ACHIEVING FINANCIAL PERFORMANCE THROUGH THE IMPLEMENTATION OF SUSTAINABLE BANKING AND CREDIT RISK: ANALYSIS BASED ON NATURAL ENVIRONMENTAL SUSTAINABILITY

NI LUH PUTU SRI PURNAMA PRADNYANI*, I WAYAN SUARTANA, MARIA MEDIATRIX RATNA SARI AND I GUSTI AYU NYOMAN BUDIASIH

Faculty of Economics and Business, Udayana University, 80361 Badung, Bali, Indonesia.

*Corresponding author: niluhputusripurnamapradnyani@gmail.com

Abstract: A company was founded to obtain profits and sustainably improve the quality of life by utilising minimal resources and is committed to preserving the natural environment to create environmental sustainability through financial performance as an indicator used to measure the success of a bank and show how efficiently management meets profit creation targets. This research aims to analyse the influence of sustainable banking on financial performance which is mediated by credit risk. The research was conducted on conventional commercial banks that have annual financial reports and sustainability reports registered on the IDX with a sample of 252 banks from 2017-2022. Based on the analysis, it was discovered that sustainable banking has a positive effect on financial performance and a negative effect on credit risk, and sustainable banking has a positive effect on financial performance by reducing credit risk. This means that sustainable banking that pays attention to non-financial factors, namely the preservation of the natural environment, can improve financial performance. The research contribution states consistency in environmental control to achieve environmental sustainability in line with the principles of profit, people and planet by making banking policies that contribute to environmental sustainability.

Keywords: Banking financial, environmental sustainability, high profitability, financial performance.

Introduction

As environmental issues gain greater significance, companies, and financial institutions are confronted with the demand to play an active role in effectively reducing environmental burdens. Although the financial sector is generally not considered environmentally friendly, financial institutions can play an important role in making a profitable impact on efforts to reduce the effects of climate change. This means a paradigm shift (Triodos Bank, 2019) where financial transactions need to be aligned and related risks can no longer be analysed only within the confines of an economic bubble (Donthu & Gustafsson, 2020; Liu *et al*., 2020). Social, ethical, and environmental parameters should be integrated into financial decision-making (Weber, 2005). Within the banking sector, new business models that prioritise climate change and what

it entails is referred to as climate finance. The role of banking institutions as major sources of investment financing is vital (Laguir *et al*., 2018; Salman & Sumaira, 2018). The question arises as to whether banks are indeed ready to become catalysts for climate finance.

Banking as a manager of financing in economic development positively impacts responding to environmental and social changes. The role of banks is significant in developing countries, where loans are the primary source of external financing for businesses (Collaku & Aliu, 2021). The decision taken by the Bank to finance debtors whose activities do not harm the environment and society is an implementation of sustainable banking. Volz (2018) states that sustainable banking involves investment and loan decisions based on environmental monitoring and risk assessment to meet a

sustainability criteria. Banks must pay attention to the environmental and social aspects of providing credit/financing. Empirically, there is evidence that the increased performance of the industry with investment focusing on environmental, social, and corporate governance aspects impacts credit distribution (Tang & Zhang, 2020; Umar *et al*., 2021). This factor is essential because banks mainly contribute to company financing, and bank participation supports sustainable growth.

The banking sector is responsible for decisions on providing financing because it influences economic, environmental, and social aspects (Stauropoulou & Sardianou, 2019). The "Bankrolling Climate Change" report shows that the 20 largest commercial banks in the world are the factors most responsible for coal industry emissions because banks provide 74% of total funding to the industry (Schucking *et al*., 2011). Data released by the international coalition Forests and Finance also revealed that banks provided credit amounting to USD 37.7 billion from 2016-2021 to mining companies at risk of causing forest destruction, water pollution and human rights violations in three tropical regions, one of which is Indonesia. Bank financing to Freeport McMoran in Jayapura and P.T. Vale in South Sulawesi has supported environmental destruction (Walhi, 2022). Considerations for debtor loans must be made based on environmental monitoring and risk assessment to meet sustainability criteria and insurance services that address environmental and climate risks (Volz, 2018). The Bank's concern and responsibility for sustainable performance impacts changes in the Bank's business.

Changes in bank business require a paradigm shift in management triggered by market, value, transparency, life-cycle, technology, partnership, long-term horizons, and corporate governance (Elkington, 1997). Stakeholder theory assumes a positive relationship between implementing sustainable practices and a company's financial performance (Belal & Momin, 2009). Companies that care about the environment implement resource savings that

result in internal cost savings for finances and positively impact banks' financial performance. Increased global attention to environmental and social issues has accompanied banks' reaction and prioritisation of environmental and social factors as an integrated part of bank strategy. The results reveal a relationship between the goal of profit maximisation and bank responsibility. Rebai *et al*. (2016) stated that no clear relationship was found between social and financial aspects. The appropriate level of corporate social responsibility in each company is determined by cost-benefit analysis and depends on many factors such as size, business diversification, or market conditions.

Bank attention to the environment through implementing sustainability increases competitiveness, opens up investment opportunities, and attracts potential investors who care about the environment (Shaumya & Arulrajah, 2017). Banks, as intermediaries, need to behave as agents of sustainable development. This behaviour concerns financial integrity, inclusion, and stability (Hadad & Maftuchah, 2015). Financial integrity means that all economic and financial activities should be carried out in line with financial rules and standards that are fully compatible and contribute to sustainable development (FACTI, 2021). Financial integrity can be achieved by increasing transparency, accountability, and cooperation involving all stakeholders at the national, regional, and global levels (De Koker & Jentzsch, 2013). Financial inclusion is inclusivity in providing affordable formal financial services for all individuals and businesses (Ozili, 2022). Financial inclusion ensures that people and companies can access financial services and reach the formal financial sector. The economic and social benefits that financial inclusion brings to individuals, companies and governments in the pursuit of sustainability exemplify the relationship between financial inclusion and sustainable development. Countries with well-functioning and inclusive financial systems tend to see poverty rates fall more quickly than those with weak and non-inclusive financial systems (Kuada, 2019). Financial stability is the key

to economic growth because it provides loans to companies at low interest rates and helps manage risk (Safi *et al*., 2021).

Using company assets generates responsible behaviour by a company to achieve relative profitability goals. Several experts have identified a significant positive relationship between sustainable banking and financial performance. This relationship occurs due to the use of natural resources in the company's economic activities and socially responsible activities by bank management (Shaumya & Arulrajah, 2017; Hou, 2019; Siminica *et al*., 2019). The positive relationship between sustainable banking practices and financial performance needs to be tested in Indonesia by issuing POJK Number 51/POJK.03/2017 concerning the implementation Sustainable Finance for Financial Services Institutions, Issuers and Public Companies. Previous research presents mixed results regarding increasing financing to greener industries while reducing financial credit risks. Hill (2014) revealed that the banking sector is committed to ensuring that loans minimise funded projects' social and environmental impacts. Research by Zhang *et al*. (2011) analysed the implementation of credit policy at both local and regional levels; the results showed that credit provision by banks needed to pay full attention to sustainability factors. Jiguang and Zhiquin's (2011) study states that banks generate many problems implementing low-carbon financing. Banks must find a low-carbon strategic plan to finance development and organise the development of carbon financing. Another study by Capasso *et al*. (2020), Jung *et al*. (2018), and Zerbib (2019) shows that better implementation of sustainable banking has a lower credit risk impact.

Low credit risk indicates a country's solid monetary system, while high credit risk indicates a weak financial position. Continuously increasing credit risk will affect banks in the long term, thereby affecting the financial position of the country's economy. An increase in credit risk will affect banking efficiency, resulting in a banking crisis (Vouldis & Louzis, 2018). High credit risk indicates that credit payments from debtors are experiencing problems. It impacts reducing interest income, reducing investment, and increasing the liquidity crisis in the financial system, which triggers insolvency issues and a weak economic system (Khan *et al*., 2020). Empirical studies show that credit risk significantly negatively affects financial performance (Maharani *et al*., 2020; Collaku & Aliu, 2021; Maulana *et al*., 2021). Highly profitable banks have lower non-performing loans (NPLs) as a result of more advanced bank activities and an effective credit monitoring system. Different studies show by Ahmad and Bashir (2013) and Nurfitriani (2021) that credit risk has a positive effect on financial performance, while the study conducted by Azmy *et al*. (2019) revealed that credit risk does not have a significant effect on financial performance.

This research aims to determine the effect of sustainable banking on financial performance through credit risk. This research provides novelty in resolving the urgency of the phenomenon and the differences in research results between sustainable banking variables and financial performance through credit risk. First, this research paper contributes to the development of sustainable banking with regard to financial performance. Previous empirical studies focused more on economic, environmental, and social performance, but this research on sustainable banking uses three functions: Financial integrity, financial inclusion, and financial stability.

Literature Review

Stakeholder theory explains that business maximises the interests of investors and owners and benefits the government, society, and the social environment (Freeman, 1984; Block, 1993; Parmar *et al*., 2010). Stakeholder theory is relevant to companies that promote efforts to help protect the environment, improve social welfare and community relations, and adhere to governance practices to improve performance. El Ghoul *et al*. (2017) and Jo and Harjoto (2012) found that the involvement of economic, social,

and environmental activities positively affects company performance because economic, social, and environmental activities can resolve conflicts between managers and stakeholders. Based on stakeholder theory, sustainable practices generate goodwill or moral capital for companies.

The complexity of the conventional business environment previously only focused stakeholders on looking at the level of company profits (Jo & Harjoto, 2012). Size and financial strength are no longer considered a guarantee of a company's medium and long-term success. Companies prioritise environmental and social factors as an integrated part of corporate strategy (Peng & Isa, 2020; Tang & Zhang, 2020). The results have led to a link between the goal of profit maximisation and corporate responsibility. The company handles stakeholders through efficient, sustainable business practices as well as the basis for subsequent performance reporting. The stakeholder theory's emphasis on strategies for building and maintaining sustainable stakeholder relationships is critical to company performance (Freeman *et al*., 2021).

The banking sector has been the last to embrace the overall need to incorporate, in a coordinated way, guidelines that link its activity with more sustainable and responsible development (Banque de France, 2019). In 2009, two initiatives arose almost simultaneously: The Global Alliance for Banking on Values (GABV) initiative and the banking environment initiative. The first was co-founded by Triodos Bank as an alliance consisting of the creation of a network of independent banks that deliver sustainable social, environmental, and economic development through finance. The second was founded by a group of leading bank chief executives and the University of Cambridge Institute for Sustainability Leadership, with the thought that a new and fresh approach is needed for banks to support environmentally and socially sustainable economic activities.

With the growing corporate client requirement for sustainability, the Guide to Banking and Sustainability was published in 2011. It provides a functional overview of what a sustainable bank would look like and a set of actions that banks could apply to include ESG principles in their day-to-day operations. Two years later, the Global Reporting Initiative published a report on sustainability topics for sectors: What do stakeholders want to know? (Global Reporting Initiative, 2021). One hundred and ninety-four organisations from different sectors either directly contributed to or were researched for the report. The conclusions regarding the financial sector were of the utmost importance, as 34.4% of the proposed topics came from stakeholders in the financial markets. More specifically, the categories "Banks", and "Diverse Financials and Insurance" ranked 7th for quantity of topics that need improvement, with 42 topics identified. Among them, there is a need for new business models that include long- and short-term values. This study addresses this need by adapting a business model structured to a banking system that focuses on climate change, which addresses the short and long-term opportunities, challenges, and risks that arise when addressing sustainable development.

The Influence of Sustainable Banking on Financial Performance

Banks improve financial performance by including social, economic and environmental policies in company activities. The banking system in each country not only carries out most of the financial activities but also interacts with environmental issues through its stakeholders (Linh & Anh, 2017). OJK Regulation Number 51/POJK.03/2017 states that sustainable finance is comprehensive support from the financial services sector to create sustainable economic growth by aligning economic, social, and environmental interests (OJK, 2017). Sustainable banking activities integrate environmental protection, social responsibility, and financial benefits into business management and operations (Alshehhi *et al*., 2018). Implementing sustainable banking can help banks be competitive and economically successful (Weber, 2005), and customers are ready to pay more for banks that care about the

environment and social welfare (Taneja & Ali, 2021).

Most studies believe that corporate investments in socially responsible endeavours, such as pollution reduction efforts or energy-saving technologies, have a measurable effect on financial performance (Alshehhi *et al*., 2018). Companies use sustainability reports to justify company activities to the public. That aligns with socially responsible bank activities by paying attention to stakeholders, including groups other than shareholders (Aras *et al*., 2018). Several empirical studies show a positive relationship between sustainable banking and financial performance (Nizam *et al*., 2019). Research by Moufty *et al*. (2021) on banks in the United States and European Union revealed that social performance positively affects profitability. Meanwhile, research by Siminica *et al*. (2019) in Europe showed that banks implementing sustainable practices can use available resources efficiently, thereby increasing client and shareholder loyalty, while social and environmental performance results do not affect bank profitability.

H_1: Sustainable banking has a positive effect on financial performance.

The Influence of Sustainable Banking on Credit Risk

Environmental changes such as climate change threaten the global economy and financial sector. Poor environmental performance is associated with worse credit ratings. Chava (2014) shows that companies with multiple environmental snags pay more for bank loans. Sustainable corporate strategies effectively reduce credit risk (Nizam *et al*., 2019). POJK Number 51/ POJK.03/2017 states that sustainable financial action plans include strategies that pay attention to prudence and the application of risk management so that banks include sustainable performance in providing credit to prevent financing to companies that risk damaging the environment. Banks that provide financing for high-risk projects can impact increasing credit risk (Khan *et al*., 2020). Less sustainable

companies will likely face higher refinancing costs on loans. Banking system innovation reduces transaction costs, provides better financial services, and has an impact on reducing credit risk (Khan *et al*., 2021). Additionally, companies with low creditworthiness have less financial coverage, making it more difficult to direct resources toward sustainable activities. That aligns with stakeholder theory: Banks with lower environmental sustainability face higher stakeholder and reputation risks.

Climate change may be associated with increases in the intensity and frequency of extreme weather events, which, can in turn affect economic activity, becoming significant for some sectors such as the financial system. It is particularly important because of its key role in the economy. Its role as a mediator for the savings and investments of households and firms makes it capable of amplifying the negative impact of adverse events connected to climate change and green transition (Bernardini *et al*., 2021). Financial system operators do not limit themselves to distributing resources from one agent to another; however, in this transfer of funds, they assume financial and non-financial risks, such as ethical, social, and environmental risks (Pampill´on *et al*., 2010). Risks have increased owing to the lack of a comprehensive and universally accepted taxonomy of sustainable activities and the difficulty of obtaining reliable and consistent environmental, social, and governance (ESG) scores (Bernardini *et al*., 2021).

The results of this research report are in line with the findings of earlier studies. The findings indicate that the execution of sustainable banking has a detrimental impact on credit risk. Research by Bannier *et al*. (2022) showed that environmental and social performance reduces credit risk. Al-Qudah *et al*. (2022) showed that environmentally friendly lending policies reduce credit risk. Research by Hock *et al*. (2020) in Europe revealed that more sustainable companies have lower credit risk ratings. Razak (2020) conducted research in four countries: the United States, Japan, France, and the United Kingdom. Je found that better sustainable

banking reduces risk, and every industry needs caution to reduce credit risk.

H_2: Sustainable banking adversely impacts credit risk.

The Influence of Credit Risk on Financial Performance

The Bank's financial performance mainly originates from income derived from interest on loans from debtors. Credit risk arises because the debtor cannot pay part or all of the loan or when the loan is delayed for more than 90 days (Collaku & Aliu, 2021). The theory related to the influence of credit risk on financial performance is stakeholder theory. Financial performance information is disclosed to stakeholders to obtain information for decision-making to determine future planning strategies (Donaldson & Preston, 1995). Stakeholders analyse financial reports to determine the level of bank credit risk and become the basis for making policies to maintain credit risk (Ervina, 2021). Credit risk is the leading risk commercial banks face, which impacts financial performance. Non-performing loans increase when the economy is in a crisis due to corporate and household financial difficulties. When the economy experiences growth, companies apply for larger loans and can make payments quickly, but when the economy experiences a setback, companies are distressed and find it difficult to loans.

Several previous studies reveal that credit risk has an impact on financial performance. Studies by Saleh and Afifa (2020) and Al-Rdaydeh *et al*. (2018) in Jordan indicate that credit risk adversely affects financial performance. Banks need to change credit policies to reduce credit risk; good credit policies impact reducing credit risk to increase profitability. This research is strengthened by Hunjra *et al*. (2020), who conducted research in Pakistan, India, Bangladesh, and Sri Lanka. Banks that have strict policies in disbursing credit expect debtors to be able to pay loans based on the agreed terms and conditions. Proper use of bank funds can generate profits. The research conducted by Khan *et al*. (2020)

in Pakistan demonstrates that financial performance is negatively impacted by credit risk. Besmir and Aliu (2021) conducted a study in Kosovo, revealing that credit risk adversely influences financial performance.

H_3: Credit risk negatively impacts financial performance.

The Effect of Sustainable Banking on Financial Performance Through Credit Risk

Banks require complex processes to manage the transition to sustainability. This transition is achieved through innovative services, namely innovation in service creation, service delivery approaches, and new business partnerships with stakeholders. Stakeholder theory relates to mutually beneficial relationships with stakeholders, thereby improving company performance by implementing sustainable financial performance through risk reduction (Albuquerque *et al*., 2019; Freudenreich *et al*., 2020; Nosratabadi *et al*., 2020). Implementing sustainable banking is expected to reduce the costs of using natural resources and increase sustainable economic capacity (Olawumi & Chan, 2018). The Bank's strategy can encourage sustainable value creation to transition towards sustainability. Shen *et al*. (2016) stated that banks always face financial, social, and environmental risks while only financial risks are considered.

Implementing sustainable banking helps protect company profits and reduces risks, including credit risk (Albuquerque *et al*., 2019). Research by Cornett *et al*. (2016), Weber (2017), and Wu and Shen (2013) show that sustainable performance has a positive effect on financial performance. Moufty *et al*. (2021) revealed a significant positive relationship between social and financial performance. Bank operations that also care for the workforce by providing training and education, safeguarding human rights, and satisfying employees will increase morale, productivity, and retention rates while reducing potential recruitment problems and costs. Simantika *et al*. (2019) stated that economic performance positively influences company profitability. Company information

such as client and shareholder loyalty reveals a company's ability to generate sustainable growth and profitability by efficiently utilising available resources. The research results of Mahrani and Soewarno (2018) show that CSR carried out by companies through improving environmental performance can improve company performance. Apart from that, efforts to improve the environment will positively impact investor appreciation and improve the company's image. Positive appreciation and improving the company's image will benefit efforts to improve company performance.

Variations in Lin *et al*. (2019) findings indicate that socially responsible firms negatively affect financial performance, often leading to reductions in profit. Variations in the findings of Lin *et al*. (2019) indicate that socially responsible firms negatively affect financial performance, often leading to a reduction in profits. Yoon and Chung (2018) revealed that CSR practices, which include providing funds or resources for charities, community, environmental and wildlife conservation projects, protection projects, and consumer-related issues, are not effective in increasing operational profitability in the long term. Short, Yoon and Chung (2018) found that CSR practices related to consumers and society directly impact short-term financial performance. That is because investments in consumers, communities and the environment tend to require an initial cash outlay and have no immediate return on operations. Dorfleitner and Grebler (2020) show that deteriorating stakeholder relationships directly affect banks' cash flows and loan repayment risk.

H$_4$: Sustainable banking has a positive effect on financial performance by reducing credit risk.

Methodology

This research uses a quantitative approach based on positivistic philosophy. The quantitative research paradigm will test the phenomenon. A quantitative approach is the primary method that tests the research phenomenon in this research.

Research was carried out in conventional general banking listed on the Indonesia Stock Exchange (BEI) by looking at published annual and bank sustainability reports. The research period starts from 2017 to 2022. The research period between 2017 and 2022 was chosen because it examined the implementation of OJK regulation Number 51/POJK.03/2017 from the issuance of this regulation in 2017 in banks registered on the IDX. This research was designed to determine the relationship between exogenous and endogenous variables through mediating variables. The exogenous variable tested is sustainable banking, the mediating variable is credit risk, and the endogenous variable is financial performance. This research comprehensively integrates the relationships between variables with a quantitative approach. Secondary data was obtained bank sustainability and financial performance reports from the Indonesia Stock Exchange (BEI) with a sample of 252 banks. Hypothesis testing using path analysis using the Smart PLS analysis tool.

Financial performance is measured by return on assets; credit risk is measured by non-performing loans (NPL), and sustainable banking is measured by three dimensions, namely Financial Integrity with indicators (Alber, 2019): Determination of regulations, implementation of rules, continuous monitoring, building ethical management plans and Policies, Enforcing Management Ethics, Increasing Disclosure, Reporting Errors. Financial inclusion is measured by indicators (Ozili, 2022), B.I. (2014), and OJK (2017): Access, Use, Quality, and Welfare. Financial stability is measured by (Global *et al*., 2013): Development and impact on infrastructure investment. Environmental policies, financing or investing in renewable projects, financing start-up entrepreneurs, and Financing the development of Micro, Small, and Medium Enterprises (MSMEs). Sustainable banking indicators are evaluated by assessing each disclosure using a 0-4 Likert scale (Harun *et al*., 2013). Sustainable banking relevant to standard GRI indicators is coded according to a predetermined scale. This method will help classify qualitative and quantitative information

into specific categories to provide a greater understanding of the implementation of sustainable banking (Guthrie *et al*., 2004; Hooks & Staden, 2011).

The following is the calculation of the sustainable banking index (Haniffa & Cooke, 2005):

Sustainable banking index (SBI) = $\dfrac{Xij}{nj}$

Information:
Xij = disclosed element
nj = number of items for bank, nj = 55

Results and Discussion

Descriptive Analysis Results

Descriptive analysis was carried out to provide an overview of each variable. Analysis was carried out by calculating the average score for each variable. The variable analysed is the exogenous variable, namely sustainable banking, and the mediating variable is credit risk. The research sample consisted of 42

conventional commercial banks listed on the Indonesia Stock Exchange for six years, namely from 2017 to 2022. The number of observations was 252 banks during the observation period. Data was obtained from sustainability reports, financial reports, and bank annual reports.

The average S.B. value from 2017-2022 is 1.439, with a standard deviation of 0.412. From this average value, the value of S.B. disclosure in banking is still low compared to the maximum scoring value of 4 from the research criteria. The standard deviation of 0.439 shows the variations contained in the S.B. disclosure. Financial performance at several banks experienced a decline from 2019 to 2021. The existence of prudent banking principles in channelling funds to the public has resulted in a decline in lending, leading to a decline in profits at several banks. The average K.K. value from 2017-2022 is 0.367, with a standard deviation of 2.286. This average value shows the bank's ability to generate net profit from total assets is 36.7 %. The average R.K. value from 2017-2022

Table 1: Sustainable banking scoring techniques

Criteria	Score
If the bank "did not disclose" all the identified question sub-items	0
If the bank discloses "question sub-items," it identifies them by providing brief qualitative information without explanation	1
Provided the bank disseminates the recognised "question sub-items" by furnishing comprehensive qualitative details supported by evidence	2
If the bank discloses "question sub-items," it is identified by providing qualitative and quantitative information supported by evidence in images or numbers	3
If the bank discloses the identified "question sub-items" by providing qualitative and quantitative information by following benchmarking against best practices as stated by the guidelines	4

Sources: Hooks and Van Staden (2011); Van Staden and Hooks (2007)

Table 2: Descriptive statistics

Variable	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Sustain banking	252	0,509	2,764	1,439	0,412
Risk credit	252	-18,058	3,318	0,367	2,286
Risk credit	252	0,000	22,270	3,493	2,583
Valid N *(Listwise)*	252				

Source: Processed data (2024)

is 3.493. This average value shows that the R.K. value in banking is healthy based on Financial Services Authority Regulation Number 4 / POJK.03/2016 concerning Assessment of the Health Level of Commercial Banks.

Research Analysis Using Partial Least Square Analysis Technique

Structural Model Analysis (Inner Model)

The structural model (inner model) is measured with an explanation of the results of the path coefficient test, goodness of fit test and hypothesis test. Path coefficient evaluation is used to show how strong the effect or influence of the independent variable is on the dependent variable.

R-square Analysis

Structural model or inner model testing is carried out to see the adjusted R-squared value for each endogenous latent variable as the predictive power of the structural model. Changes in the R-square value can be used to explain the influence of certain exogenous latent variables on whether endogenous variables have a substantive influence (Hair *et al*., 2017). Meanwhile, the determination coefficient (R-square) measures how much other variables influence endogenous variables.

According to Ghozali (2008), changes in the R-squared value can be used to assess whether the influence of certain independent latent variables on the dependent latent variable has a substantive influence. There are three classifications to determine the R2 criteria: R2 value of 0.67 as substantial, 0.33 as moderate, and 0.19 as weak.

The adjusted R-square value of the financial performance variable is 0.638; in other words, the financial performance variable is influenced by other variables in the model by 63.8%. Variables that influence financial performance include sustainable banking and credit risk. Other factors outside the model influence the remaining 36.2%. The adjusted R-square value of the credit risk variable is 0.114; in other words, the credit risk variable is influenced by other variables in the model by 11.4%. The variable that influences credit risk is sustainable banking. Other factors outside the model influence the remaining 88.6%.

Multicollinearity (Collinearity)

A multicollinearity test was used to evaluate whether there is a relationship between independent variables. The test was carried out by calculating the Variance Inflation Factor (VIF) value. The test results found that the VIF value for each indicator was in the

Table 3: Adjusted R2

Variable	Adjusted R-square	Criteria
Financial performance	0,638	Currently
Risk credit	0,114	Weak

Source: Processed data (2024)

Table 4: VIF (recalculate) value

Variable	KK	RK
Risk credit	1,021	
Sustain banking	1,048	
Sustain banking		1,000

Source: Processed data (2024)

number range below 5, so it could have escaped multicollinearity.

Predictive Relevance (Q2)

Q2, known as Stone-Geisser, is intended to explain the model's predictive capability if the value exceeds 0. This value is obtained by the formula: Q2 = 1 − (1 − R12) (1 − R22) … (1 − Rp2). R12, R22…Rp2 is the R-square of the exogenous variable in the equation model. If Q2 > 0 indicates that the model has predictive relevance, the Q2 value < 0 indicates that the model lacks predictive relevance.

$$Q2 = 1 - (1\text{-}R12)(1\text{-}R22)$$
$$Q2 = 1 - (1\text{-}0.638)(1\text{-}0.114)$$
$$Q2 = 0.679$$

These results indicate that the model has a strong influence, namely being able to explain several variables that influence financial performance with a contribution of 67.9%.

Effect Size

Effect size (f2) to explore whether the endogenous latent variable is strongly influenced by the exogenous latent variable, with the following conditions: If the f2 number is 0.02, then the influence is small, the value is 0.15 is medium, and the value is 0.35 then the influence

of the latent variable exogenous is said to be extensive (Ghozali & Latan, 2015). The output results are as in Table 5.

From the output above, it can be seen that only the sustainable banking variable has a large influence on liquidity risk, while other variables have a small influence.

Goodness of Fit (Model Fit)

The fit of the PLS model can be seen from the Standardised Root Mean Square Residual (SMRM) value of the model. The PLS model is declared to have met the goodness of fit model criteria if the SRMR value is < 0.10, and the model is declared perfect fit if the SRMR value is < 0.08 (Henseler *et al*., 2014). The output results are as follows:

The PLS model's goodness of fit test results show that the SRMR value of the saturated model is 0.000, and the estimated model is 0.052. Since the SRMR model value for both the saturated and estimated models is below 0.08, the model is declared a perfect fit and suitable for use to test research hypotheses.

Hypothesis Test

Sustainable banking (SB) shows a positive and significant influence on financial performance. These results are shown in Table 5.6 with a

Table 5: F-square values

Variable	KK	RK	Criteria
RC	0,144		Small
RL	0,004		Small
SB	0,012		Small
SB		0,000	Small

Source: Processed data (2024)

Table 6: Direct effect of sustainable banking, credit risk on financial performance

Model	Path Coefficient	*t-statistics*	*p-values*	T Table (Sig 5%)	Information
SB → FP	0,103	2,232	0,026	> 1,960	Significant
SB → RC	-0,129	2,188	0,038	> 1,960	Significant
RC → FP	-0,352	3,771	0,000	> 1,960	Significant

Source: Processed data (2024)

p-value of 0.026 < 0.05 with a t-statistic of 2.232 > 1.960 and a positive path coefficient of 0.103. The results of this test show that hypothesis 1, which states that sustainable banking has a positive effect on financial performance, can be accepted. That means the higher the sustainable banking practices, the more the bank's financial performance will increase. Sustainable banking shows a negative and significant influence on credit risk. These results are shown in Table 6 with the p-value of the influence of sustainable banking on credit risk of 0.038 < 0.05 with a t-statistic of 2.188 > 1.960 and a negative path coefficient of -0.129. This examination indicates that hypothesis 2, positing that sustainable banking adversely influences credit risk, can be validated. It means that the higher the sustainable banking practices, the lower the credit risk (CR). Credit risk shows a negative and significant influence on financial performance. These results are shown by the p-value of the influence of financial performance on credit risk of 0.000 < 0.05 with a t-statistic of 3.771 > 1.96 and a negative path coefficient of -0.352. The results of this test show that hypothesis 3, which states that credit risk has a negative effect on financial

performance, can be accepted. That means the lower the credit risk, the greater the financial performance.

Indirect Effect Testing

The influence of sustainable banking on financial performance through credit risk obtained a path coefficient of 0.103 with a t-statistic value of 4.679 > 1.96 and a significance value of 0.002 < 0.005. The results of this test showed that hypothesis 4 states that sustainable banking positively affects financial performance through credit risk. That means that the higher the level of sustainable banking, the lower the credit risk will be, which will indirectly increase financial performance. The nature of credit risk conciliation in mediating the influence of sustainable banking on financial performance is carried out based on the calculation of the VAF value. The VAF test results show a value of 30.405%, so this VAF value is in the partial mediation category, which means that the presence of credit risk mediating variables and other variables can explain the influence of sustainable banking on financial performance.

Table 7: Indirect influence of sustainable banking on financial performance through credit risk

Model	Path Coefficient	*t-statistics*	*p-value*	T Table (Sig 5%)	Description
SB → FP → RC	0,103	4,679	0,002	> 1,960	Significant
a S.B. → RC	-0.129	2,188	0,038	> 1,960	Significant
b R.C. → FP	-0.352	3,771	0,000	> 1,960	Significant
c S.B. → FP	0,103	2,232	0,000	> 1,960	Significant

Source: Processed data (2024)

$$VAF = \frac{a \times b}{(axb) + c} X\ 100\% = \frac{(-0,352)x(-0,129)}{(-0,352\ x - 0,129) + 0,103} X 100\%$$

$$VAF = \frac{a \times b}{(axb) + c} X\ 100\% = \frac{0,045}{0,148} X\ 100\% = 30,405\%$$

Discussion

The Influence of Sustainable Banking on Financial Performance.

The practice of sustainable banking with financial integrity, financial inclusion and financial stability shows that banks produce competitive advantages and lead to superior performance. This research shows that banks establish regulations for implementing transparency, ensuring the implementation of rules, and increasing information disclosure and rules for implementing transparency (Alber, 2019). The financial integrity sustainability report reveals that banks prevent financial crimes, including anti-fraud, anti-corruption, anti-money laundering and anti-terrorism financing. Bank integrity is demonstrated by establishing principles for managing bank sustainability activities: Customer, business strategy, banking operations, risk management, human capital, and community development. These aspects are then grouped into 4 (four) areas of Corporate Social Responsibility (CSR), namely: CSR related to the environment, CSR related to employment, health and work safety, CSR related to social development, and CSR related to responsibility to consumers (customers).

The bank carries out continuous monitoring by establishing a Credit Committee to assist the Board of Directors in evaluating and providing credit decisions by the authority limits determined by the Board of Directors, based on the rules in the bank's articles of association and by paying attention to business development by implementing the precautionary principle. This research also supports the idea that banks' sustainable practices consider the impact of financing on society. Banks must consider stakeholders' interests and welfare, ensuring information dissemination and transparency. Banks maintain stakeholder trust to repay loans and improve their financial performance (Hossain *et al*., 2016; Shaumya & Arulrajah, 2017; Hou, 2019). It was expected that banks did not only focus on the economic gain in business policy, but they should also consider the social aspects and the effect on the environment.

Sustainable banking needs financial investment, which causes a conflict of interest among stakeholders, and agency problems arise in the implementation. To internalise the sustainable issue that accommodates economic, social and environmental demands in the banking business, it needs the involved stakeholders.

The Influence of Sustainable Banking on Credit Risk

Sustainable banking practices include providing environmental requirements that must be met, including Environmental Impact Analysis (AMDAL). This requirement is to avoid errors in managing credit funds. In addition, the bank considers it essential to have competency development activities for developers or work partners related to financing schemes and their potential impact on the environment. The research results showed that financial inclusion practices can maintain credit risk. The bank maintains good relationships with customers by opening communication and monitoring customer business developments and the customers' ability to pay obligations. Applying the prudential principle is very important for banks in maintaining quality credit growth in the long-term. Availability of bank infrastructure to support long-term and sustainable credit growth by improving credit infrastructure. The bank seeks to speed-up the credit processing with the use of technology while maintaining the principle of prudence. The Bank evaluates planned new products and activities to ensure that the new products or activities comply with applicable regulations, including related risk reviews. This research supports Bannier *et al*. (2022) claim that environmental and social performance reduces credit risk, and Al-Qudah *et al*. (2022) showed that environmentally friendly lending policies reduced credit risk. This research also strengthened the findings of Hock *et al*. (2020), which revealed that sustainable companies have lower credit risks

if the company has high creditworthiness and better sustainable banking reduces risk. There needs to be prudence in every industry to reduce credit risk (Razak, 2020).

The Influence of Credit Risk on Financial Performance

The research results show that conventional commercial banks in Indonesia have managed reasonable risk by maintaining the non-performing loan (NPL) ratio in the healthy category to increase return on assets (ROA). The impact of credit risk on bank performance provides insight to bank managers regarding the role of banking institutions as financial intermediaries. Management decisions in providing credit are a determining factor in bank success and maintaining the stability of financial institutions. Errors in decisions about granting credit will result in bank losses, resulting in a decline in financial performance. This research supports the stakeholder theory that financial reports are provided to stakeholders as information for decision-making in future strategic planning (Donaldson & Preston, 1995). This research supports previous empirical studies; the results of the study by Gadzo *et al*. (2019), Khan *et al*. (2020), and Abdelaziz *et al*. (2020) show that credit risk has a negative effect on financial performance. Credit risk plays a vital role in a bank's financial performance because most of the bank's income comes from interest-bearing loans. The higher the credit risk, the lower the bank's income, resulting in a decline in financial performance.

The Influence of Sustainable Banking on Financial Performance Through Credit Risk

Banks that provide loans with sustainability criteria tend to have a lower risk of default and can improve performance. That supports the statement that environmentally responsible lending helps banking performance (Chen *et al*., 2022). This research is relevant to instrumental stakeholder theory, namely that good relationship management between banks and stakeholders

will have an impact on increasing profitability and stakeholder welfare (Donaldson & Preston, 1995). One way of implementing sustainable banking is a practical, sustainable company strategy to reduce credit risk (Bannier *et al*., 2020). The strategy in providing funding to debtors is to focus on environmentally conscious projects to increase bank competitiveness, generate income and increase assets. Sustainable practices are essential for creditworthiness. Sustainable companies have lower credit risk if the company has high creditworthiness (Hock *et al*., 2020). Banks that have and implement credit risk procedures and policies will show a reduction in credit risk (Collaku & Aliu, 2021). Good credit policies reduce bank terrible loans and increase profitability (Saleh & Afifa, 2020).

Conclusions and Recommendations

This research finds that sustainable banking has a positive effect on financial performance, sustainable banking has a negative effect on credit risk, credit risk has a negative effect on financial performance, and credit risk can mediate the effect of sustainable banking on financial performance. These results reflect the importance of banks implementing sustainable banking. Hopefully, these findings can change the banking paradigm by implementing sustainable banking. Sustainable banking practices are not only a burden but have a long-term impact on improving reputation, consumer loyalty, and banking competitive advantage. The results of this research paper suggest that banks should not only set rules for sustainable performance but also implement regulations and continuous monitoring on an ongoing basis by improving sustainable banking via improvements to the financial integrity function. Banking also needs to improve the implementation of ethical management plans and policies, enforce management ethics, increase disclosure, reporting sustainability errors. To increase the implementation of financial inclusion, banks should increase the availability of infrastructure so that people can reach financial institutions, products and

services to provide great welfare benefits for stakeholders. To increase the implementation of financial stability, banks should increase financing or investment in renewable projects, financing start-up entrepreneurs, and financing the development of Micro, Small, and Medium Enterprises (MSMEs). The bank also increases policy dissemination to stakeholders so that stakeholders can know the advantages of the latest products and systems. Suggestions for the government: The government should consider a policy on the amount of costs that must be incurred by banks for implementing CSR activities, for example, calculated based on a percentage of the company's net profit or part of the relationship between company activities that have an impact on natural resources and the environment. Banking prefers how much funds should be allocated for CSR.

Acknowledgement

Conflict of Interest Statement

The authors declare that they have no conflict of interest.

References

Abdelaziz, H., Rim, B., & Helmi, H. (2020). The interactional relationships between credit risk, liquidity risk and bank profitability in MENA region. *Global Business Review*, *23*(3), 561-583. https://doi.org/10.1177/0972150919879304

Abdul Razak, L., Ibrahim, M. H., & Ng, A. (2020). Which sustainability dimensions affect credit risk? Evidence from corporate and country-level measures. *Journal of Risk and Financial Management*, *13*(12), 316. https://doi.org/10.3390/jrfm13120316

Ahmad, F., & Bashir, T. (2013). Explanatory power of bank specific variables as determinants of non-performing loans: Evidence from Pakistan banking sector. *World Applied Sciences Journal*, *22*(9), 1220-1231. https://doi.org/10.5829/idosi.wasj.2013.22.09.1908

Al-Qudah, A. A., Hamdan, A., Al-Okaily, M., & Alhaddad, L. (2022). The impact of green lending on credit risk: Evidence from UAE's banks. *Environmental Science and Pollution Research*, *0123456789*. https://doi.org/10.1007/s11356-021-18224-5

Alber, N. (2019). Financial Inclusion, Stability, Integrity and Protection (I-SIP). *SSRN Electronic Journal*, 1-16. https://doi.org/10.2139/ssrn.3335904

Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science*, *65*(10), 4451-4469. https://doi.org/10.1287/mnsc.2018.3043

Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. *Sustainability (Switzerland)*, *10*(2). https://doi.org/10.3390/su10020494

Aras, G., Tezcan, N., & Kutlu Furtuna, O. (2018). Multidimensional comprehensive corporate sustainability performance evaluation model: Evidence from an emerging market banking sector. *Journal of Cleaner Production*, *185*, 600-609. https://doi.org/10.1016/j.jclepro.2018.01.175

Azmy, A., Febriansyah, I., & Munir, A. (2019). The effect of financial performance ratios on conventional bank profitability in Indonesia stock exchange. *Ekuilibrium: Jurnal Ilmiah Bidang Ilmu Ekonomi*, *14*(2), 84. https://doi.org/10.24269/ekuilibrium.v14i2.1568

Bannier, C. E., Bofinger, Y., & Rock, B. (2020). Corporate social responsibility and credit risk. *Finance Research Letters*, *44*(November 2020). https://doi.org/10.1016/j.frl.2021.102052

Bannier, C. E., Bofinger, Y., & Rock, B. (2022). Corporate social responsibility and credit risk. *Finance Research Letters*, *44*(March). https://doi.org/10.1016/j.frl.2021.102052

Banque de France. (2019). Network for Greening the Financial System. https://www.banque-france.fr/en/financial-stability/international-role/networkgreening-financial-system. Accesed 1.2022.

Belal, A. R., & Momin, M. (2009). Corporate Social Reporting (CSR) in emerging economies: A review and future direction. *Research in Accounting in Emerging Economies*, *9*(April 2020), 119-143. https://doi.org/10.1108/S1479-3563(2009)0000009007

Bernardini, E., Faiella, I., Lavecchia, L., Mistretta, A., & Natoli, F. (2021). Central banks, climate risks and sustainable finance (No. 608). Bank of Italy, Economic Research and International Relations Area.

Block, P. (1993). *More praise for the new edition of Stewardship*. Berrett–Koehler Publishers, Inc. San Francisco a BK Business Book Berrett–Koehler.

Capasso, G., Gianfrate, G., & Spinelli, M. (2020). Climate change and credit risk. *Journal of Cleaner Production*, *266*, 121634. https://doi.org/10.1016/j.jclepro.2020.121634

Chava, S. (2014). Environmental externalities and cost of capital. In *Management Science* (Vol. 60, Issue 9). https://doi.org/10.1287/mnsc.2013.1863

Chen, Z., Mirza, N., Huang, L., & Umar, M. (2022). Green Banking—Can financial institutions support green recovery? *Economic Analysis and Policy*, *75*, 389-395. https://doi.org/10.1016/j.eap.2022.05.017

Collaku, Besmir & Aliu, M. (2021). Impact of non-performing loans on bank's profitability: Empirical evidence from commercial banks in Kosovo. *Journal of Accounting Finance and Auditing Studies (JAFAS)*, *7*(3), 226-242. https://doi.org/10.32602/jafas.2021.027

Cornett, M. M., Erhemjamts, O., & Tehranian, H. (2016). Greed or good deeds: An examination of the relation between corporate social responsibility and the financial performance of U.S. commercial banks around the financial crisis. *Journal of Banking and Finance*, *70*, 137-159. https://doi.org/10.1016/j.jbankfin.2016.04.024

Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, *117*, 284-289.

De Koker, L., & Jentzsch, N. (2013). Financial inclusion and financial integrity: Aligned incentives? *World Development*, *44*(July 2011), 267-280. https://doi.org/10.1016/j.worlddev.2012.11.002

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence and implications. *Academy of Management Review*, *20*(1), 65-91. https://doi.org/10.3138/9781442673496-011

Dorfleitner, G., & Grebler, J. (2020). The social and environmental drivers of corporate credit ratings: International evidence. *Business Research*, *13*(3), 1343-1415. https://doi.org/10.1007/s40685-020-00127-9

El Ghoul, S., Guedhami, O., & Kim, Y. (2017). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. In *Journal of International Business Studies* (Vol. 48, Issue 3). https://doi.org/10.1057/jibs.2016.4

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of the 21st century business*. Chichester, UK: Capstone.

Ervina, Fatimah, V. N., & Lestari, H. S. (2021). Pengaruh Credit Risk Management pada Financial Performance Bank Konvensional

yang terdaftar di BEI. *Jurnal Ekonomi*, *26*(3), 447. https://doi.org/10.24912/je.v26 i3.801

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman. https://doi.org/10.4324/9780203982211-18

Freeman, R. E., Dmytriyev, S. D., & Phillips, R. A. (2021). Stakeholder theory and the resource-based view of the firm. *Journal of Management*, *47*(7), 1757-1770. https://doi. org/10.1177/0149206321993576

Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics*, *166*(1), 3-18. https://doi. org/10.1007/s10551-019-04112-z

Gadzo, S. G., Kportorgbi, H. K., & Gatsi, J. G. (2019). Credit risk and operational risk on the financial performance of universal banks in Ghana: A Partial Least Squared Structural Equation Model (PLS-SEM) Approach. *Cogent Economics and Finance*, *7*(1), 1-16. https://doi.org/10.1080/2332203 9.2019.1589406

Global Sustainability Standards Board. (2013). Pedoman Pelaporan Keberlanjutan G4. *Global Reporting Initiative*, 1-97.

Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, *5*(2), 282-293. https://doi.org/10. 1108/14691930410533704

Hadad, M. D., & Maftuchah, I. (2015). *Sustainable financing*. P.T. Elex Media Komputindo.

Haniffa, R. M., & Cooke, T. E. (2005). The impact of culture and governance on corporate social reporting. *Journal of Accounting and Public Policy*, *24*(5), 391-430. https://doi. org/10.1016/j.jaccpubpol.2005.06.001

Harun, N. A., Rashid, A. A., & Alrazi, B. (2013). Measuring the quality of sustainability disclosure among Malaysian commercial banks. *World Applied Sciences Journal*, *28*(13), 195-201. https://doi.org/10.5829/ idosi.wasj.2013.28.efmo.27026

Hill, D. (2014). *What good are China's green policies if its banks do not listen?*

Hock, A., Klein, C., Landau, A., & Zwergel, B. (2020). The effect of environmental sustainability on credit risk. *Journal of Asset Management*, *21*(2), 85-93. https:// doi.org/10.1057/s41260-020-00155-4

Hooks, J., & van Staden, C. J. (2011). Evaluating environmental disclosures: The relationship between quality and extent measures. *British Accounting Review*, *43*(3), 200-213. https://doi.org/10.1016/j.bar.2011.06.005

Hossain, M. M., Alamgir, M., & Alam, M. (2016). The mediating role of corporate governance and corporate image on the CSR-FP link: Evidence from a developing country. *Journal of General Management*, *41*(3), 33-51. https://doi.org/ 10.1177/030630701604100303

Hou, T. C. T. (2019). The relationship between corporate social responsibility and sustainable financial performance: Firm-level evidence from Taiwan. *Corporate Social Responsibility and Environmental Management*, *26*(1), 19-28. https://doi.org/ 10.1002/csr.1647

Hunjra, A. I., Mehmood, A., Nguyen, H. P., & Tayachi, T. (2020). Do firm-specific risks affect bank performance? *International Journal of Emerging Markets*. https://doi. org/10.1108/IJOEM-04-2020-0329

Jiguang, L., & Zhiqin, S. (2011). Low carbon finance: Present situation and future development in China. *Energy Procedia*, *5*, 214-218. https://doi.org/10.1016/j.egypro. 2011.03.038

Jo, H., & Harjoto, M. A. (2012). The causal effect of corporate governance on corporate social responsibility. *Journal of Business Ethics*, *106*(1), 53-72. https://doi.org/10.1007/s10 551-011-1052-1

Jung, J., Herbohn, K., & Clarkson, P. (2018). Carbon risk, carbon risk awareness and the cost of debt financing. *Journal of Business Ethics*, *150*(4), 1151-1171. https://doi.org/10.1007/s10551-016-3207-6

Khan, M. A., Siddique, A., & Sarwar, Z. (2020). Determinants of non-performing loans in the banking sector in developing state. *Asian Journal of Accounting Research*, *5*(1), 135-145. https://doi.org/10.1108/AJAR-10-2019-0080

Kuada, J. (2019). Financial inclusion and the sustainable development goals. In *Extending Financial Inclusion in Africa*. Elsevier Inc. https://doi.org/10.1016/B978-0-12-814164-9.00012-8

Laguir, I., Marais, M., El Baz, J., & Stekelorum, R. (2018). Reversing the business rationale for environmental commitment in banking: Does financial performance lead to higher environmental performance? *Management Decision*, *56*(2), 358-375.

Lin, W. L., Law, S. H., Ho, J. A., & Sambasivan, M. (2019). The causality direction of the corporate social responsibility – Corporate financial performance Nexus: Application of Panel Vector Autoregression Approach. *North American Journal of Economics and Finance*, *48*(December 2018), 401-418. https://doi.org/10.1016/j.najef.2019.03.004

Linh, D. H., & Anh, T. Van. (2017). Impact of stakeholders on the performance of green banking products and services: The case of Vietnamese banks. *Economic Annals-XXI*, *165*(5-6), 143-151. https://doi.org/10.21003/ea.V165-29

Maharani, S. A., Slamet, A. R., & Rahman, F. (2020). Pengaruh CAR, NPL, LDR dan NIM terhadap profitabilitas perbankan (Studi kasus pada bank umum yang terdaftar di BEI tahun 2017-2019). *E – Jurnal Riset Manajemen*, *1997*(November 1997), 82-94.

Mahrani, M., & Soewarno, N. (2018). The effect of good corporate governance mechanism and corporate social responsibility on financial performance with earnings management as a mediating variable. *Asian Journal of Accounting Research*, *3*(1), 41-60. https://doi.org/10.1108/AJAR-06-2018-0008

Maulana, P., Dwita, S., & Helmayunita, N. (2021). Pengaruh CAR, NPL, LDR dan BOPO terhadap Return ON Assets (ROA) pada bank yang terdaftar di Bursa Efek Indonesia tahun 2017-2019. *Jurnal Eksplorasi Akuntansi*, *3*(2), 316-328. https://doi.org/10.24036/jea.v3i2.355

Moufty, S., Clark, E., & Al-Najjar, B. (2021). The different dimensions of sustainability and bank performance: Evidence from the E.U. and the USA. *Journal of International Accounting, Auditing and Taxation*, *43*, 100381. https://doi.org/10.1016/j.intaccaudtax.2021.100381

Nizam, E., Ng, A., Dewandaru, G., Nagayev, R., & Nkoba, M. A. (2019). The impact of social and environmental sustainability on financial performance: A global analysis of the banking sector. *Journal of Multinational Financial Management*, *49*, 35-53. https://doi.org/10.1016/j.mulfin.2019.01.002

Nosratabadi, S., Pinter, G., Mosavi, A., & Semperger, S. (2020). Sustainable banking; Evaluation of the European business models. *Sustainability (Switzerland)*, *12*(6). https://doi.org/10.3390/su12062314

Nurfitriani, I. (2021). Pengaruh Capital Adequacy Ratio (CAR), Non Performing Loan (NPL), dan Loan to Deposit Ratio (LDR) terhadap Return On Asset (ROA) pada PT Bank Muamalat Indonesia. *Jurnal At-Tamwil: Kajian Ekonomi Syariah*, *3*(1), 50-67. https://doi.org/10.33367/at.v2i3.1453

Olawumi, T. O., & Chan, D. W. M. (2018). A scientometric review of global research on sustainability and sustainable development. *Journal of Cleaner Production*, *183*, 231-250. https://doi.org/10.1016/j.jclepro.2018.02.162

Otoritas Jasa Keuangan. (2017). Peraturan Otoritas Jasa Keuangan Nomor 51/POJK.03/2017 Tentang Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan, Emitten dan Perusahaan Publik. *Otoritas Jasa Keuangan*, 1-15.

Ozili, P. K. (2022). Financial inclusion and sustainable development: An empirical association. *Journal of Money and Business*, *2*(2), 186-198. https://doi.org/10.1108/jmb-03-2022-0019

Panel, F. (2021). *Financial integrity for sustainable development*. Facti Panel Report.

Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & de Colle, S. (2010). Stakeholder theory: The state of the art. *Academy of Management Annals*, *4*(1), 403-445. https://doi.org/10.1080/19416520.2010.495581

Peng, L. S., & Isa, M. (2020). Environmental, Social and Governance (ESG) practices and performance in shariah firms: Agency or stakeholder theory? *Asian Academy of Management Journal of Accounting and Finance*, *16*(1), 1-34. https://doi.org/10.21315/aamjaf2020.16.1.1

Rebai, S., Azaiez, M. N., & Saidane, D. (2016). A multi-attribute utility model for generating a sustainability index in the banking sector. *Journal of Cleaner Production*, *113*, 835-849. https://doi.org/10.1016/j.jclepro.2015.10.129

Safi, A., Wahab, S., Zeb, F., Amin, M., & Chen, Y. (2021). Does financial stability and renewable energy promote a sustainable environment in G-7 Countries? The role of income and international trade. *Environmental Science and Pollution Research*, *28*(34), 47628-47640. https://doi.org/10.1007/s11356-021-13991-7

Saleh, I., & Abu Afifa, M. (2020). The effect of credit risk, liquidity risk and bank capital on bank profitability: Evidence from an emerging market. *Cogent Economics and Finance*, *8*(1). https://doi.org/10.1080/23322039.2020.1814509

Salman, S., & Hamid, S. (2018). Fostering green banking and sustainability in a developing economy: An empirical assessment. *Journal of Organisational Studies and Innovation*, *5*(1), 21-38.

Schucking, H., Kroll, L., Louvel, Y., & Richter, R. (2011). *Bankrolling climate change*. Urgewald, GroundWork, Earthlife Africa Johannesburg and BankTrack, 58.

Shaumya, S., & Arulrajah, A. (2017). The impact of green banking practices on bank's environmental performance: Evidence from Sri Lanka. *Journal of Finance and Bank Management*, *January*. https://doi.org/10.15640/jfbm.v5n1a7

Shen, L., Shuai, C., Jiao, L., Tan, Y., & Song, X. (2016). A global perspective on the sustainable performance of urbanisation. *Sustainability (Switzerland)*, *8*(8), 1-16. https://doi.org/10.3390/su8080783

Siminica, M., Cristea, M., Sichigea, M., Noja, G. G., & Anghel, I. (2019). Well-governed sustainability and financial performance: A new integrative approach. *Sustainability (Switzerland)*, *11*(17). https://doi.org/10.3390/su11174562

Stauropoulou, A., & Sardianou, E. (2019). Understanding and measuring sustainability performance in the banking sector. *IOP Conference Series: Earth and Environmental Science*, *362*(1). https://doi.org/10.1088/1755-1315/362/1/012128

Taneja, S., & Ali, L. (2021). Determinants of customers' intentions towards environmentally sustainable banking: Testing the structural model. *Journal of Retailing and Consumer Services*, *59*(May), 102418. https://doi.org/10.1016/j.jretconser.2020.102418

Tang, D. Y., & Zhang, Y. (2020). Do shareholders benefit from green bonds? *Journal of Corporate Finance*, *61*(November), 1-18.

https://doi.org/10.1016/j.jcorpfin.2018.12.001

Triodos Bank. (2019). Las Finanzas sostenibles. Estado de la cuesti´on y motivaciones para su desarrollo. https://www.triodos.es/binaries/content/documents/tbes/shared/press-releases/es/2019/foro-academico-finanzas-sostenibles/foro-academico-finanzas-sostenibles/triodoshippo%3AresourceDownload/triodoshippo %3Afile. Last accessed 1, 2022.

Umar, M., Ji, X., Mirza, N., & Rahat, B. (2021). The impact of resource curse on banking efficiency: Evidence from twelve oil-producing countries. *Resources Policy*, *72*(February), 102080. https://doi.org/10.1016/j.resourpol.2021.102080

Van Staden, C. J., & Hooks, J. (2007). A comprehensive comparison of corporate environmental reporting and responsiveness. *British Accounting Review*, *39*(3), 197-210. https://doi.org/10.1016/j.bar.2007.05.004

Volz, U. (2018). *Fostering Green Finance for sustainable development in Asia.* Asian Development Bank Institute. 814.

Vouldis, A. T., & Louzis, D. P. (2018). Leading indicators of non-performing loans in Greece: The information content of macro-, micro- and bank-specific variables. *Empirical Economics*, *54*(3), 1187-1214. https://doi.org/10.1007/s00181-017-1247-0

Walhi. (2022). Bank Mendanai USD 37,7 Miliar ke Perusahaan Tambang yang Menyebabkan Kerusakan Lingkungan dan Pelanggaran HAM. On 20 April.

Weber, O. (2005). Sustainability benchmarking of European banks and financial service organisations. *Corporate Social Responsibility and Environmental Management*, *12*(2), 73-87. https://doi.org/10.1002/csr.77

Weber, O. (2017). Corporate sustainability and financial performance of Chinese banks. *Sustainability Accounting, Management and Policy Journal*, *8*(3), 358-385. https://doi.org/10.1108/SAMPJ-09-2016-0066

Widyastuti, P. F., & Aini, N. (2021). Pengaruh Car, Npl, Ldr terhadap profitabilitas bank. *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Universitas Pendidikan Ganesha*, *12*, 1020-1027.

Wu, M. W., & Shen, C. H. (2013). Corporate social responsibility in the banking industry: Motives and financial performance. *Journal of Banking and Finance*, *37*(9), 3529-3547. https://doi.org/10.1016/j.jbankfin.2013.04.023

Yoon, B., & Chung, Y. (2018). The effects of corporate social responsibility on firm performance: A stakeholder approach. *Journal of Hospitality and Tourism Management*, *37*(October), 89-96. https://doi.org/10.1016/j.jhtm.2018.10.005

Zerbib, O. D. (2019). The effect of pro-environmental preferences on bond prices: Evidence from green bonds. *Journal of Banking and Finance*, *98*, 39-60. https://doi.org/10.1016/j.jbankfin.2018.10.012

Zhang, B., Yang, Y., & Bi, J. (2011). Tracking the implementation of green credit policy in China: Top-down perspective and bottom-up reform. *Journal of Environmental Management*, *92*(4), 1321-1327. https://doi.org/10.1016/j.jenvman.2010.12.019