies and the shift towards a digital economy (Wicaksono et al., 2020). These changes have brought about new opportunities as well as new risks for banks, including conventional commercial banks. After the pandemic, it became clear that good risk management was critical to ensure the sustainability and profitability of conventional commercial banks in Indonesia during these difficult times. Risk mitigation is an action taken to reduce the likelihood of risks arising after an action has been identified (Sarasi et al., 2022). Good risk management enables banks to reduce losses, maintain capital adequacy, and improve the ability to generate sustainable profits, according to Demirgüç-Kunt and Huizinga (2010). Good risk management can also give banks a competitive advantage and increase the trust of stakeholders, including customers.

Arifudin et al. (2020) state that risk management is an important part of business operations because the business world is increasingly complex and the risks faced by companies are increasing. Risk management is very important to maintain the efficiency and effectiveness of the company and minimize the risks that occur in financial institutions, especially conventional commercial banks in Indonesia. This will have an impact on the level of profitability of a financial institution. The ability of a company to generate profits within a certain period of time is known as its own profitability ratio. In their study, Sunaryo et al, (2021) investigated the effect of credit risk, liquidity risk and operational risk on banking profitability in commercial banks in Southeast Asia. His research shows that credit risk (NPL) has no negative and significant effect on profitability (ROA), Liquidity risk (LDR) has no positive and significant effect on profitability (ROA) and Operational risk (BOPO) has a

positive and significant effect on profitability (ROA). Mardiyansyah and Suryani (2021), looking at how the implementation of risk management impacts the profitability of state-owned commercial banks listed on the Indonesia Stock Exchange from 2010 to 2019. Their research showed that the profitability of state-owned commercial banks increased as a result of effective risk management. The results of the study by Sukma et al. (2019) which states that the market risk variable as measured by NIM has a positive effect on profitability (ROA). According to Anam (2018) and Kusmayadi (2018), the results show that credit risk as measured by unqualified loans (NPL) significantly affects bank profitability (ROA) in Indonesia. The results of the study are inversely proportional to the research conducted by Utami & Yustiawan (2021) which shows that commercial bank profitability is not affected by the number of non-performing loans. One of the problems that arose in the banking sector as a result of the COVID-19 pandemic was the difficulty of debtors in fulfilling their credit payment obligations. This led to an increase in the bank's *Non Performing Loan* (NPL), which then led to a decrease in credit disbursed as banks tightened lending and on the other hand a decrease in public credit demand as a result of the pandemic. Usriani (2018) and Prasetyo (2015) which show that LDR has a significant positive effect on ROA. This study is a development of previous research on how the implementation of risk management impacts return on assets in the banking sector. This study fills a gap in the existing literature by providing empirical evidence on the relationship between risk management and profitability of Indonesian conventional commercial banks in the era of digital economy and post-COVID-19. This study utilizes data from 41 Indonesian conventional commercial banks for the period 2021-2022 to conduct an empirical analysis. The period under study is a period of tremendous economic progress, with changing macroeconomic conditions, digital economies, and technological expansion. These conditions could have a direct impact on the profitability of banks in the era of digital economy and post-COVID-19 that has been marked by unusual events such as economic recessions, natural disasters, geopolitical tensions, and global pandemics.

The focus of this study is how risk management affects the *Return on Asset* (ROA) of conventional commercial banks in Indonesia after the Covid 19 pandemic in the digital economy era by using the proxies Non Performing Loan (NPL) for credit risk, Net Interest Margin (NIM) for market risk, Loan to Deposit Ratio (LDR) for liquidity risk, and BOPO for operational risk. NPL level is a credit risk indicator that shows the number of loans that are overdue or facing payment problems. A high NPL level can be a sign of high credit risk, so that appropriate risk mitigation or management measures need to be taken. NIM is an indicator that shows the difference between the interest income earned by banks from loans and the interest costs paid by banks to raise funds. A high NIM can indicate the bank's ability to generate profits from lending activities and earn higher interest margins (Veizi, 2016). LDR or Loan to Deposit Ratio is a liquidity indicator that measures the extent to which a bank uses customer deposits to provide loans to other parties. A high LDR may indicate lower liquidity risk as the bank has more funds from customer deposits to provide loans. In addition, a high LDR can also indicate an increase in credit risk because the bank provides more loans than the amount of customer deposits available. BOPO or Operating Expenses to Operating Income is an efficiency indicator that measures how much operating expenses incurred by the bank compared to the operating income earned. Using NPL, NIM, LDR, and BOPO as proxies in risk management has a strong reason. The strong reason for using NPL, NIM, LDR, and BOPO as proxies in risk management is because these four metrics can provide a comprehensive picture of the risks faced by banks. By monitoring these indicators, banks can assess their risk exposure and take appropriate measures to mitigate potential risks (Mei et al., 2019). In addition, this study looks at how the economy is recovering from the COVID-19 pandemic. The profits earned by banks during the pandemic may indicate declining financial performance. Profit is a measure used to determine how well a bank is performing. One way that can be used to determine a bank's ability to maximize profits is to look at *Return on Asset* (ROA), also known as the ratio of profits to total assets (Alim, 2014). According to the Circular Letter of the Financial Services Authority (OJK) Number 14/SEOJK.03/2017 dated March 17, 2017 concerning the Assessment of the Health Level of Banks based on CAMELS, the profitability of commercial banks uses the parameter or indicator Return on Asset (ROA), which is a ratio that measures the ability of a bank's management to obtain overall profit. ROA shows the bank's ability to generate profits from its operational activities, and the higher the ROA of a bank, the greater the bank's ability to generate profits.

LITERATURE REVIEW

Risk Management

Risk management is an important part of business operations because the business world is increasingly complex and the risks faced by companies are increasing (Arifudin et al., 2020). Risk management is very important to maintain the efficiency and effectiveness of the company and minimize the risks that occur in financial institutions, especially banking financial institutions. Risk management is the process through which managers fulfill these needs. This is done by identifying key risks, obtaining consistency, understanding and performing operational risk handling measures, deciding which risks need to be managed and by what methods, and establishing procedures to monitor the risks that occur (Pyle in Li and Zou, 2014). Risk management aims to reduce earnings volatility and avoid large losses. Identifying risks, measuring risks, and then creating strategies to manage risks are all part of an effective risk management process (Van Gestel & Baesens, 2016). The first step in risk management is identification, followed by measurement of the identified risks. Risk measurement requires statistical analysis. The third step is risk handling, which can be done through risk avoidance, reduction, acceptance, or transfer. Banks must manage these risks well so that they can reduce their losses due to insolvency, non-refundable depositors, and earnings. The reason for risk management is that banks and banking activities have evolved significantly, so efficient management of the associated risks is necessary. As they are required by regulators, banks must also monitor risks closely (Hull, 2018). It is very important to implement good risk management so that risks that may arise can be anticipated early on. Financing risk management is carried out by making regulations and controlled by implementing standard operating procedures (SOPs) for providing financing that are carried out in accordance with applicable laws. All parties involved in financing must apply 5C+1S correctly to apply the precautionary principle (Fakhurozi, 2021). Effective risk management practices, such as risk identification, assessment, mitigation, and monitoring, as well as adapting to market conditions, can significantly improve profitability (Mei et al., 2019).

Bank Risk Management

Risk management is a crucial aspect of banking operations as it enables banks to identify, assess, and mitigate potential risks that may affect their financial stability and reputation. It involves strategic planning, where banks develop a framework to identify and analyze risks. They then monitor these risks and implement control measures to minimize their impact. Due to economic uncertainty and changes in consumer behavior after the COVID-19 pandemic, the banking industry is facing increased risks. The use of innovative technology, such as online banking, has introduced new risks, including operational, security, legal, and reputation risks. To address these risks, banks need to implement strong security approaches and utilize the latest information technology to protect sensitive data and mitigate potential threats. By employing robust risk management practices, banks can effectively identify, measure, manage and control these risks, ensuring the safety and security of their customers' financial transactions. The profitability of conventional commercial banks in Indonesia will depend on their ability to manage risks such as credit, market, liquidity, operational and others (Safitri dan Khasanah, 2023).

In addition, effective risk management strategies are essential for banks to minimize potential losses and maintain a stable financial position. Brown & Walter (2018) stated that banks must manage risks to achieve sustainable profitability. Identifying, evaluating, and controlling risks that may affect the financial health of a bank is the objective of banking risk management. Conventional commercial banks must be able to analyze risks to achieve profitability. Based on Bank Indonesia Circular Letter No.13/24/DPNP/2011, there are eight risks that can be assessed, namely credit risk, market risk, liquidity risk, operational risk, legal risk, strategic risk, compliance risk, and reputation risk.

Sunaryo, et al. (2021) state that credit risk is the risk occurs when the bank experiences a loss due to the failure of the customer to repay the loan that has been given. This risk can arise due to failure to conduct good credit analysis or changes in economic conditions that affect the customer's ability to repay the loan. Market risk is the risk is associated with fluctuations in market prices and values that can affect the value of the bank's assets or liabilities. Market risk includes interest rate risk, exchange rate risk, and stock price risk. Operational risk is the risk associated with failures in the bank's operational processes, such as administrative errors, information technology system failures, or fraudulent acts by employees. Liquidity risk is the risk is associated with the bank's inability to meet its short-term obligations, such as deposit or loan payments. Reputation risk is the risk associated with damage or reduction of the bank's reputation as a result of fraudulent acts or violations of the law committed by the bank. Legal risk is the risk associated with potential violations of laws and regulations that apply to the bank's operations. The bank also faces strategic risks, such as the risk of changes in government policies that may affect the bank's operations, technological risks associated with the bank's inability to keep up with technological developments that may lead to loss of market or competitive advantage, and sustainability risks associated with negative impacts on the environment or society that may affect the bank's reputation and sustainability in the long run.

In this study, risk management that will be examined includes credit risk, market risk, liquidity risk and operational risk. Sunaryo, et al. (2021) state that some of the risks that affect profitability tend to come from credit, operations, and liquidity of a company. By adding market risk as one of the risks that affect profitability, the authors limit this study to using only four indicators, namely credit risk, market risk, liquidity risk and operational risk. The proxies that are useful in banking risk management are NPL, NIM, LDR, and BOPO. Furthermore, these indicators are commonly used and recognized in the banking industry as reliable measures of risk management (Veizi, 2016). Using NPL, NIM, LDR, and BOPO as proxy in risk management has strong rationale because these indicators provide comprehensive insights into different aspects of risk and can help banks make informed decisions to manage and mitigate these risks effectively.

Conventional Commercial Bank Profitability

Every bank must have the ability to improve its business performance to achieve the goal of making a profit. In this case, the main goal of a business is to make a profit. The bank's ability to generate profits efficiently is called profitability (Saputra & Budiasih, 2016). Micro factors, also known as bank-specific factors, refer to the strategies and decisions made by bank management that impact its profitability (Zariyawati et al., 2021). These factors encompass how the bank manages its sources and uses of funds, capital, liquidity, and expenditures such as liquidity levels, reserve policies, operational efficiency, capital adequacy, expense management. Profitability is a measure of a company's success and is the most important indicator because the banking sector is involved in managing public money and is rotated in various investments, such as loans, securities, and other capital investments (Sunaryo, et al. 2021). Profitability, as explained in PBI No.13/1/PBI/2011, is part of the assessment of a bank's soundness. High profitability indicates good performance.

One way to see the level of profitability of the banking system is to look at the return on assets (ROA) ratio (Safitri dan Khasanah, 2023). According to Pandia (2017), Return on Assets (ROA) is a ratio that shows the ratio between profit before tax and total bank assets, or average. This ratio shows how efficiently the bank manages its assets. The higher the value of asset realization (ROA) of a company, the greater the ability of banks to generate profits, and vice versa. In this study, the measure of profitability used is Return on Assets (ROA), which is the ratio of profit before tax to all assets. The higher the ROA, the more profitability, which means better company performance.

Previous Studies

Research conducted on the effect of risk management on banking profitability has mixed results. The results show that credit risk, liquidity risk, and operational risk can affect bank profitability, but the results are not consistent in each study. Some studies found a significant influence between risk management and bank profitability, but the results also vary depending on the variables tested. Al Zaidanin (2021) found that several factors affect the financial performance of sixteen commercial banks in the United Arab Emirates from 2013 to 2019. These factors include the capital adequacy ratio, non-performing loan ratio, cost-income ratio, loan-to-deposit ratio, and liquidity ratio. The results show that the non-performing loan ratio and cost-income ratio have a significant effect on the profitability of commercial banks, while the capital adequacy ratio, loan-to-deposit ratio, and capital adequacy ratio are not positively correlated with return on assets. Kidane (2020) state that credit risk management in terms of bank-specific and macroeconomic factors has a significant effect on the profitability of commercial banks in Ethiopia. Commercial bank profitability is not affected by the number of non-performing loans. The research conducted by Al-Eitan and Bani-Khalid (2019) examines the way in which credit risk impacts the financial performance of commercial banks in Jordan that were listed on the Amman Stock Exchange from 2008 to 2017. The results show that the ROA of these banks is severely impacted by credit risk. The study by Angori et al. (2019) aimed to find out how net interest margin (NIM) affected banks' profitability in the Euro area from 2008 to 2014. The study found that banks in the Euro area must carefully balance the conditions in order to achieve a higher NIM and improve their profitability. Ndoka and Islami (2016) found that there is a correlation between credit risk management of commercial banks in Albania and their profitability, which means that efficient credit risk management leads to higher profitability. Li, F. and Zou, Y. (2014) examining the effect of credit risk on the profitability of commercial banks in Europe found that credit risk management has a positive effect on the profitability of commercial banks in Europe, meaning that the better credit risk management, the higher the profitability of commercial banks. Ejoh et al, (2014) examining the effect of risk management on bank profitability in Nigeria found that there is a significant relationship between bank liquidity and profitability of money deposits among Nigerian banks.

While studies like those by Sunaryo et al. (2021), Mardiyansyah & Suryani (2021), Al Zaidanin (2021), Kidane (2020), Al-Eitan and Bani-Khalid (2019), Angori et al. (2019), Anam (2018), Kusmayadi (2018) Ndoka and Islami (2016), Li, F. and Zou, Y. (2014), present varying impacts of risk types on bank profitability, the inconsistencies may stem from methodological differences across the studies, such as risk measurement techniques and profitability metrics used. In addition, the financial context in which these studies were conducted, ranging from Indonesia to Europe, United Arab Emirates and Africa may significantly affect the results due to varying regulatory environments and market maturity.

The Effect of Non-Performing Loan on Profitability

Credit risk is defined as a possible loss in relation to a borrower who is unable or unwilling to repay the loan in full on or after the due date. In other words, this risk arises from uncertainty as to whether the debtor will repay it. (Pandia, 2017). The higher the ratio of the NPL, the worse the credit quality, which means more credit is problematic, which can reduce the rate of profit (ROA). According to a study conducted by Anam and Kusmayadi (2018), the credit risk represented by NPL has a significant negative impact on bank profitability (ROA). So, H1: NPL*s* have a significant impact on profitability (ROA) on the Indonesian conventional commercial banks in the era of digital economy and post-COVID-19.

The Effect of Market Risk on Profitability

Market risk can affect the profitability of commercial banks. For example, Net Interest Margin (NIM) is a ratio that can be used to measure market risk arising from movements in market variables. Changes in NIM can affect profitability. The results of a study by Mardiyansyah and Suryani (2021) and Sukma et al. (2019) show that market risk variables as measured by NIM have a positive impact on profitability (ROA). So, H2: NIMs have a significant impact on profitability (ROA) on the Indonesian conventional commercial banks in the era of digital economy and post-COVID-19.

The Effect of Liquidity Risk on Profitability

Liquidity risk is the risk that arises as a result of the unavailability of liquid bank assets, which causes the bank to be unable to meet its obligation to accept the withdrawal of the depositors and provide loans to potential debtors. (Pandia, 2017). Loan to Deposit Ratio (LDR) is a ratio that measures the bank's ability to meet short-term liabilities (liquidity) by dividing the total of third-party funds against the total credit. LDR indicates the ability of the bank to channel third party funds on credit to generate revenue. Assuming that the bank has the ability to channel credit effectively, the higher the LDR, the greater the profit. The results of a study by Yusriani (2018) and Prasetyo & Darmayanti (2015) show that LDR liquidity risk has a positive impact on profitability (ROA). So, H3: LDRs have a significant impact on profitability (ROA) on the Indonesian conventional commercial banks in the era of digital economy and post-COVID-19.

The Effect of Operational Risk on Profitability

Operational risk is a risk that generally comes from internal company problems and weak management control systems. Operational risk can affect bank profitability. The BOPO shows how efficient the bank is doing its job and describes the operational risk. One effective bank is able to reduce operating costs and increase operating revenue to earn high profits while avoiding banking problems. The smaller the BOPO, the higher the bank's income, which will be offset by improved profitability or banking efficiency. Operational risk (BOPO) affects profitability (ROA) significantly, according to research conducted by Sukma (2019) and Capriani & Dana. (2016). So, H4: BOPOs have a significant impact on profitability (ROA) on the Indonesian conventional commercial banks in the era of digital economy and post-COVID-19.

METHODOLOGY

1. Research Population and Sample

A population is a group of elements that have specific characteristics and can be used to make conclusions (Chandarin, 2017). The focus of this research is conventional commercial banks listed on the Indonesia Stock Exchange (IDX) from 2021 to 2022. The purpose of purposive sampling is to obtain a representative sample. The secondary data used in this study comes from the annual reports (annual) of conventional commercial bank companies listed on the Indonesia Stock Exchange (IDX) during the period 2021-2022. In addition, you can access this information through direct downloads to the websites of the sampled companies or through the Directory of Indonesian Capital Markets (idx.co.id). Data analysis was performed using multiple linear regression analysis using SPSS v26. The number of samples is calculated using several criteria. The criteria that are the basis for determining the number of samples are shown in table 1.

Table 1. Sampling Criteria

Criteria	Amount
Conventional commercial bank companies listed on the IDX for the period 2021-2022	43
Conventional commercial bank companies that do not submit financial reports for the period 2021-2022	(2)
Number of companies sampled in the study	41
Total sample used in the study (41 x 2 year)	82

Table 1 above shows the number of samples selected, namely 41 conventional banking companies out of a total of 43 conventional banking companies in Indonesia listed on the IDX.

1. Variables Research

The dependent variable in this study is Return on Asset (ROA), which is a ratio that shows the return (yield) of all assets used by the company. The independent variable is the independent variable.

In this study, risk control is used using indicators such as Non Performing Loan (NPL), Net Interest Margin (NIM), Loan to Deposit Ratio (LDR), and BOPO (Operating Expenses to Operating Income).

2. Data Analysis Method

Before testing the hypothesis, the data collected from this study will be tested to ensure that the basic assumptions have been met. The purpose of this study is to determine how risk management impacts Return On Asset. If the classical assumption test is met, the regression model formed is suitable for use. In this study, classic assumption tests such as heteroscedasticity, multicollinearity, normality, and autocorrelation were used.

This study used inferential statistical analysis, specifically multiple linear regression analysis. Data were processed and hypotheses were tested using the SPSS version 26 program. The multiple linear regression model equation is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \quad \ldots\ldots(1)$$

Y : ROA
X_1 : NPL
X_2 : NIM
X_3 : LDR
X_4 : BOPO

RESULTS AND DISCUSSION

1. Descriptive Statistics

The variables used in the study are described in the descriptive statistics used in this discussion. Table 2 displays the results of descriptive statistical analysis and presents secondary data without generalization.

Table 2. Descriptive statistical analysis

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	76	-.1475	.0431	.003349	.0284594
NPL	76	.0000	.2227	.038722	.0329310
NIM	76	-.0352	.1352	.040761	.0247331
LDR	76	.1235	1.6229	.814153	.2869513
BOPO	76	.5170	2.8786	.978999	.3752032
Valid N (listwise)	76				

Source : SPSS 26 output, data processed 2024

The Return on Asset (ROA) variable has a standard deviation value of 0.028, a mean value of 0.0033, and the smallest value is -0.1475. The standard deviation value of 0.028 indicates that banking companies in Indonesia have an average ROA value of 0.33 percent. This condition shows that conventional commercial banks can still generate profits from assets managed from 2021 to 2022.

The average *non-performing* loan (NPL) value of conventional commercial banks has a non-performing loan rate of 3.87%, with an average value of 0.0387 and a standard deviation value of 0.0329. The standard deviation value of 0.0329 indicates that the average NPL value of conventional commercial banks is in fairly good condition, and can be interpreted.

The Net Interest Margin (NIM) variable shows a standard deviation value of 0.0247 and the smallest value is -0.0352 and the highest value is 0.1352. The average value of 0.0407 indicates that the average conventional commercial bank has an interest income rate on earning assets of 4.07%, which can be considered good because the NIM value is more than 2%.

The Loan to Deposit Ratio (LDR) variable shows an average value of 0.8141, or 81.4%, with a standard deviation value of 0.287, the lowest value of 0.1235 and the highest value of 1.6229. The average value of 0.814153, or 81.4%, indicates that the average conventional commercial bank has a fairly good level of loan composition when compared to the amount of funds obtained. LDR also shows how banks provide credit to the public and manage funds collected from the public. A high LDR shows how banks perform a mediating role in lending. Banks must continue to exercise strict control over the credit provided. In addition to providing interest income, lending also has the risk of contributing losses to the business if the loans do not run smoothly or become *non-performing* (*Non-Performing Loan*) because the bank must reserve for losses.

The Operating Expenses to Operating Income (BOPO) variable shows a standard deviation value of 0.375, an average value of 0.979, the lowest value of 0.5170 and the highest of 2.878. The average value of 0.979 shows that the average conventional commercial bank has an average of close to 100%, and the BOPO value of 97.9 percent should be a concern for banks in the future so that they can reduce the BOPO ratio below 90%, in accordance with the direction of Bank Indonesia (BI).

2. Classical Assumption Test Results

To fulfill the basic assumptions, the data collected from this study will be tested first. This is done before hypothesis testing is conducted. The following tests will be conducted: (1) Kolmogorov Smirnov test to check the normality of the data; (2) autocorrelation test with Durbin-Watson (DW) test; (3) multicollinearity test by taking into account the tolerability value and variation-inflating factor (VIF); and (4) Park test to check heteroscedasticity.

A. Normality Test

The normality test aims to determine whether the regression model formed, which consists of the dependent variable and the independent variable, has a normal or near normal distribution. The Kolmogorov-Smirnov Sig. normality test can be used to show the results of the normality test. If the probability value (Asymptotic Sign) is less than or equal to 0.05, then the distribution is normal. The Kolmogorov Smirnov One Sample test results show the asyp. Sig (2 tails) is above 0.05 with a number of 0.176. Therefore, it can be concluded that the residual data is generally distributed.

Table 3. Normality Test Results (One-Sample Kolmogorov-Smirnov Test)

		Unstandardized Residual
N		76
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.12584370
Most Extreme Differences	Absolute	.092
	Positive	.092
	Negative	-.077
Test Statistic		.092
Asymp. Sig. (2-tailed)		.176[c]

Source : SPSS 26 output, data processed 2024

B. Autocorrelation Test

The purpose of the autocorrelation test is to determine whether there is a relationship between confounding errors in period t and confounding errors in period t-1 or earlier. If the Durbin Watson number has a value of du < dw < 4-du, the model is said to have no autocorrelation. The Durbin Watson value is 1.867, as indicated by the autocorrelation test results shown in table 5 above. Once the DW value occupies a position between du and 4-du, it can be concluded that there is no autocorrelation. Therefore, the regression model is suitable for further study.

Table 4. Durbin Watson Test Results

DW	DU	4-DU	Description
1,947	1,867	2,134	There is no autocorrelation

Source : SPSS 26 output, data processed 2024

The Durbin Watson value is 1.867, as indicated by the autocorrelation test results shown in table 4 above. Once the DW value occupies a position between du and 4-du, it can be concluded that there is no autocorrelation. Therefore, the regression model is suitable for further study.

C. Multicollinearity Test

To determine whether there is multicollinearity in the regression model, this assumption uses the VIF value. In addition, the purpose of the study is to determine whether there is a relationship between the independent variables, also referred to as dependent variables, in the regression model formed. VIF values < 10 and tolerance values > 0.1 indicate that there are no multicollinearity symptoms in this study.

Table 5. Multicollinearity Test Result

Variable	Tolerance	VIF	Description
NPL	.861	1.162	There is no multicollinearity
NIM	.911	1.098	There is no multicollinearity
LDR	.839	1.191	There is no multicollinearity

BOPO	.851	1.175	There is no multicollinearity

Source : SPSS 26 output, data processed 2024

D. Heteroscedasticity Test

The heteroscedasticity test is used to determine whether there is a difference in the residual difference from one observation to another in the regression model. The result is homoscedasticity if the residual differences from one observation to another are constant, and heteroscedasticity if the differences are not the same. No heteroscedaticity, also known as homoskesdaticity, is a good result of a regression model. Park's test was used to identify the presence of heteroscedaticity in this study. As shown in table 7, Park's test results indicate that there is no heteroscedasticity in the regression model; the indicator coefficients for the independent variables are not significant and their values are more than 0.05.

Table 6. Heteroskedasticity Test Result (Park Test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-5.793	.285		-20.306	.000		
	NPL	.089	.313	.036	.284	.777	.826	1.211
	NIM	.295	.304	.119	.969	.336	.857	1.166
	LDR	.300	.311	.122	.965	.338	.810	1.235
	BOPO	.589	.364	.208	1.616	.111	.786	1.273

Source : SPSS 26 output, data processed 2024

3. Hypothesis Test Results

A. Simultaneous Significance Test Results (F test)

The F test is used as a basis for showing that each independent variable tested in the model has an impact on the dependent variable simultaneously. In addition, the F test is used to determine whether the model created in this study is feasible (appropriate) or not. Table 3 with the following captions shows the results of the F test.

Table 3. F Test Results

Model	F	Sig
Regression 1	179.934	.000

Source : SPSS 26 output, data processed 2024

The statistical calculation results are shown in Table 3 above; the F-count value is 179.934 with a probability of 0.000; the probability number in model 1 is much smaller than 0.05, so it can be concluded that the model is fit or the regression can be used to predict profitability. In other words, NPL, NIM, LDR, and BOPO affect ROA simultaneously.

B. Coefficient of Determination

The coefficient of determination (R2) is used to determine how much the ability of the independent variable to explain the dependent variable. A low coefficient of determination indicates that the ability of the independent variables to explain the variation in the dependent variable is very limited. The adjusted R square figure is found in table 4 of the statistical processing, which shows the determination figure as follows:

Table 4. Coefficient of Determination

Model	Adjusted R Square
Regression 1	0.905

Source : SPSS 26 output, data processed 2024

Table 4 shows the coefficient of determination of the equation. An Adjusted R Square of 0.905 was found in the regression model. This indicates that the variation of the four independent variables (NPL, NIM, LDR, and BOPO) can explain 90.5% of the variation in ROA, while the remaining 9.5% can be explained by other factors not included in this research model.

a. Partial Test Results (t-test)

For this study, the t-Test test was used to determine whether each independent variable in the model formed had an impact on the dependent variable. The results of this test are interpreted as follows:

1. Effect of NPL on ROA
   The t-test results show that *non-performing* loans (NPLs) have no significant impact on *return on assets* (ROA). This is indicated by the calculated t number of 0.871, which is less than the t table number of 1.996, and the probability obtained is 0.387 and greater than the 0.05 number, which indicates that hypothesis 1 is rejected.
2. Effect of NIM on ROA
   According to the calculated t number of 2.457, which is greater than the t table number of 1.996 and the probability obtained is 0.016, which is less than 0.05, *Net Interest Margin* (NIM) has a significant effect on the t-Test results, thus hypothesis 2 is accepted.
3. Effect of LDR on ROA
   According to the results of the t-Test, the debt-to-deposit ratio (LDR) has no significant impact on ROA. This is indicated by the calculated t value of 0.388, which is less than the t table value of 1.996 and the probability obtained of 0.699, which exceeds 0.05, indicating that hypothesis 3 is rejected.
4. Effect of BOPO on ROA
   In the t-test results, the operating cost of operating income (BOPO) has a significant influence on ROA. This is indicated by the calculated t number of 23.850, which exceeds the t table number of 1.996 and the probability obtained is 0.000, which is less than 0.05, so hypothesis 4 is accepted.

4. Discussion of Research Results

a. Effect of NPL on ROA

The results show that ROA is not affected by NPL; this indicates that non-performing loans do not significantly affect bank profitability. The previous research results are in line with Sunaryo (2021), Kidane (2020), Simamora & Oswari (2019), Ristati et al. (2018), and Harun (2016). On the other hand, the results of this study differ from Mardiyansyah and Suryani (2021), Ansori and Safira (2018), Dewi and Srihandoko (2018), Anam (2018), and Kusmayadi (2018), who found that there is a significant effect of credit risk (NPL) on profitability (ROA). This shows that if the amount of bad debts (NPL) increases, the bank's revenue and profit will decrease, and the realized value of assets (ROA) will also decrease.

In this study, the NPL variable does not affect ROA because NPL is not a determinant of increasing or decreasing bank profits. Thus, an increase in the number of NPLs may not affect the profits of conventional commercial banks in Indonesia during the COVID-19 pandemic in 2021 and 2022, or a decrease in the number of NPLs may also not affect the level of profits. This may occur because, in the research sample taken, the credit risk ratio (NPL) of Conventional Commercial Banks is still below 5%, which indicates that bank profits can still increase even if the NPL value increases. This situation can also be interpreted that even though the NPL value increases, it does not always have a negative impact on bank profits. This is because the Provision for Earning Assets (PPAP) figure

must be made for loans that are experiencing problems and are still within a reasonable level and can be absorbed by bank profits, so that it does not affect bank profitability.

Banks can maintain good performance even if NPLs are relatively high at around 5%. This is due to the fact that they can still earn fee-based income-also known as cost-based income-from sources such as securities, funds placed with other banks, bank equity participation in other financial institutions, remittance fees, inkaso, *letters of credit, safe deposit boxes, credit cards*, *payment points* (payments for deposit accounts), bank guarantees, foreign exchange trading, *commercial paper* and *traveller's checks,* and others. According to OJK regulations, Conventional Commercial Banks have sufficient capital, so that measurable credit risk can be handled by the capital owned by the bank, so that small NPLs do not affect profitability.

b. Effect of NIM on ROA

This study found that *Net Interest Margin* (NIM) affects *Return on Asset* (ROA). The results show that profit before tax increases when the difference between all interest expenses and all interest income increases. This increases the *Return on Asset* (ROA) value. The results of this study are in accordance with the results of previous research by Mardiyansyah and Suryani (2021), but not in accordance with the results of research by Ristati et al. (2018) which states that *Net Interest Margin* (NIM) does not affect ROA.

NIM is a significant predictor of ROA because of NIM is a ratio that shows the net interest income earned by banks due to their ability to manage productive assets. Net interest income is obtained by reducing interest expenses. Earning assets are assets that can provide interest, such as securities and loans granted by banks to debtors. A higher NIM ratio will increase the interest income from earning assets managed by the bank, and this may increase the bank's ROA. The NIM value is calculated by comparing the value of interest income earned from debt with the amount of interest expenses that must be paid to depositors. The NIM value shows the bank's ability to manage productive assets and the quality of credit provided. The level of profitability and profit growth of banks is positively correlated with the net-interest margin ratio (Suryadi & Djuniar, 2017). *Net Interest Margin* (NIM) in the banking industry shows how market risk arises due to movements in market variables that can affect bank profits (Veithzal in Mardiyansyah and Suryani, 2021).

The results show that market risk, specifically NIM, continues to affect banks' profitability (ROA) even during economic conditions affected by the COVID-19 pandemic. Conventional Commercial Banks should maintain NIM levels to sustain their financial performance.

c. Effect of LDR on ROA

LDR does not affect profitability in this study; in other words, an increase or decrease in the liquidity level of Indonesian conventional commercial banks in the era of digital economy and post-COVID-19 does not affect bank profitability. Banks may not want to set their LDR too high or too low. Bank Indonesia has set the LDR standard between 78 to 92 percent. A lower LDR indicates that the bank is ineffective in lending, while a higher LDR increases the liquidity risk of the bank. A high LDR will have two effects: if credit is disbursed effectively, it will bring profit, but if credit expansion is uncontrolled and disbursed imprudently, it will lead to greater risk. As a result, LDR has no impact on bank profitability

This contradicts the findings of research conducted by Yusriani (2018), Ristati, et al. (2018), and Prasetyo & Darmayanti (2015), who found that liquidity risk (LDR) greatly affects bank profitability (ROA). Increasing the amount of credit provided will increase banking income.

The research results of Sunaryo (2021), Ansori, and Safira (2018) are the same. LDR does not affect bank profits (ROA), which indicates that an increase or decrease in the level of commercial bank liquidity does not affect bank profits. This may be because banks do not want to set a lower or higher LDR value and want to keep it at a predetermined level. Although the effectiveness of bank lending can be measured by the LDR value, banks must have good liquidity risk control. However, banks internally

have their own policies that consider economic conditions, funds raised, and other factors. If the bank's LDR value is above the standard, the bank's liquidity risk will increase. On the other hand, if the LDR value is relatively high, the bank can benefit from increased profitability. However, this only applies if loans are extended effectively and no excessive bad debts occur. Good credit quality and carefully processed. Since the average LDR value of banks is still within the normal range and the NPL ratio is still quite large, LDR does not affect bank profitability (ROA) in this situation.

d. Effect of BOPO on ROA

The results showed that Operating Costs of Operating Income (BOPO) had a negative and significant effect on Return on Asset. These results are in line with the results of research conducted by Sukma (2019), Capriani, and Dana (2016), which found that operational risk (BOPO) has a negative and significant effect on profitability (ROA). BOPO has a negative influence because an increase in BOPO indicates a decreas in the level of efficiency. This is due to the fact that the efficiency level of banks in running their operations affects their income. The higher the efficiency level of a bank, the better it performs, and the more profit it can keep.

The results of this study contradict research conducted by Sunaryo et al. (2021), Yusriani (2018), and Ristati et al. (2018), which shows that operational risk (BOPO) has a positive impact on bank profitability (ROA). This shows that by increasing operating costs, banks have the ability to earn profits (profits). In other words, banks can manage costs at a level that best suits their needs. ROA being negatively affected by BOPO indicates that an increased value of BOPO, i.e. by incurring costs, the bank will decrease its profitability. This is understandable as high operating costs will strain profits in performing its intermediation function, and high operating costs may not be covered from the bank's operating income. This can happen because an increase in BOPO value indicates an increase in operating costs, so banks are considered effective if they can control these costs and produce efficient operating costs, which in turn will increase profits. To improve efficiency, there are many ways that can be done, such as using information technology to generate savings and ensure employee performance and the company remains productive with controlled costs.

CONCLUSION AND RECOMMENDATION

This study aims to determine the effect of risk management on the *return on assets* (ROA) of conventional commercial banks in Indonesia after the COVID-19 pandemic in the digital economy era by using the proxies Non-Performing Loan (NPL) for credit risk, Net Interest Margin (NIM) for market risk, Loan to Deposit Ratio (LDR) for liquidity risk, and BOPO for operational risk. The results of this study reached a number of conclusions. NPL has no positive impact and its value is insignificant on ROA; NIM has a positive impact and its value is significant on ROA; LDR has a negative impact and its value is insignificant on ROA; and BOPO has a positive impact on ROA.

This study provides evidence of a significant influence on the NIM variable on bank profitability (ROA), where NIM represents a measure of market risk. BOPO is also proven to have a significant negative effect on ROA. The management of conventional commercial banks must continue to closely monitor the implementation of risk management in banking operational practices carried out by all company stakeholders. The condition of the Indonesian economy and also the world that is declining due to the Covid-19 pandemic makes this risk exposure must be well anticipated and given alternative treatments and improvements. Senior management including the board of directors and CEO are an important part of this process, to ensure that banking performance remains good even when the pandemic increases NPLs and the economic slowdown will suppress the value of NIM.

Banking performance is also affected by how operating expenses are managed compared to operating income during the pandemic. Commercial banks should be able to save more money by lowering the ratio of operating expenses to operating income (BOPO). A bank's operating expenses include interest, promotion, administration, and other costs. Costs related to internal processes are more controllable as management has the ability to prioritize which costs should not be incurred and which can still be done to increase operating profit.

Indonesian conventional commercial banks must continue to make digital innovations to keep up with the digital age so as not to be left behind. In addition, they should improve and develop low-cost technology to support digital banking services and continue to strengthen the security of their network systems to protect customers and prevent losses. Invest in technology and data analysis. Use advanced technology and data analytics to enhance risk screening capabilities. Conduct regular assessments. Regularly review and update the bank's risk needs statement. This helps keep risk-taking within acceptable limits and in line with the bank's overall strategy. Promote strong governance and risk culture: Banks should have a strong governance structure and promote a strong risk culture.

The digital transformation in the banking sector has not only revolutionized customer experience and operational processes, but it has also introduced new risks and challenges, particularly in terms of cybersecurity. Banks must adopt advanced threat detection and response systems, establish strong incident response plans, and prioritize cybersecurity measures to mitigate cyber threats and protect their profitability. The importance of improving coordination between financial sector authorities and other agencies dealing with cyber risk and cybersecurity to effectively address these challenges. These findings align with the understanding that the banking sector is increasingly vulnerable to cyberattacks as it undergoes rapid digitization.

This study has limitations by only using four proxies for risk management, as mentioned earlier. For further research on business performance and the implementation of bank risk management, more measured variables that indicate the implementation of risk management can be used, such as profitability, which can be measured by different variables than ROA. Examining other proxy variables that affect profitability, such as the Capital Adequacy Ratio (CAR), Third Party Funds (DPK), Financing to Deposit Ratio (FDR), Loan to Funding Ratio (LFR), cyber risks, and expand the research sector to measure the extent to investigated the effects of digital transformation on risk management practices and profitability.

This research was also conducted over a short period of time, from 2021 to 2022. Future researchers are advised to increase the number of samples and the time span in order to get more accurate data and results.

REFERENCES

Abubakar, L., & Handayani, T. (2021). *Covid-19 Impact Stimulus Policy through Credit Restructuring in the Framework of National Economic Recovery*. RechtIdee.

Alim, S. (2014). Analysis of the effect of inflation and BI rate on Return on Assets (ROA) of Islamic banks in Indonesia. *Journal of Modernization Economics*, *10*(3), 201-220.

Alshatti, A. S. (2015). The effect of credit risk management on financial performance of the Jordanian commercial banks. *Investment Management and Financial Innovations*, *12*(1), 338-345.

Al-Eitan, G. N., & Bani-Khalid, T. O. (2019). Credit risk and financial performance of the Jordanian commercial banks: A panel data analysis. Academy of Accounting and Financial Studies Journal, 23(5), 1-13.

Al Zaidanin, J. S., & Al Zaidanin, O. J. (2021). The impact of credit risk management on the financial performance of United Arab Emirates commercial banks. International Journal of Research in Business and Social Science (2147-4478), 10(3), 303-319.

Anam, C. (2018). The Effect of Credit Risk and Liquidity on Banking Financial Performance at Conventional Commercial Banks Listed on the IDX (2012-2016). *Margin Eco*, *2*(2), 66-85.

Angori, G., Aristei, D., & Gallo, M. (2019). Determinants of banks' net interest margin: Evidence from the Euro area during the crisis and post-crisis period. Sustainability, 11(14), 3785.

Ansori, H. R. (2017). *Analysis of the Effect of Risk Management on Profitability (Comparative Study on Conventional Commercial Banks and Islamic Commercial Banks Registered with OJK for the Period 2012-2015)*. Mercu Buana University.

Arifudin, O., Wahrudin, U., & Rusmana, Damayanti F. (2020). Manajemen Risiko. Widana Bhakti Persada Bandung. www.penerbitwidina.com

Bank Indonesia. (2011). Annex to Bank Indonesia Circular Letter Number 13/24/DPNP dated October 25, 2011. Downloaded from: http://www.ojk.go.id on March 05, 2023..

Brown, L. D., & Walter, T. S. (2018). The determinants of bank risk management: Evidence from a survey of Australian banks. Journal of Banking & Finance, 89, 184-199.

Capriani, N. W. W., & Dana, I. M. (2016). The *effect of credit risk operational risk and liquidity risk on BPR profitability in Denpasar city*. Udayana University.

Chandra, A., Wijaya, F., Angelia, A., & Hayati, K. (2020). The Effect of Debt to Equity Ratio, Total Assets Turnover, Firm Size, and Current Ratio on Return on Assets. *Journal of Accounting, Finance, and Management*, *2*(1), 57-69.

Demirgüç-Kunt, A., & Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. Journal of Financial Economics, 98(3), 626-650.

Dewi, E. T., & Srihandoko, W. (2018). The Effect of Credit Risk and Liquidity Risk on Bank Profitability. *Scientific Journal of Unity Management*, *6*(3), 131-138.

Ejoh, N. O., Okpa, I. B., & Egbe, A. A. (2014). The impact of credit and liquidity risk management on the profitability of deposit money banks in Nigeria. *International Journal of Economics, Commerce and Management*, *2*(9), 1-15.

Fakhrurozi, M., Warsiyah., & Kesumah, F. S. (2021). Analisis Penerapan Manajemen Risiko Pembiayaan Baitut Tamwil Muhammadiyah Bina Masyarakat Utama Bandar Lampung. Jurnal Ilmiah Ekonomi Islam, 7(03), 1540-1550. doi: http://dx.doi.org/10.29040/jiei.v7i3.3467

Financial Services Authority. (2016). Financial Services Authority Regulation Number 18/PJOK.03/2016 concerning the Implementation of Risk Management for Commercial Banks. Downloaded from : www.ojk.go.id. on August 10, 2023

Ghozali, I. (2018). *Multivariate analysis applications with the IBM SPSS 25 program*.

Hamdun, N., Marliyah, M., & Nurbaiti, N. (2022). Electronic Commerce (E-Commerce) Business Actor Strategy. *Journal Locus Research and Service*, *1*(2), 60-67.

Hull, J. C. (2018). Risk Management and Financial Institutions (4th ed.). John Wiley & Sons, Inc. Canada.

Katerina, D. (2018). *The Relationship Between CEO Tenure and Firm Financial Performance in Energy Companies*.

Kidane, S. T. (2020). Credit risk management and profitability: empirical evidence on Ethiopian commercial banks. *Journal of Regional Financing and Development Perspectives*, *8*(4), 377-386.

Kusmayadi, D. (2018). Analysis of Effect of Capital Adequacy Ratio, Loan to Deposit Ratio, Non-Performing Loan, Bopo, and Size on Return on Assets in Rural Banks at Indonesia. Saudi Journal of Business and Management Studies (SJBMS), 3(7), 786–795. https://doi.org/10.21276/sjbms.2018.3.7.4

Mardiansyah, M., & Suryani, D. (2021). Implementation of Risk Management on Profitability at State-Owned Commercial Banks Listed on the Indonesia Stock Exchange for the 2010-2019 Period. *Unbara Business Management Journal*, *2*(1), 1-18.

Mei, C., Nsiah, T K., Barfi, R., & Bonsu, M O. (2019). Credit Risk and Bank Profitability of Commercial Banks In Ghana. https://doi.org/10.36713/epra3836

Nasution, D. A. D., Erlina, E., & Muda, I. (2020). The Impact of the COVID-19 Pandemic on the Indonesian Economy. *Benefita Journal*, *5*(2), 212. https://doi.org/10.22216/jbe.v5i2.5313

Ndoka, S., & Islami, M. (2016). The impact of credit risk management in the profitability of Albanian commercial banks during the period 2005-2015. *European Journal of Sustainable Development*, *5*(3), 445.

Pandia, Frianto. (2017). Manajemen Dana dan Kesehatan Bank. PT. Rineka Cipta. Jakarta.

Prasetyo, D. A., & Darmayanti, N. P. A. (2015). The Effect of Credit Risk, Liquidity, Capital Adequacy, and Operational Efficiency on Profitability at PT BPD Bali. *E-Journal of Management Unud*, *4*(9), 2590-2617.

Ristati, R., Nazir, N., & Mahfuzah, N. (2018). The Effect of Risk Management Implementation on Financial Performance Satisfaction at Regional Development Banks in Indonesia. *Journal of Visionary & Strategic*, *7*(1).

Rustendi, T. (2019). The Effect of Capital Adequacy on the Financial Stability of Rural Banks. *Journal of Accounting and Finance Research*, *7*(3), 531-544.

Safitri, W. N., & Khasanah, U. (2023). The Role of Risk Management Determines the Profitability of Bank Syari'ah Indonesia During the Covid-19 Pandemic. *Jurnal Ilmiah Ekonomi Islam*, *9*(2), 2883-2890.

Sante, Z. V., Murni, S., & Tulung, J. E. (2021). The Effect of Credit Risk, Liquidity Risk and Operational Risk on the Profitability of Banking Companies Listed in Lq45, Book Iii and Book Iv for the 2017-2019 Period. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting*, *9*(3), 1451-1462.

Sarasi, V., Farras, J. I., & Putri, J. H. (2022). Analisis Manajemen Risiko Wakaf Uang Dengan Metode Erm Coso. Jurnal Ilmiah Ekonomi Islam, 8(02), 1792-1807. doi: http://dx.doi.org/10.29040/jiei.v8i2.3260

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. john wiley & sons.

Sukma, N., Saerang, I. S., & Tulung, J. E. (2019). The Effect of Third Party Funds, Credit Risk, Market Risk and Operational Risk on Profitability at Book 2 Category Banks for the 2014-2017 Period. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting*, *7*(3).

Sunaryo, dkk (2021). Pengaruh Risiko Kredit Risiko Likuiditas dan Risiko Operasional Terhadap Profitabilitas Perbankan pada Bank Umum di Asia Tenggara Periode 2012-2018. Jurnal Ilmu Keuangan dan Perbankan, Vol 11 No.1

Utami, P. D. Y., & Yustiawan, D. G. P. (2021). Non Performing Loan as an Impact of the Covid-19 Pandemic: A Review of Force Majeure in Banking Credit Agreements. *Journal of Kertha Patrika*, *43*(3).

Van Gestel, T., & Baesens, B. (2016). Credit Risk Management: Basic concepts: Financial Risk Components, Rating analysis, models, Economic and Regulatory Capital. Oxford University Press. Oxford.

Wicaksono, A., Gunawan, I D., & Husin, Z. (2020, September 14). Analysis the Effect of Information Technology Capability, Business Innovation, Digital Disruption and Digital Disruption Reactions on Sustainable Banking Performance. https://doi.org/10.21694/2379-1047.20012

Yusriani, Y. (2018). The Effect of CAR, NPL, BOPO and LDR on Profitability at State-Owned Commercial Banks on the Indonesia Stock Exchange. *Research Journal*, *4*(2), 1-17.

Zou, Y. and Li, F. (2014). The Impact of Credit Risk Management on Profitability of Commercial Banks: A Study of Europe. Macmillan, London

ABOUT THE AUTHORS

Sri Rahayu, email: srirahayu@global.ac.id

Sri Rahayu, SE, M. Ak, Ak, CA is a permanent lecturer at Bina Sarana Global Institute of Technology and Business, Tangerang, Indonesia. Graduated from the Faculty of Economics majoring in accounting Sebelas Maret University, a state university in Surakarta in 2003 and Master of Accounting Esa Unggul University Jakarta in 2017. Has worked in the banking sector at PT Bank Rakyat Indonesia (Persero) Tbk, ASN Supreme Audit Agency Jakarta.

Drs. Ken Sabardiman Soetjipto, Ak., MM is a permanent lecturer at Bina Sarana Global Institute of Technology and Business, Tangerang, Indonesia. Graduated from the Faculty of Economics majoring in accounting Gajah Mada University, Yogyakarta in 1993 and Master of Management STIE Bisnis Indonesia Jakarta in 2017. Currently pursuing a doctoral degree in Government Science. Has worked in the property sector (PT. Pudjiadi Prestige, Ltd, PT. Gamblindo Nusa / PT. Multi Krida and PT. Gemini Sinar Perkasa, manufacturing sector (PT. Kertas Nusantara Paper Pulp Mills - East Kalimantan), instructor in non-formal education (LM Patra Jakarta, LAP Trisakti Jakarta and LP3I Tangerang).

Sutarman, S.S., M.M. is a permanent lecturer at Bina Sarana Global Institute of Technology and Business, Tangerang, Indonesia. Graduated from the Department of Language majoring in English Literature, STBA Technocrat, Tangerang in 2010; and Master of Management, Budi Luhur University, Jakarta in 2014. Has worked in manufacturing sector at PT Indonesia Nippon Seiki as Procurement Personnel and in education sector as Manager of Marketing and Manager Quality Assurance in Global Institute.

Ahmad Arifin, M.M is a permanent lecturer at Bina Sarana Global Institute of Technology and Business, Tangerang, Indonesia. Graduated from the Faculty of Economics and Business, Department of Marketing Management, Budi Luhur University, Jakarta, in 2012 and Master of Management at Budi Luhur University, Jakarta in 2015. Worked at a Higher Education Institution in Jakarta from 2008 until now.

Ahmad Bachtiar Zen, S.Pd is an ASN at SMP Negeri 111 Jakarta, Indonesia. Graduated from University of Prof. Dr. Hamka at English Department in 1998. Has been working as a temporary lecturer at Institute of Technology PLN Jakarta since 2009. Has been active in organization of profession, the Indonesian Teachers Association (PGRI) DKI Jakarta Province as a contributor of Gema Widyakarya Magazine, Jakarta since 2002 and as a secretary of the Junior High School English Teacher Association DKI Jakarta Province since 2016.