

Implementation Of Credit Risk Management Basel Principles (Evaluation Study of an Indonesian Commercial Bank)

Joko Sutono^{1*}, Ancella Anitawati Hermawan²

^{1,2}Faculty of Economics and Business, Universitas Indonesia

¹: joko_pujakesuma@yahoo.co.id, ²: ancella.anitawati@ui.ac.id

*Corresponding Author

Diajukan : 6 November 2023
Disetujui : 20 November 2023
Dipublikasi : 1 April 2024

ABSTRACT

The intention of this study is to evaluate the implementation of credit risk management at Bank PQR based on the Basel Principles regarding Management of Credit Risk due to increasing Low-Quality Credit. It adopted a case study approach at Bank PQR, one of Indonesia's commercial banks, in the Corporate Segment with total credit reaching 62% of the Bank PQR credit portfolio using a qualitative descriptive method by conducting document analysis and interviews to collect data. The study sample consists of 30 credit-granting proposals of Bank PQR. First, it evaluated the suitability of the Basel Principles with the regulation of the Financial Services Authority, then analyze Bank PQR document, conduct an interview and last evaluated implementation of credit risk management by providing a score of three if suitable and implemented well, two if suitable and not implemented well and one if not suitable. The result shows the implementation is not by the Basel Principles with a final score of 2.58 out of 3, and the main weakness being the inadequacy of the credit risk environment's development. It recommends the Bank PQR to improve its credit risk environment, such as compliance with regulations, employee training, and implementing good internal controls.

Keywords: Compliance; corporate; credit-granting; low-quality; risk-environment

INTRODUCTION

Brahmaiah (2022) stated that credit risk is the oldest and main risk of banking business activities, where approximately 60% of the bank's balance sheet comprises loans and payments in advance. According to Carlone (2021), credit risk is the possibility that the financial contractor will not be able to fulfill its obligations, thereby causing losses for the lender. Therefore, banks need appropriate and independent credit risk techniques and management to properly carry out credit risk assessments (Witzany, 2017), because an increase in credit risk based on OJK (2017) lowered the bank's health grade.

As a commercial bank, based on internal data in May 2023, Bank PQR distributes funds in the form of lending as IDR 10.34 Trillion. In granting this lending, the Financial Services Authority (OJK) requires a good assessment of prospective debtors' eligibility to minimize credit risk. According to OJK (2017), one of the indicators for assessing Bank Health Grade is the position and trend of Low-Quality Credit (KKR) in the last 12 months. KKR is a comparison between the number of bad performance loans (collectibility 3, 4, and 5), collectibility 2, and collectibility 1 (result of restructuring loans) to the total credit for third parties, excluding credit for banks. KKR data on the PQR Bank for the last 12 months are depicted in Figure 1.





Figure 1. Low Quality Credit – Bank PQR
Source: Bank PQR Master Loan (2022, 2023)

Basel (2000) stated that banks need to design and implement strong risk and capital management to provide confidence for them to face any possible risks related to credit-granting activities. Therefore, due to an increasing KKR trend over the last 12 months is an indicator of increasing credit risk at the Bank PQR, it is necessary to evaluate the implementation of Bank PQR management for credit risk.

LITERATURE REVIEW

Previous Research

Anadra (2023) studied a pattern of credit risk management implementation in one of Indonesian Banks, using interviews and questionnaires, the study found that insufficient internal risk technique and system related to credit management are two main problems in its implementation. Anadra (2023) explained the use of questionnaires raises concerns that the information submitted is incomplete or incorrect, considering that the data required is very sensitive. Saputra and Wijayanti (2023) also studied implementation of credit risk management in one of fintech companies in Indonesia using interviews and found that optimal supervising credit risk influences a more sustainable risk management process. This study differs from previous study in terms of collecting data methodology where there is no previous research using document analysis of credit proposals to obtain a more comprehensive result.

The management of credit risk according to Lam (2017) is the management of credit risk as a mechanism for understanding, calculating, surveillance, and controlling credit risk at individual and portfolio levels. Koulafetis (2017) stated that several factors related to the management of credit risk must be proactive, starting from the beginning of credit processing, performed carefully by people who have skills, experience, and knowledge, accurately designed systems according to business complexity, and regularly updated. Implementing good credit risk management benefits banks. According to Joseph (2013), the main benefit of such management is maximizing profits from potential credit opportunities. According to Kidane's (2020) research, credit risk management has major implications for bank profits. Khalid et al (2021) find that bank profits are strongly influenced by the wise and appropriate management of credit risk. Aldoseri (2021) also found that banks' financial performance is influenced by risk management practices and determining appropriate strategies to face various risks.

In addition to maximizing profits, Hartanto and Setijaningsih (2023) in their research found that good implementation of credit risk management will minimize the bad debts that arise due to high credit growth targets. Siddique et al (2021) also found that implementing appropriate credit risk techniques, strategies, and management could reduce the level of bad loans. The reduction in bad loans is also a finding of Qureshi and Lamarque (2022), who state that strong control of credit risk and supervision by a competent and independent Chief Risk Officer (CRO) could reduce bank

credit risk. Good credit risk management also influences bank compliance with credit policies (Joseph, 2013). As Purba (2021) shows, the implementation of sound governance can prevent credit granting, which has the potential to endanger banks because credit is not provided based on banking prudential principles and officers lack responsibility in verifying the correctness of prospective debtor data. According to Permatasari (2020), bank governance practices influence a bank's credit risk, where banks with a governance rating of 1 have a clear management of credit risk.

This study used Credit Risk Management Principles to evaluate the implementation of Bank PQR's credit risk management. This principle was developed against the background of financial institutions' difficulties due to the main problems of lack of credit standards, weak portfolio management of risk, and lack of attention to changes in economic conditions or other circumstances that resulted in a decline in credit quality. This principle consists of 17 principles divided into five dimensions: developing an appropriate environment of credit risk; credit granting using a sound process; sustaining an appropriate process of loan management, risk quantification and monitoring; sufficient internal control of credit risk and effective supervisory role

METHODS

This study used a case study approach at Bank PQR, one of Indonesia's private banks, using descriptive qualitative research methods. The scope of the research is the Corporate Segment, where methods to collect information and data are document analysis and interviews. The Corporate Segment is a segment for customers with a minimum credit limit of IDR 25 billion and an annual revenue \geq IDR 50 billion.

Document analysis was performed by analyzing PQR's internal documents of Bank PQR, including credit-granting policies and procedures, master loan data, and credit application proposals. Document analysis aims to provide more accurate evaluation results for the implementation of credit risk management at the Bank PQR according to Anadra's (2023) suggestion. This analysis provided an evaluation using Evaluation Questions in Anadra (2023).

In conducting a document analysis, apart from analyzing policy documents and master loans, the study also analyzed the Bank PQR credit proposal. The samples selected are 30 credit proposals, consisting of 25 credit proposals to core debtors based on the largest amount and five credit proposals to related debtors based on the largest amount. The sample selection criteria were determined by OJK (2017), banks must intensively supervise related and large debtors. This study sample represents 52% of the total credit as of May 2023.

Interviews conducted using interview question in Anadra (2023) after the document analysis were completed to determine why management of credit risk principles has not been implemented properly and to confirm if there are still evaluation questions that have not been answered based on document analysis or if there is something that needs to be researched in more depth.

Each interview process was performed for 30 to 45 minutes and documented in the form of notes, as none of the interviewees agreed to record the interview. Nine interviewees were included: Department Head (DH) of Corporate Business, Credit Administration, Credit Review, Credit Legal, Corporate Special Asset, Credit Risk, Credit Audit, Senior Credit Compliance Specialist, and Senior Credit Analyst. All interviewees' positions are one level below the division head except for the Senior Credit Compliance Specialist because the position of the Department Head of Credit Compliance is vacant and the Senior Credit Analyst is under the supervision of the Department Head of Corporate Business. They were selected because of the credit-granting process in Bank PQR involving these nine units.

The study first evaluated the suitability of the Basel Principles related to The Management of Credit Risk with relevant regulations issued by the OJK to ensure that the OJK regulations regarding the management of credit risk are in accordance with the Basel Principles. The next stage was to evaluate the implementation at Bank PQR using predetermined Evaluation Questions. The results were determined by assigning a score based on answers to the Evaluation Questions combined with interview results. The scoring used the criteria of Hermawan (2009), a score of three if suitable and implemented well, two if suitable and not implemented well and one if not suitable. The final score of the implementation was determined based on the overall principles average score.

RESULT

The evaluation of the implementation of credit risk management in Bank PQR showed an average final score of 2,58 from a maximum score of 3. Based on the five dimensions, none is implemented in accordance with the Basel Principles, whereas if we look at the 17 existing principles, there is only Principle 16 implemented in accordance with the Basel Principles. Based on evaluation, as of September 2023 there are 19 out of 62 credit policies outdated in Bank PQR. In addition, evidence was found on the Board of Commissioners' (BOC) approval of the credit application where the interview result with Senior Credit Analyst explained that "the process of granting credit must go through approval from BOC first". Senior management in Bank PQR is also responsible for implementing credit risk strategies and developing policies at both the individual and credit portfolio levels (Principle 2). However, it does not follow a clear mechanism to ensure that all employees understand the set policies. In addition, the bank's PQR has a policy to mitigate the risk of credit concentration. Nevertheless, according to the evaluation, the implementation is not good enough where there is an excess of risk tolerance (as of September 2023, 13 out of 20 economic sectors financed, have exceeded the predetermined limit).

Bank PQR has a policy for recognition, quantification (measurement), monitoring, and control of credit risk for all credit granting and issuance of new products (Principle 3). There are several aspects did not follow Basel Principles, including the identification of risk mitigation, which is not in accordance with the identified risks, found in 17 out of 30 samples, 32% of the 197 employees involved in credit granting did not have management of risk certification, the Risk Management Unit's opinion regarding the management of credit risk is not a consideration in decision making, as proven by the date of decision making that precedes the date of the Risk Management Unit's opinion.

The bank PQR credit policy has clearly regulated the credit assessment process, including criteria prospective debtor data and credit analysis procedures (Principle 4). However, its application has several weaknesses, including: 1) collateral assessment was not carried out by a partnered collateral appraiser in 13 of the 30 samples, and the collateral did not cover the credit provided in 12 of the 30 samples examined. The analysis of personal or corporate guarantee was not in accordance with the policy and was found in 11 out of 18 samples and 2) credit proposal verification does not perform. Based on the evaluation, no evidence was found that the verification was conducted on all the samples examined.

Bank PQR has a policy of risk appetite and tolerance based on economic sectors for all prospective debtors, stress testing, and estimates of future credit exposure (principle 5). However, Bank PQR does not have a policy regarding credit limits based on the debtor's risk assessment, so credit approval is taken without information on the debtor's final risk rating. Bank PQR also has a clear policy regarding authority and credit approval by establishing and implementing a Credit Committee (Principle 6). However, credit approval is not performed based on the Principle of Prudential Banking, where 28 out of 30 samples were approved, with many policy violations varying from three to ten violations for each proposal. These violations include insufficient collateral, the debtor's worst financial condition, over financing, and financing of newly established businesses.

Bank PQR internal policy stipulates that annual credit reviews are given according to customer needs, both for general and related debtors (Principle 7). However, this was not implemented quite well; of the 28 samples, 14 credits were extended when the analysis results showed that the debtor no longer needed additional working capital. Bank PQR also has a credit administration policy that includes the storage of credit and collateral documents, the disbursement process, and To Be Obtained (TBO) document monitoring. Bank PQR also implements storing documents and disbursement processes properly according to internal policy by having maker, checker, and approval functions. However, Bank PQR needs to improve its process of monitoring TBO documents, where more than 50% have not been fulfilled, affecting the effectiveness of the overall monitoring process. In addition, collateral insurance processes should be improved, as six of the 30 samples are covered by non-partner insurance companies.

Bank PQR regulates its credit monitoring, provision, and reserve determination (Principle 9).



The determination of provisions and reserves is in accordance with policy. In addition, every debtor is subject to a credit monitoring process four times a year and is documented in the form of a visit memo. The evaluation found that none of the 30 samples were monitored four times in one year, as evidenced by the absence of four memos in 2022 or three memos in 2023. Bank PQR does not have an internal risk grading system, against Principle 10. The management of the credit risk process is performed manually without providing with the debtor final risk grading.

Bank PQR has a policy by the Department of Financial Control to measure the risk of credit (Principle 11). However, Bank PQR does not have an information system regarding the management of credit risk and identifies the concentration risk manually. Bank PQR's internal policy stipulates that the quality of the credit portfolio is a subject for credit monitoring, and provides a report of credit portfolio monitoring to the BOD and communicated to the BOC (Principle 12). Based on the internal master loan, Bank PQR tends to have a concentration risk with a portfolio of 25% for one industrial sector and two large groups of loans maturity in 2023 and 2024 at 28% and 29%, respectively.

Credit assessment in Bank PQR includes changes in economic conditions in their credit proposal, where there is an industry outlook in all 30 samples (Principle 13). The regulation also requires Bank PQR to conduct stress testing analysis at least twice a year to assess the deteriorating condition of the credit portfolio and the impact on its capital. However, there is no independent review of the implementation of stress testing to determine whether the assumptions and methods used support the complexity of the bank's business.

Bank PQR has a manual process of credit risk management reviewed by the Risk Management Unit and reported to the BOD (Principle 14). However, the review is not regular and possibly makes the overall process no longer appropriate to the complexity of the business. The Credit Review Unit, who is responsible for internal control functions, is possibly facing conflict of interest because this unit is under the supervision of the President Director, who is responsible for business growth, rather than the Risk Function Director, as stated in Basel Principles, while both have voting rights in the Credit Committee.

Based on the policy of Bank PQR, the Business Unit must inform every deviation of policy in the credit proposal to the Credit Committee on matters of approval (Principle 15). Twenty-eight out of the 30 samples had deviations in policy. In addition, to ensure that all related units comply with the regulations, banks perform internal audits periodically, with audit results reported to the BOD and Audit Committee. However, fulfilling audit findings is not an employee performance indicator, in line with the evaluation results that there is a frequently extended deadline for fulfilling audit findings because it is not part of the employee performance assessment. This is in accordance with the interview results.

"I think it was intentional, because they think that violating the regulation is normal. It is better to punish employees in the form of a reduction in employee performance appraisal, so there is a deterrent effect." (Source: Department Head of Credit Audit).

Bank PQR has a Risk Supervision Committee (RSC) to carry out the supervisory function of the BOC (Principle 17). The RSC conducts a Risk Supervision Meeting (RSM) four times a year, discussing every matter related to the implementation of credit risk management. However, based on the minutes of meetings or reports of risk profiles, RSM never highlights a discussion about many violations of regulations during credit approval and no discussion regarding the approval of the BOC for the credit proposal.

DISCUSSION

The development of a credit risk environment remains a major problem for Bank PQR. Many outdated policies, as the responsibility of the BOD impact on disrupting credit-granting activities. Ko et al (2019) stated that the compliance of the BOD with corporate governance improves performance and minimizes the possibility of bad credit. This is also in line with the findings of Fiador et al (2019), who find that appropriate governance in the banking sector plays an important role in improving loan quality.

The involvement of the BOC makes them less independent and creates potential conflicts of

interest. Independence of the BOC is necessary to support the management of credit risk. According to Aryani (2019), the independence of the BOC minimizes credit risk (Nainggolan et al, 2022; Wilevy and Kurniasih, 2021; and Harjanto and Rahmawati, 2019). In addition, the violation of breaking the risk limit occurs due to a lack of firmness by the BOD in limiting credit granting that has exceeded the limit. Arango and Gaitan (2021) stated that the diversity of the BOD plays an important role in reducing credit risk, not only in terms of gender, but also in the balance between expertise, experience, and the BOD understanding of the business, so the BOD decision-making contributes to bank success. Many uncertified risk management employees also contribute to weak credit risk identification and management processes. Tien and Nguyen (2023) state that good credit risk identification and management affect credit performance and help banks to control and reduce credit risk (Mburu et al, 2020; Akomeah et al, 2020; Bhatt et al, 2023).

The policy of credit granting is good enough, except for the absence of a final risk grading system, if the implementation operates properly. The implementation itself leaves a problem that needs to be improved. The absence of collateral, and insufficient verification process may increase the credit risk. According to the findings of Le and Nguyen (2018), high-quality collateral is not only an indicator of credible debtors but also fosters debtor good behavior in using loans to reduce the problem of debtors' moral deviations in paying their obligations. Ozili (2019), also found that non-performing debt increases if banks lower their credit screening and verification standards. In addition, Bank PQR has to improve its annual credit reviews process by extending credit on a reasonable basis and avoiding financing debtors that no longer need additional working capital that increase the risk of side streaming (credit misuse). Desy et al (2023) found that one of the causes of problematic credit is the use of credit that is not in accordance with the stated objectives.

Many violations of regulation absolutely impact on the ability of Bank PQR to obtain a good quality credit portfolio. Kabir et al (2020) stated that regulations set as strictly as possible in lending would help banks minimize low-quality loans (lower credit risk). Policy deviations were considered a violation of the Prudential Banking Principle and led to increasing credit risk (Purba et al, 2022). Sihotang (2021) stated that the Prudential Banking Principle is a basic banking principle, and banks must implement it properly to create good corporate governance practices in all banking services.

Credit approval without information on the debtor's final risk rating causes the bank to provide credit to debtors at high risk and, finally, increase its credit risk. Pham (2021) found that banks that offer credit without paying attention to credit limits would increase their credit risk. Credit risk grading has a positive relationship with the management of credit risk strategies; a higher debtor's credit rating indicates the possibility of the debtor's ability to pay (Ahmed and Rajaleximi, 2019).

The Credit supervision at both the individual and portfolio levels is subject to improvement since the implementation is not in accordance with internal policy. Monitoring process really impacts the ability of banks to maintain good credit quality. Njeru et al (2017) find that insurance and covenant monitoring improve credit performance. Furthermore, improving the quality of credit monitoring has a positive impact on the non-performing loan ratio (Gustafson et al, 202; Piatti and Cincinelli, 2019). In addition, Bank PQR also does not have a credit management system to monitor credit risk at the portfolio level in real time. This potentially increases credit concentration risk in the future. According to Shim (2019), concentration risk ultimately affects a bank's financial stability. Silva et al (2019) also found that banks must avoid excessive credit concentration by implementing exposure limits and portfolio structure analyses.

Internal control over the management of credit risk has not been performed properly, including the implementation of periodic reviews of the management of credit risk processes, and the problem of conflict of interest between the Credit Review Head and President Director. Trung (2021) found that conflicts of interest would hamper a bank's internal control mechanisms. Siddiq et al (2023) also found that banks must separate credit management functions from risk management to avoid conflicts of interest.

In addition, internal audit finding and its fulfillment, as one of the final internal controls, are not a parameter in employee performance appraisal, which gives a negative impression that employees can violate the regulation because they are not part of the parameters in the appraisal. Internal audits are part of internal controls to minimize reduced credit risk. Berisha et al (2023)

found that internal audits influence banks' credit policies and reduce credit risk. Good internal control would help ensure the implementation of risk management. The existence of a strong control environment, control activities, and risk assessment influences the risk of credit, means that when the internal control system runs properly, it helps banks reduce the risk of bad credit during their credit-granting process (Nguyen and Nguyen, 2018; Thinh et al, 2020; Wang and Yang, 2020).

Supervision by the BOC does not involve the fact that many credit proposals violate internal regulations and the approval of the BOC for the credit proposal, which also breaks the regulator's rule. This would lead to the independent issue and raised negative views from employees regarding the obligation of employees to comply with work regulations. Supervision by the BOC is necessary to ensure the effectiveness of the implementation of credit risk management to manage risk of credit (Disemadi, 2019).

However due to access limitations to the interviewees, interviews were only conducted with department heads (one level below the division head) and two senior employees involved in credit granting. The findings of this study will be more comprehensive if the interview process involves high-level interviewees (division head, BOD, or BOC).

CONCLUSION

The implementation of credit risk management at Bank PQR from evaluation is not implemented in accordance with the Basel Principles, where none of the five dimensions corresponds to ideal conditions. Major weaknesses are the lack of a proper credit risk environment, the absence of a credit management system, insufficient internal control implementation, inadequate monitoring process and BOC supervision. To improve and strengthen its implementation, we offer several recommendations for Bank PQR. First is improving the environment of credit risk control by increasing the degree of compliance with applicable regulations from top management. Second is developing a credit risk management information system for real-time and accurate monitoring and decision-making processes by top management. Third is improving the implementation of employee competency development. Fourth is developing an internal policy regarding handling-debtor ratios to manage employee's workload. Last is developing an internal control in the form of a number of audit findings and their fulfillment as employee performance appraisal to mitigate non-compliance with regulations.

REFERENCE

- Ahmed, M.S.I. and Rajaleximi, P.R. (2019) 'An Empirical Study on Credit Scoring and Credit Scorecard for Financial Institutions', *International Journal of Advanced Research in Computer Engineering and Technology*, 8(7), pp. 275–279.
- Akomeah, J., Frimpong, S. and Agumeh, R. (2020) 'Credit Risk Management and financial performance of listed banks in Ghana', *Research Journal of Finance and Accounting*, 11. doi:10.7176/rjfa/11-6-05.
- Aldoseri, Mahfod. (2021) "Assessment of Credit Risk Management Performance in Islamic and Conventional Banks in Saudi Arabia Financial Context." *Academy of Strategic Management Journal*.
- Anadra, R. (2023) *Evaluasi Penerapan Manajemen Risiko Kredit Menggunakan Kerangka Basel II (Studi Kasus Pada Bank X)*. thesis.
- Arango, D.G. and Gaitan, S. (2021) 'Does board diversity matter in credit risk?', *Global Business Review*, pp. 1–23. doi:10.1177/09721509211026822.
- Aryani, K.H. (2019) 'Pengaruh good corporate governance Terhadap profitabilitas Perbankan Dengan Risiko Kredit Sebagai variabel intervening (Pada perbankan Yang Terdaftar di bei periode 2014-2016)', *Distribusi - Journal of Management and Business*, 7(1), pp. 63–80. doi:10.29303/distribusi.v7i1.45.
- Bakurova, A., Pasichnyk, M., & Tereschenko, E. (2021). Development of a Productive Credit Decision-Making System Based on the Ontology Model. International Conference on Computational Linguistics and Intelligent Systems.

- Basel, C. (2000) 'Principles for The Management of Credit Risk'. Basel: Basel Committee on Banking Supervision.
- Berisha, V. *et al* (2023) 'The role of Internal Audit in Credit Risk Management in commercial banks', *Economic Alternatives*, 29(1), pp. 115–130. doi:10.37075/ea.2023.1.06.
- Bhatt, T.K. *et al* (2023) 'Examining the determinants of credit risk management and their relationship with the performance of commercial banks in Nepal', *Journal of Risk and Financial Management*, 16(4), p. 235. doi:10.3390/jrfm16040235.
- Bouteille, S. and Coogan-Pushner, D. (2013) *The Handbook of Credit Risk Management originating, assessing, and managing credit exposures*. Hoboken, New Jersey: Wiley (Wiley finance series).
- Brahmaiah, B. (2022) 'Credit risk management practices of Indian Banking Industry: An empirical study', *International Journal of Economics and Financial Issues*, 12(2), pp. 67–71. doi:10.32479/ijefi.12968.
- Carlone, G. (2021) *Introduction to credit risk*. First Edition. Boca Raton, Florida: CRC Press (Chapman & Hall/CRS finance series).
- Desy, D.S. *et al* (2023) 'Handling of problem working capital financing in Indonesian Sharia Bank (BSI)', *Indonesian Journal of Multidisciplinary Sciences (IJoMS)*, 2(1), pp. 13–22. doi:10.59066/ijoms.v2i1.290.
- Disemadi, H.S. (2019) 'Risk management in the provision of people's business credit as implementation of Prudential Principles', *Diponegoro Law Review*, 4(2), pp. 194–208. doi:10.14710/dilrev.4.2.2019.194-208.
- Fiador, V. and Sarpong-Kumankoma, E. (2020) 'Does corporate governance explain the quality of bank loan portfolios?', *Journal of Financial Economic Policy*, 13(1), pp. 31–44. doi:10.1108/jfep-06-2019-0130.
- Gustafson, M.T., Ivanov, I.T. and Meisenzahl, R.R. (2021) 'Bank Monitoring: Evidence from syndicated loans', *Journal of Financial Economics*, 139(2), pp. 452–477.
- Harjanto, N. and Rahmawati, R. (2019) 'The influence of Independent commissioner on the Indonesian Rural Bank's Credit Performance', *Proceedings of the 1st International Conference on Economics, Business, Entrepreneurship, and Finance (ICEBEF 2018)* [Preprint]. doi:10.2991/icebef-18.2019.115.
- Hartanto, A.D. and Setijaningsih, H.T. (2023) 'Determinan probability of default Dalam Perhitungan expected credit loss Perbankan', *Akurasi: Jurnal Studi Akuntansi dan Keuangan*, 6(1), pp. 157–176. doi:10.29303/akurasi.v6i1.329.
- Hermawan, A.A. (2009). *Pengaruh Efektivitas Dewan Komisaris dan Komite Audit, Kepemilikan oleh Keluarga dan Peran Monitoring Bank Terhadap Kandungan Informasi Laba*. Disertasi Progam Studi Ilmu Manajemen Program Pascasarjana Fakultas Ekonomi Universitas Indonesia.
- Joseph, C. (2013) *Advanced credit risk analysis and management*. Chichester, United Kingdom: Wiley.
- Kabir, MD.N., Dulal Miah, M. and Huda, R.N. (2020) 'Determinants of credit risk: A comparative analysis between Islamic and conventional banks in Bangladesh', *The Singapore Economic Review*, 67(01), pp. 349–379. doi:10.1142/s0217590820420011.
- Keuangan, O.J. (2017) 'Surat Edaran Otoritas Jasa Keuangan Nomor 14/SEOJK.03/2017 Tentang Penilaian Tingkat Kesehatan Bank Umum'. Jakarta: OJK.
- Keuangan, O.J. (2023) 'Statistik Perbankan Indonesia Volume 21 Nomor 6 - Mei 2023'. Jakarta: Otoritas Jasa Keuangan, Departemen Perizinan dan Informasi Perbankan.
- Khalid, Azam Abdelhakeem, et al "The Impact of Credit Risk Management on the Financial Performance of Banking Sector in Sudan." *Academy of Accounting and Financial Studies Journal*, Jan. 2021.
- Kidane, S.T. (2020) 'Credit risk management and profitability: empirical evidence on Ethiopian commercial banks', *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, 8(4), pp. 377–386. doi:10.22437/ppd.v8i4.10225.

- Ko, C., Lee, P. and Anandarajan, A. (2019) 'The impact of operational risk incidents and moderating influence of corporate governance on credit risk and firm performance', *International Journal of Accounting & Information Management*, 27(1), pp. 96–110. doi:10.1108/ijaim-05-2017-0070.
- Koulafetis, P. (2017) *Modern Credit Risk Management: Theory and practice*. London, United Kingdom: Palgrave Macmillan.
- Lam, J. (2017) *Implementing enterprise risk management: From methods to applications*. Hoboken: John Wiley & Sons.
- Le, C.H. and Nguyen, H.L. (2018) 'Collateral quality and loan default risk: The case of Vietnam', *Comparative Economic Studies*, 61(1), pp. 103–118. doi:10.1057/s41294-018-0072-6.
- Mburu, I.M., Mwangi, L.W. and Muathe, S.M.A. (2020) 'Credit Management Practices and Loan Performance: Empirical Evidence from commercial banks in Kenya', *International Journal of Current Aspects in Finance, Banking and Accounting*, 2(1), pp. 51–63. doi:10.35942/ijcfa.v2i1.105.
- Nainggolan, Y.A., Prahmila, D.I. and Syaputri, A.R. (2022) 'Do board characteristics affect bank risk-taking and performance? evidence from Indonesian and Malaysian Islamic Banks', *Journal of Management and Governance*, 27(4), pp. 1115–1145. doi:10.1007/s10997-022-09625-w.
- Nguyen, K.Q.T. and Nguyen, K. (2018) 'The Impact Of Internal Control On Credit Risk: An Evidence From Vietnamese State-owned Commercial Banks', in *International Conference on Accounting and Finance (ICOAF 2018)*. Vietnam.
- Njeru, M., Mohhamed, D.S. and Wachira, Mr.A. (2017) 'Effectiveness of Credit Management System on loan performance of commercial banks in Kenya', *International Journal of Finance and Accounting*, 2(1), pp. 106–122. doi:10.47604/ijfa.261.
- Ozili, P.K. (2019) 'Non-performing loans and Financial Development: New Evidence', *The Journal of Risk Finance*, 20(1), pp. 59–81. doi:10.1108/jrf-07-2017-0112.
- Permatasari, I. (2020) 'Does corporate governance affect bank risk management? case study of Indonesian banks', *International Trade, Politics and Development*, 4(2), pp. 127–139. doi:10.1108/itpd-05-2020-0063.
- Pham, H. N. (2021) "How Does Internal Control Affect Bank Credit Risk in Vietnam? A Bayesian Analysis," *The Journal of Asian Finance, Economics and Business*. Korea Distribution Science Association, 8(1), pp. 873–880. doi: 10.13106/JAFEB.2021.VOL8.NO1.873.
- Piatti, D. and Cincinelli, P. (2019) 'Does the threshold matter? the impact of the monitoring activity on non-performing loans', *Managerial Finance*, 45(2), pp. 190–221. doi:10.1108/mf-02-2018-0077.
- PQR, B. (2023) 'Data Master Pinjaman Mei 2023'. Jakarta: Bank PQR.
- Purba, I.G. (2021) 'Implementation of GCG principles in distribution of credit in SOE/BUMD bank', *Polit Journal: Scientific Journal of Politics*, 1(3), pp. 118–128. doi:10.33258/polit.v1i3.548.
- Purba, I.G., Syahrin, A. and Ginting, B. (2022) 'Evaluation of Prudential Principles Violation in Providing Credit to BUMN/BUMD Banks Which Leads to Corruption', *Journal of Positive Scholl Psychology*, 6(7), pp. 5064–5075.
- Quoc Trung, N.K. (2021) 'The relationship between Internal Control and credit risk – the case of commercial banks in Vietnam', *Cogent Business & Management*, 8(1), pp. 1–17. doi:10.1080/23311975.2021.1908760.
- Quoc Thinh, T., Hoang Anh, L. and Khanh Tuan, N. (2020) 'The effectiveness of the internal control system in Vietnamese credit institutions', *Banks and Bank Systems*, 15(4), pp. 26–35. doi:10.21511/bbs.15(4).2020.03.
- Qureshi, A. and Lamarque, E. (2022) 'Risk management practices and credit risk of the significantly supervised European banks', *Journal of Financial Regulation and Compliance*, 31(3), pp. 261–280. doi:10.1108/jfrc-12-2021-0117.

- Saputra, R.A. and Wijayati, N. (2023) 'Analisis Penerapan Manajemen Risiko Kredit Pada Perusahaan start-up fintech PT a', *Owner*, 7(4), pp. 3083–3095. doi:10.33395/owner.v7i4.1729.
- Shim, J. (2019) 'Loan portfolio diversification, Market Structure and bank stability', *Journal of Banking & Finance*, 104, pp. 103–115. doi:10.1016/j.jbankfin.2019.04.006.
- Siddiq, Dr.A., Al Gamal, E. and AL-Maamari, O. (2023) 'Credit risk minimizing: Analysis Study of Islamic and conventional banks in Yemen', *Journal of Advanced Research in Economics and Administrative Sciences*, 3(4), pp. 1–8. doi:10.47631/jareas.v3i4.553.
- Siddique, A., Khan, M.A. and Khan, Z. (2021) 'The effect of credit risk management and bank-specific factors on the financial performance of the South Asian Commercial Banks', *Asian Journal of Accounting Research*, 7(2), pp. 182–194. doi:10.1108/ajar-08-2020-0071.
- Sihotang, E. (2021) 'Implementation of good corporate governance and Prudential Principles (Prudential Banking Regulations) in banking', *Journal Equity of Law and Governance*, 1(1), pp. 10–16. doi:10.55637/elg.1.1.3239.10-16.
- Silva, E.S. e, Pereira, A. and Vaz, A. (2019) 'Credit Risk - The Importance of Credit Portfolio Management', *The International Journal of Business Management and Technology*, 3(5), pp. 44–57.
- Tien, D.P. and Nguyen, K.Q. (2023) 'Credit risk management and effectiveness of credit activities: Evidence from Vietnam', *Journal of Eastern European and Central Asian Research (JEECAR)*, 10(5), pp. 788–799. doi:10.15549/jeecar.v10i5.989.
- Wilevy dan Augustina Kurniasih, W. (2021) 'Financial distress of registered banking in Indonesia Stock Exchange: Review of the good corporate governance aspect and banking performance', *European Journal of Business and Management Research*, 6(2), pp. 181–186. doi:10.24018/ejbmr.2021.6.2.832.
- Wang, X. and Yuan, F. (2020) 'Research on the influence of internal control on enterprise credit risk', *Journal of Physics: Conference Series*, 1616(1), pp. 1–6. doi:10.1088/1742-6596/1616/1/012061.
- Witzany, J. (2017) *Credit Risk Management Pricing, measurement, and modeling*. eBook. Cham, Switzerland: Springer International Publishing.
- Zhang, H., Guo, Z. and Sun, Y. (2022) 'Analysis of bank customer default risk based on embedded microprocessor wireless communication', *Security and Communication Networks*, 2022, pp. 1–11. doi:10.1155/2022/5635152.