

Analysis of Credit Risk Differences Based on Risk Management and Related Banking Regulations at Banks in Indonesia (X, Y) and Malaysia (Z)

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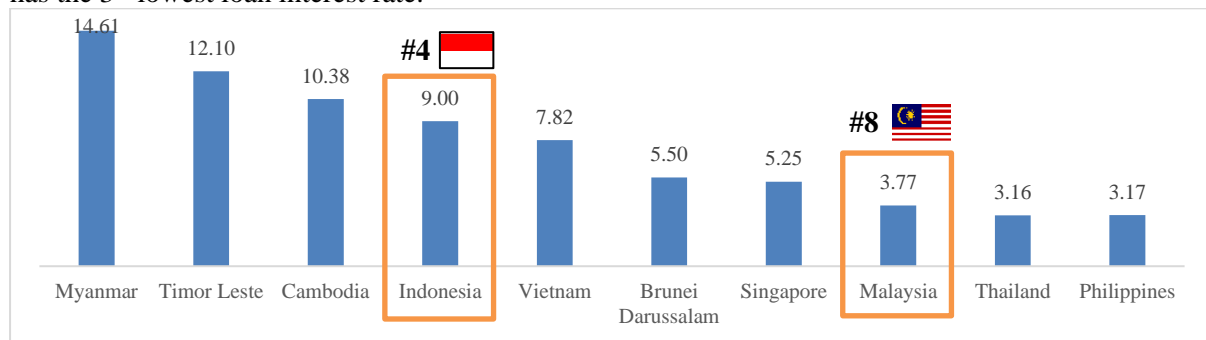
ABSTRACT

Indonesia banks has high credit interest rates problem due to high credit risk in disbursing loan. So, Indonesia banks are heavy to achieve credit growth target set by Bank Indonesia in the last 3 years and considered not optimal in distributing loan. On the other hand, Malaysia has lower credit risk and interest rates. This case study research aims to investigate and explain some of possible reasons of high credit risk based on risk management and related banking regulation in Indonesia and Malaysia also its impact on bank performance. The research method used is quantitative content analysis to explain data and information analysis from official websites of Bank X, Y in Indonesia and Bank Z in Malaysia for 2021 – 2023 period. The research results state Bank Z has The Three Lines Model organ intensively focuses on supervising and monitoring credit risk only, while Banks X and Y do not yet have a similar organ. Banking regulation regarding credit collectibility periods in Indonesia are shorter than in Malaysia, so that Malaysia can be more stable. This research contributes to provide policy suggestions for Indonesian regulators to control credit risk as part of calculating loan interest rates to optimize bank performance.

Keywords: Credit risk; net interest margin; credit growth; The Three Lines Model; credit collectability, JEL Classification: G21

INTRODUCTION

Loan is a process of borrowing and lending money from banks to debtors (Saleh and Malik, 2020). According to the Indonesian Entrepreneurs Association (Apindo) in Wulandari (2019), high commercial loan interest rates are the main obstacle for entrepreneurs in accessing loan. Eltania (2022) and Wiralaga *et al.* (2022) stated that loan interest rates have a significant negative effect on loan distribution, which means that the higher the interest rate, the lower the loan distribution in an area. Graph 2 shows that Indonesia has 4th highest loan interest rate among ASEAN countries, while Malaysia has the 3rd lowest loan interest rate.



Graph 1. Average Loan Interest Rate in ASEAN Countries for the last 3 years (in %)

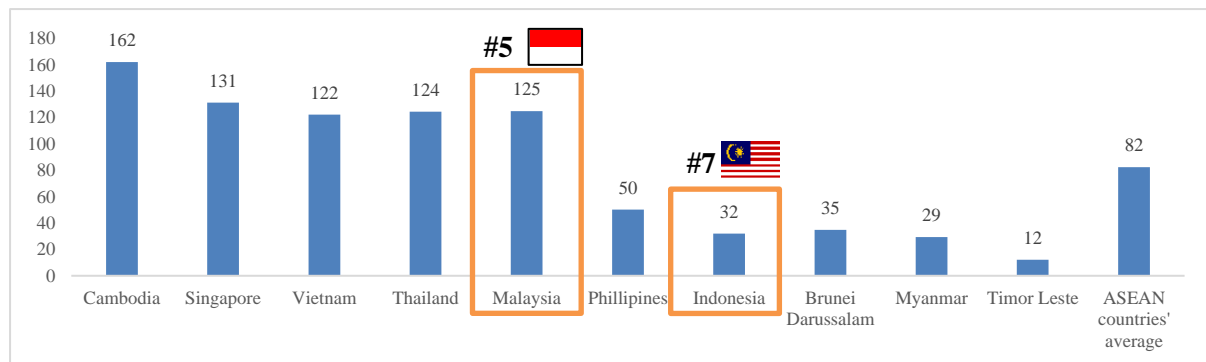
(Source : World Bank and International Monetary Fund, 2023)

High interest rates lead to stronger bank profitability, as presented by Net Interest Margin/NIM (Aviliani, 2022). However, if we switch to another perspective, it also has another meaning. With high NIM, banks might distribute loans passively. This means that with higher loan interest rates, banks are able to obtain large profitability even though their loan distribution is low as seen in Graph 3 which explained although Indonesia banking profitability performance was recorded constantly grew, loan distribution in Indonesia was considered still not optimal because it had not reached the loan growth target set by Bank Indonesia over the last 3 years.



Graph 2. Indonesia Net Interest Margin Performance and Loan Growth
 (Source : processed data, 2024)

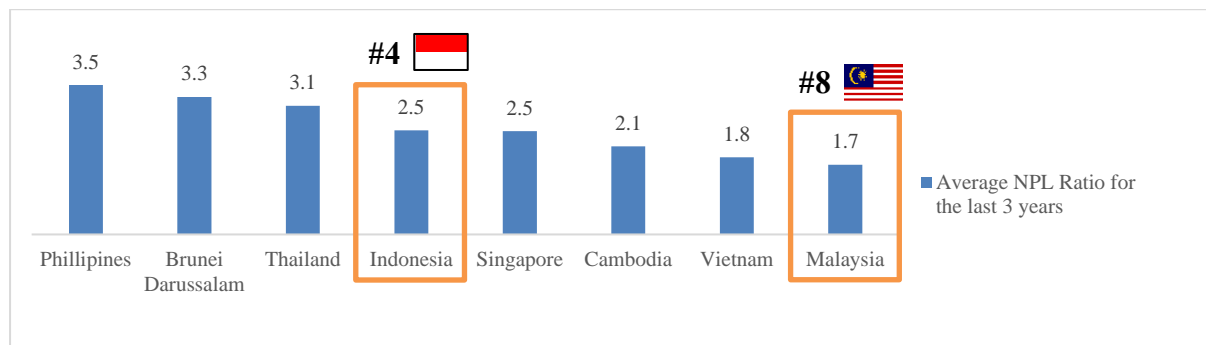
When compared with other ASEAN countries as shown in Graph 3, Indonesia has the position of loan distribution level to GDP fourth from the bottom. In the last 3 (three) years, the average loan distribution per GDP has been at 32%. The low percentage share of Indonesia loan distribution to GDP shows that there is still loan financing capacity that has not been utilized optimally (PwC, 2019).



Graph 3. Average Credit Distribution per GDP in ASEAN Countries over the last 3 years (in %)
 (Source : World Bank, 2024)

High credit interest rates are due to the high credit risk that a bank has (Budisantoso and Nuritomo, 2018). Based on Graph 4, Indonesia bank risk is in 4th highest position among ASEAN countries, while Malaysia has the lowest credit risk. This shows that while distributing loan, banks in Indonesia face quite high risks (World Bank, 2023).

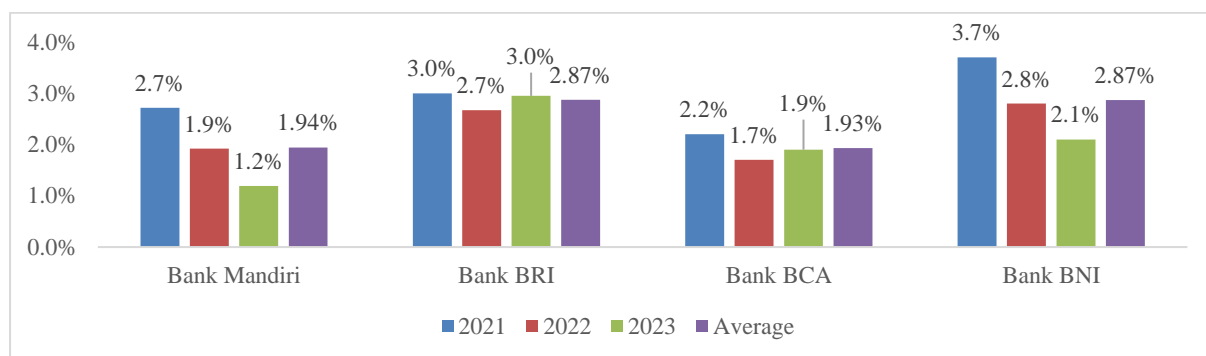
Graph 4. Average NPL Ratio of ASEAN Banks for the Last 3 Years (in percentage, %)



Graph 5. Average NPL Ratio of ASEAN Banks for the Last 3 Years (in %)
 (Source : World Bank, 2023)

To explain this factual problem of high credit risk trends and its impact on determining bank performance both NIM and loan productivity in Indonesia, this study uses two samples curated by a purposive sampling method. This method is used to produce the most informative sample to explain subject under this study (Muzari *et al.*, 2022). The bank criteria used to obtain samples are (1) having strong capital as a bank buffer in protecting the company from losses resulting from loan risk and (2) having the ability to manage loan quality well.

In Indonesia, there are 4 banks that have the biggest capital categorized as KBMI 4 (Otoritas Jasa Keuangan, 2023), namely Bank X, Bank Y, Bank BCA, and Bank BNI. In terms of loan quality management, Bank X has the best loan quality management compared to peers that have the same focus on corporate loan (Annual Report of Bank X, 2021 – 2023). This is shown by Bank X’s loan risk is lower compared to others, which is 1,94% as shown in Graph 5. However, this is actually different from the loan quality of Bank Y which is the only KBMI 4 bank focusing on MSME loan segment (Annual Report of Bank Y, 2021 – 2023). The loan quality of Bank Y tends to be much higher than corporate ones (2,87%). Thus, different loan segmentations produce different bank performance.



Graph 6. Non-Performing Loan (NPL) Ratio of KBMI 4 Bank
 (Source : processed data, 2024)

To find out where there is room for improvements that can be implemented at Banks in Indonesia (Bank X and Bank Y), a benchmarking analysis was carried out on similar banks in Malaysia, a country with a close economic structure to Indonesia. Bank Z is used as a comparison with the consideration that it is one of the top banking leaders in Malaysia which has been established for 73 years and it has credit risk management capabilities above the industry average, namely 1.68%, which is the average NPL of the bank in Malaysia by 1,7% over the last 3 years (Annual Report Bank Z, 2023). In addition, Bank Z is a bank in Malaysia with the most complete disclosure of data and information compared to other banks which are more limited in disclosing data and information.

Due to these significant different credit risk between banks in Indonesia and Malaysia, this study aims to know the reason behind that based on risk management and related banking regulation implemented in each country also analyze credit risk impact on bank performance. Lastly, this study

contributes to give advice for policy makers in Indonesia to control credit risks that play significant role in loan interest rate calculations.

Previous studies conducted by Kabir et al. (2020), Twum et al. (2020), Priyadi et al. (2021), Contreras et al. (2022), Naili and Younes (2022), and Anthony and Suresh (2023) analyzed the determinants of credit risk including microeconomic factors that focus on financial ratios that need to be considered in order to maintain credit risk stability (ROA, ROE, CAR, LDR, and BOPO), and macroeconomic factors that influence credit risk are macroeconomic factors of a country, namely GDP, inflation, and unemployment rate. The difference between this study and previous studies is that this study analyzes the causes of high credit risk in Indonesia compared to Malaysia in terms of bank risk management and related banking regulations implemented in each country. To manage credit risk, intensive banking risk management is needed and prioritizes prudence (Sphak, 2021). According to IIA (2020), The Three Lines Model helps companies identify the most appropriate structures and processes to achieve corporate strategies and objectives and accommodate strong risk management. Therefore, research analyzing the causes of high bank credit risk in Indonesia from the perspective of risk management and related banking regulations is still limited. On this basis and based on the findings that have been presented previously, this study was conducted with the aim of analyzing the differences in Indonesia's higher credit risk compared to Malaysia based on risk management and related banking regulations implemented in each country.

This study is divided into six sections. The first section consists of an introduction, the second section discusses the literature review, and the third section provides insights into the methodology. The fourth section explains result and findings, the fifth narrates discussion, while the last section offers conclusions, research limitations, and implications.

LITERATURE REVIEW

Loan

Loan is a transfer of right to use capital or assets from a commercial bank to a debtor within a certain period of time for a certain fee based (interest and non-interest fee) on the principle of unconditional return (Wei Wu *et al.*, 2022). In determining loan interest rates, the important thing to pay attention to is the specific characteristics of the loan which include the size of the debtor and loan maturity (Sphak, 2021). Loan that has a short term (short maturity loan) has a smaller loan risk compared to loan with a long term (long maturity loan). This can happen because the risk of uncertainty in long-term loan payments is greater and loan risk is higher. Apart from that, based on the size of the debtor, MSME loan has a higher risk compared to corporate loan, which results in higher interest rates for MSME loan than corporate loan because they have limited business management capabilities and the amount of collateral that can be guaranteed (Wang *et al.* 2020; Gyimah *et al.*, 2021; and Krasniqi *et al.*, 2023). Corporate loan has lower risk than MSME loan, because corporate companies have more reliable information, which at least includes audited financial reports, a clear organizational structure, and established operational standard provisions (Székely, 2020 and Wang *et al.*, 2020). Based on SE BI No. 15/1/DPNP, the components of the loan interest rate consist of 4 parts, namely: Cost of Funds for Credit (HPDK) (arising from fund collection activities), overhead costs, and profit margin, and estimated risk costs.

Credit Risk

Credit risk is the potential for bank losses because the debtor has not and/or does not pay the credit installments agreed with the bank on time according to the agreed time period (Belkhaoui, 2020 Saleh & Malik, 2020). According to Shajari and Shajari in Belkhaoui (2020), higher credit risk reflects the low quality of financing management and a greater proportion of non-performing assets. Credit risk can be influenced by various internal and external factors of the bank.

Generally, credit risk is calculated using the Net Performing Loan (NPL) ratio. If the NPL is higher, it shows that the bank's health is decreasing and this also has an impact on decreasing the level of credit distribution due to the bank's lack of professionalism in managing credit. Meanwhile, a decreasing NPL ratio can indicate that the bank has made improvements to credit quality which will be followed by an increase in credit distribution (Mustafa, 2022).

An increase in bad loans can also erode bank capital because banks have to use their capital by setting aside a certain amount of funds to form reserves for loan losses and reduce company profitability (Ozil in Saleh & Malik, 2020). At the same time, the amount of capital has a significant impact on the rate of credit expansion (Mustafa, 2022). On this basis, credit risk is the most challenging risk faced by banks (Saleh & Malik, 2020 Hunjra 2020).

Risk Management

Risk is a condition, event or uncertainty in the future that has an impact on the company's strategic objectives (Sphak, 2021). To identify, measure and monitor risks, a series of procedures called risk management are required. According to IIA (2020), The Three Lines Model helps companies to identify the most appropriate structures and processes to achieve company strategies and goals and accommodate strong risk management. The organizational structure and division of job duties are fundamental. The function of each line is as follows:

- a. The first line as the Risk owner unit is the unit that directly identifies and manages risks in business processes;
- b. The second line as an independent Risk Management and compliance function is a unit that measures, monitors and treats Risk in aggregate, develops the company's Risk Management methodology and policies; And
- c. The third line as an Internal Audit function is a unit that ensures risk governance and control is implemented effectively by the company.

Bank Performance

1. Net Interest Margin

Research conducted by Endri *et al.* (2020) stated that net interest margin (NIM) is the difference between the income and expenditure of the bank interest divided by the total value of bank assets. Credit risk has a significant negative effect on Net Interest Margin (NIM), which means that the higher the NPL ratio, the lower the banking NIM ratio. This is because depositors require a higher premium to keep their savings in risky banks, namely banks with high NPL ratios. An increase in savings interest, assuming other factors are constant, will contribute to a decrease in NIM, thereby establishing an inverse relationship between non-performing loans and NIM.

The increase in banking credit risk is caused by an increase in savings interest rates which causes the number of bad loans to increase, thereby reducing bank interest receipts. With the reduction in bank income from the credit side and the increasing burden on savings funds from the direct cost side, the bank's profit margin is experiencing (Khan and Abdul, 2020).

2. Loan Productivity

In lending concept, loan productivity calculates output in the form of the amount of loan disbursement against input in the form of funds collected from the community, namely third party funds (DPK). According to (Agoraki and Georgios, 2021), banks will become more risky when they have high loan distribution growth, and vice versa. A bank's ability to distribute loan and take risks can be seen from its ability to regulate and manage loan distribution effectively (Mustafa *et al.*, 2022).

METHODS

This study uses a case study method as research method. Case study is a research method that aims to explore and understand the meaning that individuals or groups of people think comes from social or humanitarian problems (Creswell & Creswell, 2018). This study uses an explanatory case study with the aim of explaining 'why' and 'how' a certain phenomenon occurs (Priya, 2021). In this regard, this study aims to analyze the "why" and "how" the causes of a series of high credit risks phenomenon which has an impact on bank performance such as NIM and loan productivity using multiple unit analysis, they are Bank X, Bank Y, and Bank Z.

The study approach used is descriptive analysis, which is a technique that is able to explain an event and its characteristics through careful interpretation of data, combining the theoretical framework used, and including literature studies to enrich the findings (Turale, 2020). This study uses data and

information obtained from the official websites of Bank X, Bank Y, and Bank Z for the period 2021 – 2023 including annual reports, quarterly performance reports, corporate presentation documents, and published reports on risk exposure and capital to provide a comprehensive overview and understanding of the results of processed data from company.

Company Short Profile

Bank X

Bank X is a combination of 4 (four) government banks which have different functions and roles in the development of the Indonesian economy, merging into one entity called Bank X. Based on this historical background, Bank X has a combination of banking business experience in the corporate segment which continues to develop to this day. Bank X's business lines include savings product businesses, loan products, various banking services. To carry out its business activities, the Bank's marketing network consists of 1 Head Office located in Jakarta, 12 (twelve) Regional Offices, 137 Domestic Branch Offices, 7 Overseas Branch Offices, 2.465 sub-branch offices, and 130.100 Laku Pandai Agents (Bank X Annual Report, 2023).

Bank Y

Bank Y is the oldest bank in Indonesia which was founded in 1895. Initially, Y was a mosque fund management body in Purwokerto to manage the placement of funds and distribute funds to village communities with a simple scheme and low interest rate, so that they could be free from bondage loan shark. To support Indonesian people of banking needs, Y is the first bank in Indonesia to receive the title of public bank. History has proven that Y has strategic role in developing Indonesian economy and MSME community. Y's marketing network consists of 1 Head Office located in Jakarta, 18 Regional Offices, 453 Branch Offices, 556 Sub-Branch Offices, and 740,818 Laku Pandai Agents (Bank Y Annual Report, 2023).

Bank Z

Bank Z is a subsidiary of United Overseas Bank Limited ("UOB") headquartered in Singapore. Bank Z offers conventional and sharia banking services to its customers. UOB has adopted a customer-centric approach to create long-term value by remaining relevant through an entrepreneurial spirit and doing the right thing for its customers. Bank Z has 3 (three) regional offices, namely Federal Territory – Negeri Sembilan (Central Area I), Federal Territory – Selangor (Central Area II), and Selangor (Central Area III). Bank has 55 branch offices throughout Malaysia.

Measurement

a. Credit Risk

Measurement tools used for calculating credit risk, namely as follows:

$$NPL = \frac{Bad\ Loans}{Total\ Loan}$$

b. Bank Performance

Indicators	Formula
Net Interest Margin	$NIM = \frac{Net\ interest\ income}{The\ average\ productive\ asset\ that\ earns\ interest}$
Loan Productivity	Credit growth over 1 (one) time period

Research Steps

To analyze and answer questions from research problems in this study, the Author carried out the following research steps:

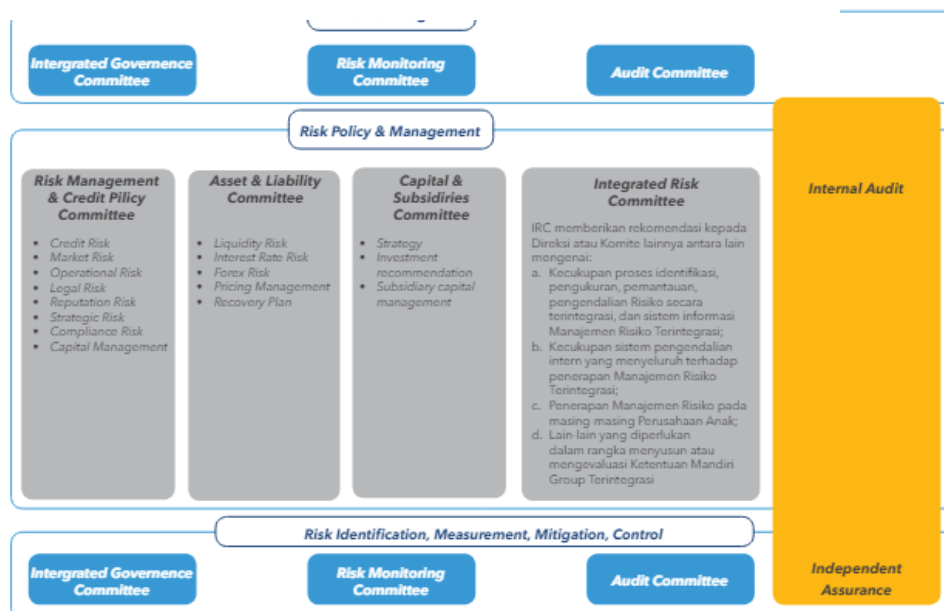
- 1) Review banking architecture in Indonesia and Malaysia including banking supervisory and regulatory institutions, banking regulations, and an overview of the banking industry in each country.
- 2) Download data information of Bank X, Bank Y, and Bank Z including annual reports, quarterly performance reports, corporate presentation documents, and publication reports on risk exposure and Bank capital during 2021 - 2023.

- 3) Review organizational structures and policies at Bank X, Bank Y, and Bank Z including marketing networks to support business optimization, operational segmentation characteristics, strategies from each operational segmentation to strengthen the savings and loan business, and the Bank's steps in managing credit risk.
- 4) Input required financial data from Bank X, Bank Y, and Bank Z, both consolidated Bank data and operational segmentations based on annual report disclosure.
- 5) Create a trend of credit risk analysis, Net Interest Margin, and credit growth of Bank X, Bank Y, and Bank Z.
- 6) Analyze differences in risk management organs (The Three Lines Model) between Bank X, Bank Y, and Bank Z.
- 7) Analyze differences in banking regulations adopted by Bank X, Bank Y, and Bank Z as disclosed in the annual report.
- 8) Draw conclusions on the differences in credit risk determinants based on risk management aspects and banking regulations between banks in Indonesia and Malaysia.
- 9) Provide policy suggestions for Indonesia banks and regulators in order to control credit risk which will later impact bank performance.

RESULTS

Bank X

Based on Bank X Annual Report (2023), the implementation of The Three Lines Model at Bank X is (1) First Line which is the risk owner whose function is to manage the risks of each work unit. (2) Second Line consists of a risk management unit whose task is to carry out supervision and monitoring functions. The Board of Commissioners carries out risk oversight functions through the Audit Committee, Risk Monitoring Committee and Integrated Governance Committee. To support the implementation of risk management, the Board of Directors has 4 (four) organs, namely the Integrated Risk Committee (IRC), Risk Management & Credit Policy Committee (RMPC), Assets and Liabilities Committee (ALCO), and Assets and Liabilities Committee (ALCO).

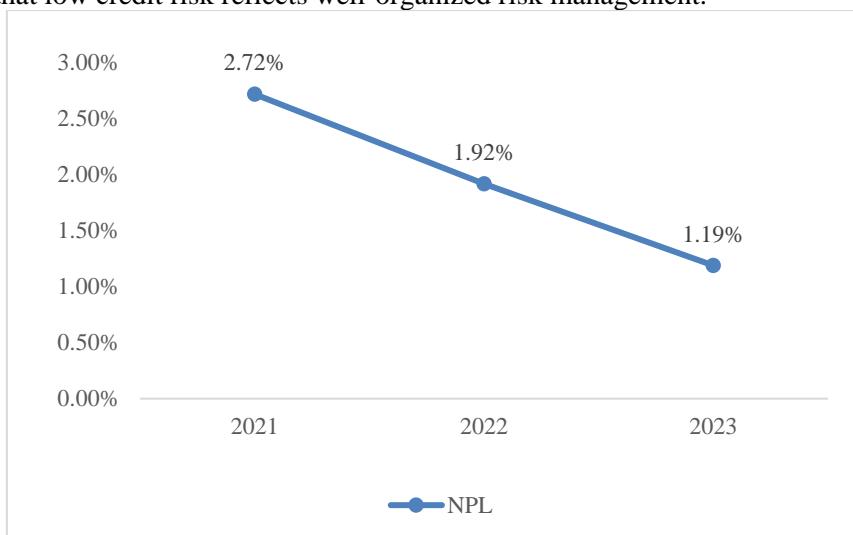


Graph 7. Risk Management Governance Structure of Bank X
 (Source : Annual Report Bank X, 2023)

The Integrated Risk Committee (IRC) is a committee formed to assist the Board of Directors in preparing Integrated Risk Management policies and improving or perfecting it. Risk Management & Credit Policy Committee (RMPC) is a committee formed to assist the Board of Directors in identifying,

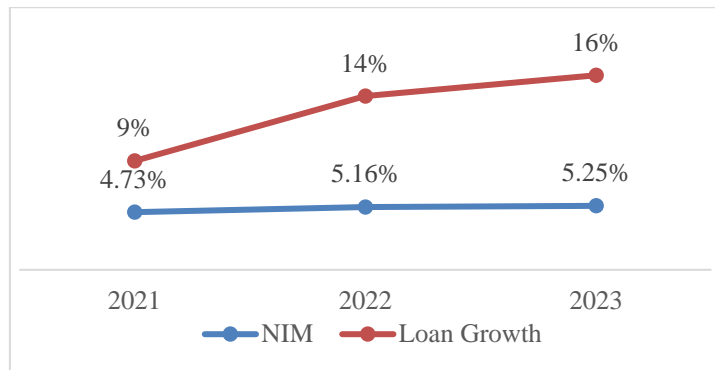
measuring and monitoring risks, establishing risk management policies and strategies, formulating credit policies, supervising the implementation of credit policies, monitoring the development and condition of the credit portfolio, and provide suggestions for corrective steps. The Assets and Liabilities Committee (ALCO) is a committee formed to assist the Board of Directors in carrying out the function of determining strategies for managing assets and liabilities, determining interest rates and liquidity, as well as other matters related to the management of bank assets and liabilities, as well as monitoring and implementing the Recovery Plan when the Company is in a financial pressure/crisis condition. The Capital and Subsidiaries Committee (CSC) is a committee formed to assist the Board of Directors in managing Subsidiaries, including determining strategies for managing Subsidiaries, capital participation, capital release, determining members of the Board of Directors and/or members of the Board of Commissioners of Subsidiaries as well as remuneration for Members of the Board of Directors and/or or Member of the Board of Commissioners of a Subsidiary. And (3) the Third Line is staffed by internal audit to carry out the assurance function in ensuring the effectiveness of risk management implementation (Bank X Annual Report, 2023).

Bank X classifies NPL credit in accordance with the provisions of POJK No. 40/POJK.03/2019. The bank's NPL ratio is experiencing a downward trend, indicating that there is an improvement in the quality of bank credit, which can be seen from Graph 7. The improvement in bank credit risk on a consolidated basis is mainly supported by improvements in credit quality in corporate credit, which is Bank X's dominant credit segmentation (Bank X Annual Report, 2021 to 2023). Shajari in Belkhaoui (2020) states that low credit risk reflects well-organized risk management.



Graph 8. Bank X's Credit Risk
(Source : Annual Report Bank X, 2021 – 2023)

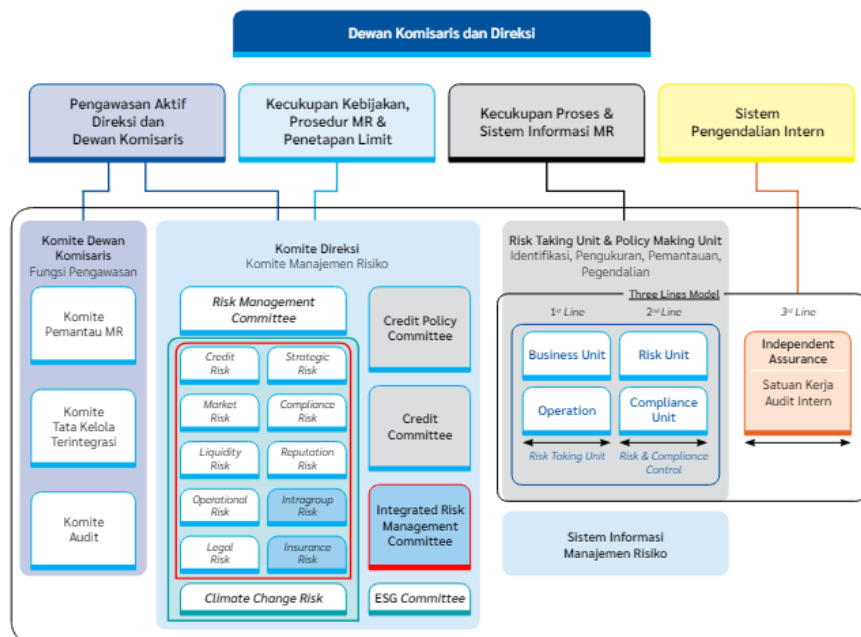
Bank X's NIM is experiencing an increasing trend accompanied by positive credit growth as shown in Graph 8. This increase was caused by an increase in the Basic Credit Interest Rate (SBDK) for all Bank X business segments in 2022 by 0.05% in line with improving economic conditions in Indonesia after COVID-19 which had an impact on increasing the company's interest income performance. NIM growth is accompanied by credit growth, indicating that banks that have more interest income on productive assets are considered capable of increasing the total loans or credit that banks will provide to the public (Gayo *et al.*, 2020).



Graph 9. NIM and Loan Growth of Bank X
 (Source : Annual Report Bank X, 2021 – 2023)

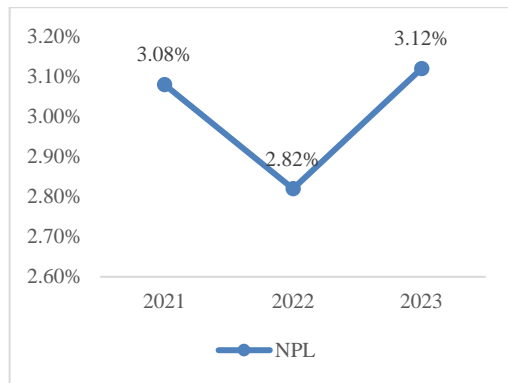
Bank Y

Y applies The Three Lines Model theory in implementing risk management as shown in Graph 9. First Line Model is supervision carried out by the Business/Operational work unit as the party responsible for maintaining the quality of output and business processes in accordance with established policies and procedures. Second Line of Model is the implementation of supervision and monitoring functions carried out by the risk management work unit and compliance work unit as regulated in Bank Indonesia regulations. The Third Line Model is supervision carried out by internal audit through evaluation of the First Line and Second Line and providing reports to the President Director and Board of Commissioners independently (Bank Y Annual Report, 2023).

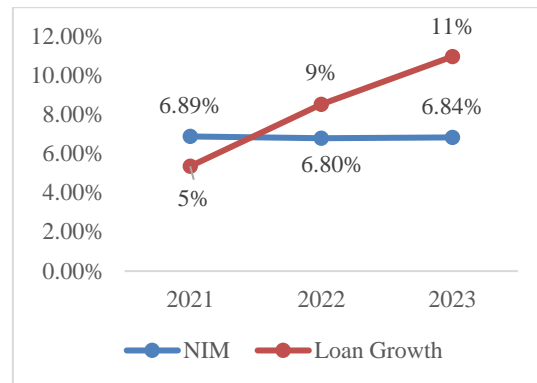


Graph 10. Risk Management Governance Structure of Bank Y
 (Source : Annual Report Bank Y, 2023)

Y classifies NPL credit referring to the provisions of POJK No. 40/POJK.03/2019. The bank's NPL ratio experienced fluctuations during 2021 to 2023 as shown in Graph 10. In 2023, banks will experience a decline in credit quality. According to Shajari in Belkhaoui (2020), higher credit risk reflects the low quality of financing management and a greater proportion of non-performing assets. So, Bank Y needs to be more careful in distributing credit because there is a history of high credit risk.



Graph 11. Bank Y's Credit Risk
(Source : Annual Report Bank Y, 2021 – 2023)



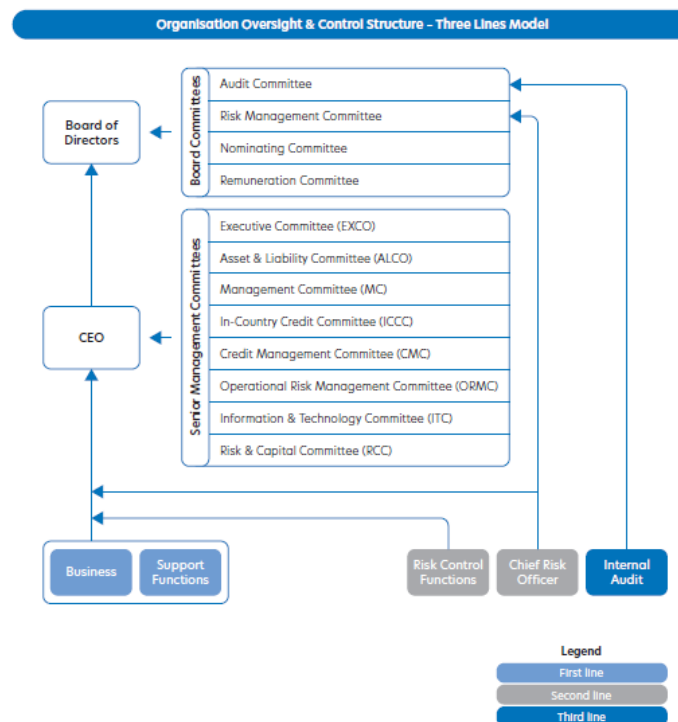
Graph 12. NIM and Loan Growth of Bank X
(Source : Y Annual Report, 2021 – 2023)

Y's NIM is experiencing a downward trend. This indicates that there is a decline in the company's revenue performance due to impact of loss modification policy in corporate segment, namely Bank has charged potential losses that have not yet occurred in the corporate segment. Nonetheless, Bank credit distribution grows positively because it relies on the micro business segment which has strong resilience in the recovery period after the Covid-19 pandemic (Bank Y Annual Report, 2023).

Bank Z

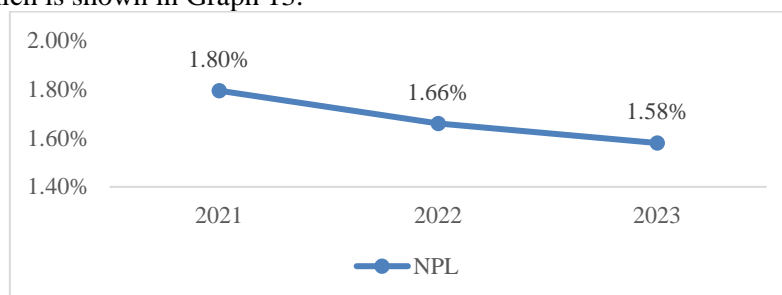
In carrying out the risk management function, Bank UOB implements The Three Lines Model at Bank UOB with details of the risk management governance structure (Bank Z Annual Report, 2023) as follows:

- a. The First Line (Risk Owner) is run by business and supporting units which have primary responsibility for implementing and implementing effective controls to manage risks arising from their activities.
- b. Second Line (Risk Oversight) is carried out by the Risk Management Committee) and the Chief Risk Officer (CRO) to carry out independent review and monitoring of the Bank's risk profile and highlight any vulnerabilities and significant risk issues to the respective senior management committees. In supporting the supervision and monitoring function, RMC has 8 (eight) risk management committees under the Board of Directors, namely the Executive Committee (EXCO), Management Committee (MC), Asset and Liability Committee (ALCO), In-Country Credit Committee (ICCC), Credit Management Committee (CMC), Information & Technology Committee (ITC), Operational Risk Management Committee (ORMC) and Risk and Capital Committee (RCC). To support the Risk Management Committee in focusing on monitoring credit risk, the Bank has a Credit Management Committee organ.
- c. Third Line is carried out by the Bank's internal auditors who carry out risk-based audits covering all aspects of the First and Second Line to provide independent assurance to the CEO, Audit Committee (AC) and Board of Directors regarding the adequacy and effectiveness of the risk management and internal control systems.



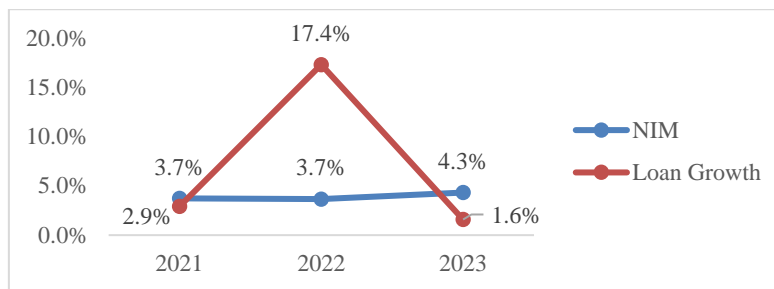
Graph 13. Risk Management Governance Structure of Bank Z
 (Source : Bank Z Annual Report, 2023)

In categorizing NPL credit, Bank Z classifies collectability based on the number of days with a credit arrears period that is longer than the provisions adopted in Indonesia. Credit collectibility provisions at Bank Z are divided into 5 (five) types with the following details: (1) Pass: no credit arrears, (2) Special mention: 1 to. 90 days in arrears on credit, (3) Substandard: 91 s.d. 270 days in arrears on credit, (4) Doubtful: 271 s.d. 365 days in arrears on credit, and (5) Loss: > 365 days in arrears on credit. NPL is credit that is classified as substandard, doubtful and loss. The bank's NPL ratio has decreased, which means the bank continues to improve credit quality during 2021 to 2023 (Bank Z Annual Report, 2021 – 2023) which is shown in Graph 13.



Graph 14. Bank Z's Credit Risk
 (Source : Bank Z Annual Report, 2021 – 2023)

Bank Z's NIM is stable at around 3.7%. This stable profitability performance indicates that the bank is able to make a profit on the credit disbursed and is able to survive solidly. In contrast to what happened in Indonesia where its NIM experienced a much higher increase compared to loan growth, Bank Z recorded a credit distribution growth performance that continued to increase significantly over the last 3 years (Bank Z Annual Report, 2021 – 2023). According to Mustafa's research (2022), Bank Z's low NPL resulted in a significant increase in bank credit growth with an average growth over 3 years of 7.2% per year.



Graph 14. Bank Z's NIM and Loan Growth
 Source : Bank Z Annual Report, 2021 – 2023.

DISCUSSION

Over the last 3 years, Bank Z has a better average credit risk, namely 1.68% compared to Bank X (1.94%) and Bank Y (2.87%). Credit risk is influenced by microeconomics factors and macroeconomics factors (Kabir *et al.*, 2020; Twum *et al.*, 2020; Qie, 2021; Priyadi *et al.*, 2021; Contreras *et al.*, 2022; Naili and Younes, 2022; and Anthony and Suresh, 2023). But, after conducting an analysis based on risk management aspects and banking regulatory provisions, there were 2 (two) significant differences between those three banks. Based on the risk management aspect, The Three Lines Model of Bank Z appears to be more intensive in managing credit risk, namely with the existence of a Credit Management Committee (CMC) organ in the bank's second line structure. CMC functions to support the CEO and Risk Management Committee to focus solely on managing the Group's and Bank's credit risk exposure. CMC stands as an executive forum to discuss all credit-related issues including framework formulation, policies, processes, infrastructure, methodology, credit risk management systems, credit portfolios and credit risk profile assessments. It monitors and reviews the Bank's credit risk on a monthly basis (Bank Z Annual Report, 2021 to 2023).

On the other hand, Bank X and Bank Y do not yet have a Three Lines Model organ that specifically handles and manages credit risk. The second line component in both banks, namely Risk Management, focuses on managing and monitoring the bank's overall inherent risks, including credit risk, market risk, liquidity risk, operational risk, legal risk, strategic risk, compliance risk, reputation risk, intragroup risk, and insurance risk (Annual Report of Bank X and Bank Y, 2023). So, in order to improve credit quality, Bank X and Bank Y can consider adding a committee organ under the Board of Directors that focuses only on managing credit risk.

Table 1. Number of Board of Directors Committee Meetings of Each Bank related to Credit Risk

Name of Bank	Number of board of directors committee meetings discussing credit risk in the last 3 years
Bank X	26
Bank Y	30
Bank Z	36

Based on Table 1, it shows that Bank Z is more intensive in monitoring and managing credit risk by holding 36 board of directors committee meetings in the last 3 years or it means every month the board of directors holds one meeting to focus only on discussing the bank's credit risk (Bank Z Annual Report, 2021 to 2023). Meanwhile, Bank X supervised credit risk in the board of directors' committee forum 26 times and Y 30 times in the last 3 years with meeting material discussing all bank risks including credit risk (Annual Report of Bank X and Bank Y, 2021 to 2023). Bank Z board of directors committee meeting discussed credit risk in a more focused and in-depth manner compared to banks in Indonesia.

The second one comes from differences in banking regulations between Indonesia and Malaysia regarding the classification of credit collectibility periods as shown in Figure 1. Bank X and Bank Y refer to POJK No. 40/POJK.03/2019, namely "Lancar" is credit that has no arrears, "Dalam Perhatian

“Khusus” is when the credit is 1 to 1 in arrears. 90 days in arrears on credit, “Kurang Lancar” is when credit is 91 to 120 days in arrears. 121 to 180 days in arrears on credit, “Diragukan” is when the credit is 121 to 180 days in arrears. 180 days in arrears on credit, and “Macet” is when credit is in arrears > 180 days in arrears. Meanwhile, Bank Z has different collectibility parameter measures, namely “Pass” when the credit has no arrears, “Special mention” is when the credit is 1 to 100 in arrears. 90 days in arrears, “Substandard” is when credit is 91 to 270 days in arrears, “Doubtful” is when credit is 271 to 365 days in arrears, and “Loss” is when the credit is > 365 days in arrears (Annual Report Bank Z, 2021 to 2023).

Figure 1. Comparison of Bank Collectibility Classifications in Indonesia

Number of days credit arrears	Dalam Lancar	Perhatian Khusus	Kurang Lancar	Diragukan	Macet
	0	1 - 90	91 - 120	121 - 180	>180

→ NPL Loan

(Source : Annual Report Bank Z, 2023)

Figure 2. Comparison of Bank Collectibility Classifications in Malaysia

Number of days credit arrears	Pass	Special Mention	Substandard	Doubtful	Loss
	0	1 - 90	91 - 270	271 - 365	>365

NPL Loan

(Source : Annual Report Bank Z, 2023)

In other words, Bank Z uses a collectibility category with a longer number of days in arrears than the provisions adopted by Indonesia as shown in Figure 1. The difference in days in the collectibility category has an impact on the calculation of credit interest rates. According to Sphak (2021) credit risk it has a positive effect on interest rates, namely it has an impact on the total balance of allowance for impairment losses (CKPN) for each bank because bank will charge a weighted rate allowance for each category of credit collectibility. Based on Table 2, it can be seen that Bank Z has the lowest Allowance for Impairment Losses compared to Bank X and Bank Y with an average Allowance for Impairment Losses balance on total credit of 1.5% (Annual Report Bank Z, 2021 to 2023). Higher Allowance for Impairment Losses has a positive effect on the estimated risk premium charged in credit interest rates (RPOJK 2023).

Table 2. Allowance for Impairment Losses of Bank X, Bank Y, and Bank Z

Year	% Allowance for Impairment Losses		
	Bank Mandiri	Bank BRI	Bank UOB Malaysia
2021	6,7%	8,5%	1,7%
2022	5,5%	8,2%	1,5%
2023	3,9%	6,7%	1,4%

Banks that have higher risks encourage banks to increase credit interest rates (Wang *et al.* 2020; Gyimah *et al.*, 2021; and Krasniqi *et al.*, 2023). Cheaper credit interest rates can increase demand for credit needs (Eltania, 2022 and Wiralaga *et al.*, 2022). Apart from that, lower credit risk also has a positive impact on bank capital which is not eroded due to large Allowance for Impairment Losses, so that bank profitability can be greater (Ozil in Saleh & Malik, 2020). On this basis, the dhi regulator. OJK and BI could consider reviewing the provisions regarding the number of days in arrears as a collectibility parameter to reduce the NPL figure which ultimately has a domino effect on cheaper credit interest rates and more optimal credit distribution.

CONCLUSION

To find out the causes of high credit risk in Indonesia other than caused by macroeconomic and microeconomic factors, a benchmarking case study analysis was conducted with a bank in Malaysia that has low credit risk, namely Bank Z. Based on the results of the case study analysis conducted by the Author, the difference in credit risk between banks X and Y in Indonesia and Bank Z in Malaysia is caused by, among others, differences in risk management and banking regulatory policies in each country. These differences in risk also drive differences in the performance results of each bank.

1. Risk management organ differences (The Three Lines Model)

Bank Z has a Credit Management Committee (CMC) organ in the Three Lines Model structure that acts as a second line focused on supervising and monitoring credit risk only, while Bank X and Bank Y do not have a similar organ. Both Bank X and Bank Y have a Risk Management Committee as part of the Three Lines Model structure that acts as a second line focused on supervising and monitoring all bank risks, one of which is credit risk. Thus, the level of intensity of Bank X and Bank Y in managing credit risk is still not as optimal as Bank Z.

2. Differences in banking regulations

Based on banking regulations, there are differences in the regulations for categorizing credit collectibility based on the number of days of credit arrears in Indonesia and Malaysia, where the regulations implemented in Malaysia appear to be looser than in Indonesia. This has an impact on the CKPN balance and the imposition of higher risk premium estimates in Indonesia and ultimately has an impact on the calculation of higher credit interest rates.

3. Bank performance results

Bank Z's credit risk has a downward trend over the past 3 years compared to Bank X and Bank Y which experienced fluctuations in credit risk. This has an impact on Bank Z's NIM which is also lower, but positive credit growth. In contrast to banks in Indonesia, which show an increase in NIM and credit growth.

Table 3. Banks Performance Summary in Indonesia and Malaysia

Bank	Average NPL for the last 3 (three) years	Average Performance Performance the last 3 (three) years	
		NIM	Loan Growth
Bank X	↓ 1,94%	↑ 5,05%	↑ 13,05%
Bank Y	↑ 2,87%	↑ 6,84%	↑ 8,29%
Bank Z	↓ 1,68%	↓ 3,91%	↑ 7,29%

Based on the results of the research conclusions above, this study can be used as a consideration for banking regulators in Indonesia in reviewing existing regulations and/or drafting new regulations in the future related to credit risk management that impacts bank performance, one of which is a review of POJK No. 17 of 2023 concerning the Implementation of Governance for Commercial Banks. Based on this regulation, there is no clause that requires banks to have a governance organ in the Three Lines Model that focuses on credit risk supervision and monitoring, so this study can be used as a consideration to review these regulations and/or draft new regulations related to bank credit risk management governance.

This research is expected to contribute to various parties. For academics and researchers, it is expected to enrich insight with references regarding the credit risk of Indonesian and Malaysian banking. For the banking industry, it is expected that this research can be input for management in improving business performance. For investors, it is expected that this research will be a consideration in carrying out investment activities in banking by considering bank credit risk. For the government, this research can be a consideration in determining regulations related to banking and credit risk in Indonesia.

LIMITATIONS AND RECOMMENDATIONS

This research has some limitations such as it only uses secondary data that can be available publicly in 2021 – 2023 period to analyze case studies on banks in Indonesia and Malaysia. So, it is suggested future study use combination of secondary data and primary data that gather from interviews, survey, other primary data. Also, this research only discusses the possibility of different credit risk due to risk management and banking regulatory aspects in 2 (two) Indonesian banks and 1 (one) bank in Malaysia and ignoring macroeconomics and microeconomics. Therefore, future study can compare other factors: political, economy, and social condition to complete the picture of risk and probability in banking industry. And also, future studies can conduct empirical research with a broader context, namely by using a larger number of banks as objects of analysis and more benchmark countries, so that it can be used as a basis for making more comprehensive banking regulations.

REFERENCES

- Agoraki, M. E., and Georgios P. K. (2021). Loan growth, ownership, and regulation in the European Banking Sector: Old versus new banking landscape. *Journal of International Financial Markets, Institutions & Money*, 75, 1 – 22. <https://doi.org/10.1016/j.intfin.2021.101450>.
- Anis, A., Hari, S.P., and Yunnise, P. (2020). Determinant of SMEs Credit in Indonesia: Intern vs Extern Factor. *Advances in Economics, Business and Management Research*, 152, 195 – 206. <http://dx.doi.org/10.2991/aebmr.k.201126.024>.
- Anthony, T.S., and Suresh G. (2023). Determinants of credit risk: Empirical evidence from Indian commercial banks. *Banks and Bank Systems*, 18 (2), 88 – 100. [http://dx.doi.org/10.21511/bbs.18\(2\).2023.08](http://dx.doi.org/10.21511/bbs.18(2).2023.08).
- Bank X. (2022). Annual Report 2021. Bank X: Jakarta.
- Bank X. (2023). Annual Report 2022. Bank X: Jakarta.
- Bank X. (2024). Annual Report 2023. Bank X: Jakarta.
- Bank Y. (2022). Annual Report 2021. Bank Y: Jakarta.
- Bank Y. (2023). Annual Report 2022. Bank Y: Jakarta.
- Bank Y. (2024). Annual Report 2023. Bank Y: Jakarta.
- Bank Z. (2022). Annual Report 2021. Bank Z: Malaysia.
- Bank Z. (2023). Annual Report 2022. Bank Z: Malaysia.
- Bank Z. (2024). Annual Report 2023. Bank Z: Malaysia.
- Aviliani, A. (2022). Indonesian Banking Strategy In Improving Credit Distribution. *Dinasti International Journal of Digital Business Management*, 3(2), 310 – 318. <https://doi.org/10.31933/dijdbm.v3i2>.
- Bank Indonesia. (2024). Survei Permintaan dan Penawaran Pembiayaan Perbankan. Bank Indonesia: Jakarta.
- Bank Indonesia. (2013). Surat Edaran Bank Indonesia No. 15/1/DPNP Tanggal 15 Januari 2013 tentang Transparansi Informasi Suku Bunga Dasar Kredit.
- Belkhaoui, S., Naif, A., and Stefan, F.V.H. (2020). Financing Modes, Risk, Efficiency and Profitability In Islamic Banks: Modeling for the GCC countries. *Cogent Economics & Finance*, 8(1), 1 -25. <https://doi.org/10.1080/23322039.2020.1750258>.
- Budisantoso, T., and Nuritomo. (2018). Bank dan Lembaga Keuangan Lain. Salemba Empat: Jakarta.
- Endri, E., Asti, M., and Hurriyaturrohmah. (2020). Impact of internal and external factors on the net interest margin of banks in Indonesia. *Banks and Bank Systems*, 15 (4), 99 – 107. [http://dx.doi.org/10.21511/bbs.15\(4\).2020.09](http://dx.doi.org/10.21511/bbs.15(4).2020.09).
- Eltania, Merry. (2022). Pengaruh Suku Bunga Kredit, Inflasi, dan Nilai Tukar Terhadap Jenis Penyaluran Kredit. *Contemporary Studies In Economic, Finance And Banking Journal*, 1(1), 25 - 37. <http://doi.org/10.21776/csefb.2022.01.1.03>.
- Gomez, M., Augustin, L., David, S., and David, T. (2020). Banks' Exposure to Interest Rate Risk and The Transmission of Monetary Policy. *Journal of Monetary Economics*, 117, 543 – 570. <https://doi.org/10.1016/j.jmoneco.2020.03.011>.

- Gyimah, K. N., Joseph, O. A., and Paul, F. M. (2022). Lending Methodologies And Smes Access To Finance In Ghana; The Mediating Role Of Credit Reference Information. *Cogent Business & Management*, 9(1), 1 – 22. <https://doi.org/10.1080/23311975.2022.2143075>.
- Hunjra, A.I., Asad M., Hung, P.M., dan Tahar, T. (2020). *Do firm-specific risks affect bank performance?*. *International Journal of Emerging Markets*, 7(3), 664 – 682. <https://doi.org/10.1108/IJOEM-04-2020-032>.
- Institute of Internal Auditor (IIA). 2020. The IIA's Three Lines Model: An Update of The Three Lines of Defense. IIA: USA.
- Kementerian Koperasi dan UMKM. (2023). Dorong UMKM Naik Kelas dan Go Export, Pemerintah Siapkan Ekosistem Pembiayaan yang Terintegrasi. <https://www.ekon.go.id/publikasi/detail/5318/dorong-umkm-naik-kelas-dan-go-export-pemerintah-siapkan-ekosistem-pembiayaan-yang-terintegrasi>.
- Krasniqi, B. A., Mrika, K., and Florin, A. (2023). Relationship Banking, Collateral, And The Economic Crisis As Determinants Of Credit Risk: An Empirical Investigation Of SMEs. *South East European Journal of Economics and Business*, 18(2), 49-21. <https://doi.org/10.2478/jeb-2023-0018>.
- Mohammad, S., Mehmet, A., Rob, D., and Elena, P. (2020). Liquidity Risk Exposure and its Determinants in the Banking Sector: A Comparative Analysis between Islamic, Conventional and HyYd Banks. *Journal of International Financial Markets, Institutions & Money*, 66, 1 – 37. <https://doi.org/10.1016/j.intfin.2020.101196>.
- Mustafa, Muhammad, N., Muhammad, F. (2022). Causality of Credit Distribution in Indonesian Banking. *Jurnal Ilmiah Akuntansi*, 5(1), 212 – 224. <https://doi.org/10.33096/atestasi.v5i1.1077>.
- Muzari, Tapiwa., George, N. S., and Samantha S. (2022). Qualitative Research Paradigm, a Key Research Design for Educational Researchers, Processes and Procedures: A Theoretical Overview. *Indiana Journal of Humanities and Social Sciences*, 3(1), 14 – 20.
- Naili, M., and Younes, L. (2020). The Determinants of Banks' Credit Risk: Review of The Literature and Future Research Agenda. *Wiley Journal*, 1 -27. <https://doi.org/10.1002/ijfe.2156>.
- Naili, M., and Younes, L. (2022). Banks' credit risk, systematic determinants and specific factors: recent evidence from emerging markets. *Heliyon Journal*, 8, 1 – 16. <https://doi.org/10.1016/j.heliyon.2022.e08960>.
- Ndwiga, David M. (2023). Bank Credit Portfolio Allocation In Pre And Post Covid Times: The Power Of Inherent Risks. *KBA Centre for Research on Financial Markets and Policy Working Paper Series*, 74, 2 – 38. <https://hdl.handle.net/10419/271535>.
- Otoritas Jasa Keuangan. (2020). Surat Edaran Otoritas Jasa Keuangan No. 9/POJK.05/2020 tentang Transparansi dan Publikasi Laporan Bank Umum Konvensional.
- Otoritas Jasa Keuangan. (2023). Statistik Perbankan Indonesia. Otoritas Jasa Keuangan: Jakarta.
- Oyebowale, A. Y. (2020). Determinants of Bank Lending in Nigeria. *Global Journal of Emerging Market Economies*, 12(3), 378 – 398. <https://doi.org/10.1177/0974910120961573>.
- Prastyawati, R., Eko S., and Puji L. (2023). Analysis of Loan Disbursement in Indonesia: A Perspective on Business Scale and Industry Characteristics (2017-2022 Period). *Jurnal Pendidikan Tambusai*, 7(3), 25660 - 25674. <https://doi.org/10.31004/jptam.v7i3.10715>.
- Priya, Arya. (2021). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin*, 70 (1), 94 – 110. <https://doi.org/10.1177/0038022920970318>.
- Priyadi, U., Kurnia, D.S.U., Rifqi, M., and Peni, N. (2021). Determinants of credit risk of Indonesian Shari'ah rural banks. *International Journal of Islamic Finance*, Vol. 13 (3), 284-301. <https://doi.org/10.1108/IJIF-09-2019-0134>.
- PwC. (2019). *Indonesia's Fintech Lending: Driving Economic Growth Through Financial Inclusion*. PwC: Jakarta.
- Salah, I., and Malik, A. A. (2020). The Effect of Credit Risk, Liquidity Risk And Bank Capital On Bank Profitability: Evidence From An Emerging Market. *Cogent Economics & Finance*, 8(1), 1 – 13. <https://www.tandfonline.com/action/showCitFormats?doi=10.1080/23322039.2020.1814509>.

- Singh, S. S., Basuki, B., Rahmat, S. (2021). The Effect of Non-Performing Loan on Profitability: Empirical Evidence from Nepalese Commercial Banks. *Journal of Asian Finance, Economics and Business*, 8(4), 709 – 716. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0709>.
- Sphak, S. (2021). Determinants of Corporate Loan Interest Rate: Case of Ukraine. *Visnyk of the National Bank of Ukraine*, 251, 4 – 13. <https://doi.org/10.26531/vnbu2021.251.01>.
- Taherdoost, Hamed. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. *International Journal of Academic Research in Management*, 10 (1), 10 – 38.
- Wahyuni, S., Pujiharto, Siti N. A., and Zulfikar. (2021). Impact of The COVID-19 Pandemic and New Normal Implementation on Credit Risk and Profitability of Indonesian Banking Institutions. *Banks and Bank Systems Journal*, 16(3), 104 – 112. [http://dx.doi.org/10.21511/bbs.16\(3\).2021.10](http://dx.doi.org/10.21511/bbs.16(3).2021.10).
- Wang, X., Han, L. (2020). Bank Competition, Concentration and EU SME Cost of Debt. *International Review of Financial Analysis*, 71, 1 – 35. <https://doi.org/10.1016/j.irfa.2020.101534>.
- Wei Wu, S., Manh, TH., and Phi, HN. (2022). Does Loan Growth Impact On Bank Risk?. *Journal Heliyon*, 8, 1 – 7. <https://doi.org/10.1016/j.heliyon.2022.e10319>.
- Wiralaga, H.K., Karuniana D., and Dewi N. The Effect of Interest Rate of Credit and Third Party Funds on The Number of Credit Distribution at National Private Commercial Banks in Indonesia 2015-2019. *Jurnal Pendidikan Ekonomi, Perkantoran dan Akuntansi*, 7(4), 1 – 12. <https://doi.org/10.21009/JPEPA.007.x.x>.
- World Bank. (2023). *Bank Nonperforming Loans To Total Gross Loans*. The World Bank Group: US.
- Wulandari, Retno. (2019). “Apindo Keluhkan Suku Bunga Kredit yang Terlalu Tinggi”. <https://ekonomi.republika.co.id/berita/pqxbnm370/apindo-keluhkan-suku-bunga-kredit-yang-terlalu-tinggi> (diakses 24 Desember 2023).
- Web <https://data.imf.org/>
- Web <https://data.worldbank.org/>
- Web <https://data.worldbank.org/data-catalog/global-financial-development/>