

THE EFFECT OF CARBON EMISSIONS, CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE, RETURN ON EQUITY



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Abstract

This study analyzes the effect of Carbon Emission (CE), Corporate Social Responsibility (CSR), Return on Equity (ROE), and Leverage on bank lending to manufacturing and mining companies listed on the Indonesia Stock Exchange, using the Panel Data Regression Method. With a sample of 15 companies from 2018 to 2022, the results of the study show that CE and CSR do not have a significant effect on bank lending. On the contrary, ROE and Leverage have a significant effect, where ROE has a negative impact and Leverage has a positive impact on bank loans. These findings conclude that banks in Indonesia are still more focused on financial fundamentals in assessing corporate loan applications, without considering environmental and social risks. This study underlines the importance of innovation in credit structures and loan products to include considerations of environmental and social risks in the future, in order to achieve decarbonization targets and the Paris Agreement.

Keywords: Green Finance, Climate Change, Bank Loans, Funding, Emission

INTRODUCTION

Economic growth is a reference for Bank Indonesia in stabilizing economic activity, proven by the Indonesian economy continuing to grow until the second quarter of 2023, reaching 5.17% and followed by stable public consumption. This growth is inseparable from the ease of access to funding and subsidy policies; the financial sector has a crucial role in economic activity, including collecting savings, distributing risks, and encouraging investment funding, and innovation (Levine et al., 2004). According to the Financial Services Authority (OJK) report in 2023, the banking industry's total growth of loan disbursements was 9.06% and reached IDR6,739.40 trillion. Indirectly, the increase in the number of companies listed on the Indonesia Stock Exchange (IDX) reflects Indonesia's rapid economic growth. This is evidenced by the increase in companies listed on the IDX from 566 companies in 2017 to 825 companies in 2022 (Andrian, 2020).

In line with the current need for change, the principle is no longer relevant and needs to be updated. The issue of climate change, which has become a global concern and is said to be one of the threats to the economy, is part of the risk that should be considered in addition to credit risk, which refers to the company's fundamentals. Research conducted by Capasso et al (2020), on the correlation between climate change impacts and corporate credit risk shows that the distance to default risk, a common market metric for assessing such risk, is negatively correlated with the level of carbon emissions and the company's carbon intensity. This means that companies with a high carbon footprint tend to be considered more at risk of default by the market under comparable conditions. In addition, this carbon footprint also influences the increase in default risk after a shock event, such as the Paris Agreement, which indicates a commitment to implementing stricter climate policies. Overall, these findings suggest that exposure to climate risk significantly impacts the creditworthiness of loans and bonds issued by companies (Capasso et al., 2020). Therefore, financial and policymakers need to seriously consider the impact of climate change risks on the stability of corporate bond and intermediary loan markets.

In the midst of tight competition and the centrality of the issue of climate change, companies are driven to show their superior side to attract investors in the midst of competitive companies. The Triple Bottom Line (3P) concept is one of the principles of sustainability that emphasizes the importance of balance between company profitability, community welfare, and environmental sustainability. Companies that apply this concept not only focus on financial gain but are also committed to providing a positive impact on society and preserving the environment. These three pillars are represented through Corporate Social Responsibility (CSR), which has developed due to the increasing sensitivity of society to the externalities of business activities.

CSR becomes part of the company's investment in social entities to improve brand image. In financing activities, banks are basically different from other stakeholders, especially because bank lenders can adjust loan terms; they may be more sensitive to the impact of CSR than other public lenders (Nandy et al., 2000). Research conducted by Mukhtaruddin et al (2019) found the same thing in the study that social responsibility is positively related to the performance of organizational shares, in line with the increase in interest relationships such as banks, investors, and government agencies. Furthermore, according to the study by Huang et al (2017), there is an inverted U-shaped relationship between CSR and bank loans. In addition, the CSR threshold for state-owned enterprises

(SOEs) is higher than that for non-SOEs. SOEs in areas with high levels of marketization have a lower CSR threshold than SOEs in areas with low levels of marketization. This suggests that the value destruction effect occurs in the CSR underinvestment phase, contrary to the view that focuses on overinvestment. In addition, according to Gao (2009) and W. Li & Zhang (2010) in emerging markets, awareness of CSR is still quite low, and the banking sector is still in the transition stage towards market mechanisms. Therefore, the relevance of CSR in credit decisions is still questionable.

Leverage, a ratio that is generally known as the debt-to-asset or equity ratio of a company, is also one of the considerations of banks in assessing risk. According to Dwiarti et al (2021), the ratio is also significantly positive when measuring the level of corporate bankruptcy. The possibility of bankruptcy or default on each borrower tends to increase along with the increasing number of loans (Baxter, 1967). The above factors are one part of several factors that have been studied by Gonzalez-Gonzalez & Zamora Ramirez (2016), the research uses several variables that are in line with the pressures mentioned in the 2022 PWC report, namely market pressure variables (leverage), social pressure (firm size), and shareholder interests. Social pressure from company size is part of the characteristics that affect leverage, based on the research results by C. Anscá et al (2019) state that larger-scale companies generally have greater access and financial portion in the market. This causes these companies to have higher leverage levels, where when social pressure becomes higher, it tends to be followed by high leverage. Social pressure can come from investors or creditors who expect larger companies because they have lower risk.

Research in Indonesia has predominantly focused on examining the impact of environmental and social risks on company financial performance and value. For instance, studies by Andrian (2020) and Choiriah (2021) found that carbon emission disclosures have a significant positive effect on financial performance, while corporate social responsibility (CSR) disclosures have a significant negative impact. Additionally, Nazwa & Fitri (2022) research shows that companies with more extensive carbon emission disclosures, strong environmental performance, and CSR practices tend to have higher company values. Novitasari & Tarigan (2022) also found that CSR implementation, particularly through green innovation such as sustainable material use, emission reduction, and energy savings, positively contributes to company performance.

While previous studies have emphasized the role of carbon emission and CSR disclosures in improving financial performance and company value, there has been little focus on how these practices influence a company's access to financing, particularly from financial institutions like banks. Given that access to funding is crucial for supporting a company's operations and growth, this study identifies a research gap in understanding whether financial institutions continue to assess company funding applications based solely on financial fundamentals or also incorporate environmental and social risks as key considerations in their lending decisions, which are expected to become increasingly.

RESEARCH METHOD

This study analyzes 15 mining and manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. These companies were selected through purposive sampling, based on audited financial statements available on the IDX website and the companies' environmental assessments by the Ministry of Environment. The data is sourced

from audited reports, available on the IDX, and Refinitiv Eikon, accessed through the Faculty of Economics and Business, Brawijaya University.

Based on all the criteria and sample selection techniques that have been determined, the following is the sample population that will be used:

Table 1.

Sample Data of Mining and Manufacturing Sector Companies

| No | Mining Sector | Manufacturing Sector |
|----------------------------|-------------------------------|--------------------------------------|
| 1 | PT. Adaro Energy Tbk | PT. Astra International Tbk |
| 2 | PT. Bukit Asam Tbk | PT. Semen Indonesia (Persero) Tbk |
| 3 | PT. Aneka Tambang Tbk | PT. Unilever Indonesia Tbk |
| 4 | PT. Merdeka Copper Gold Tbk | PT. Kalbe Farma Tbk |
| 5 | PT. Barito Pacific | PT. Waskita Karya (Persero) Tbk |
| 6 | PT. National Gas Company | PT. Tower Bersama Infrastructure Tbk |
| 7 | PT Indo Tambangraya Megah Tbk | PT. Japfa Comfeed Indonesia Tbk |
| 8 | - | PT. Jasa Marga Persero Tbk |
| Total Sample | | : 15 Company |
| Year of Observation | | : 5 year (2018-20220) |
| Total Observation | | : 75 |

RESULTS AND DISCUSSION

Analysis Result

Best Model Testing Results

Chow Test

In the panel data regression model selection test between CEM (Common Effect Model) and FEM (Fixed Effect Model), the proposed hypothesis is as follows:

H0: CEM is better than FEM.

H1: FEM is better than CEM.

Decision-making based on the above hypothesis is carried out with the rule that if the cross-section Chi-Square probability value is <0.05, then the null hypothesis (H0) is rejected.

Table 2.

Best Model Testing Results

| Effect Test | Statistics | df | Prob |
|--------------------------|------------|---------|-------|
| Cross-section F | 1,526 | (14.56) | 0.131 |
| Cross-section Chi-square | 24,250 | 14 | 0.042 |

Source: Data processed by researchers (2024)

Test Results *Chow Test* shows that the value of Prob. Cross-section Chi-square is 0.0427 which is more than 0.05. Therefore, the selected model is the Fixed Effect Model. Furthermore, further testing is needed to determine whether the Fixed Effect Model or Random Effect Model is more appropriate, so the Hausman Test is carried out.

Hausman Test

The objective of the Hausman test is to choose the best panel data regression model between FEM (Fixed Effect Model) and REM (Random Effect Model), the hypothesis proposed is as follows:

H0: REM is better than FEM.

H1: FEM is better than REM.

Decision-making based on the above hypothesis is carried out with the rule that if the random cross-section probability value is <0.05 , then the null hypothesis (H0) is rejected.

Table 5.

Hausman Test Results

| Effect Test | Statistics | df | Prob |
|----------------------|------------|----|-------|
| Cross-section Random | 1,329 | 4 | 0.856 |

Source: Data processed by researchers (2024)

The results of the Hausman test show that the value of the Prob. Cross-section Chi-square is 0.8564 which is more than 0.05. Therefore, the selected model is the Random Effect Model. Furthermore, further testing is needed to determine whether the Random Effect Model or the Common Effect Model is more appropriate, so the Lagrange Multiplier test is carried out.

Lagrange Multiplier Test

The test using Lagrange Multiplier is intended to compare the effectiveness of panel data regression models between the Common Effect Model (CEM) and the Random Effect Model. The hypotheses tested are:

H0: The REM model is better than the CEM model.

H1: The CEM model is better than the REM model.

The decision-making criteria are as follows: if the Breusch-Pagan probability value <0.05 , then the null hypothesis (H0) is rejected.

Table 6.

Lagrange Multiplier Results

| Effect Test | Cross Section | Hypothesis Test Time | Both |
|---------------|---------------|----------------------|------------------|
| Breusch Pagan | 0.851(0.356) | 1,349 (0.245) | 2,201 (0.137) |

Source: Data processed by researchers (2024)

The results of the Hausman Test above show that the Breusch-Pagan Prob. value is $0.1379 > 0.05$. So the conclusion of the selected model is the Common Effect Model.

Classical Assumption Test

Normality Test

The normality test is tested to ensure that the data is normally distributed. This test contains the basis for the decision of the probability value if it exceeds 0.05 then it can be stated that the data is normally distributed so that the null hypothesis (H0) is accepted. By

using the skewness and kurtosis tests, the following are the results of the normality test that has been carried out.

Table 7.
Normality Test Results

| Test | Statistics | Prob. |
|-----------|------------|-------|
| Skewness | 1,106 | 0.134 |
| Normality | 1,913 | 0.384 |

Source: Data processed by researchers (2024)

In addition to the test results above, the statistical values of skewness and kurtosis are smaller than the Z table value of 2.24. The results of the study indicate that the skewness and kurtosis values are 1.106 and 1.134, respectively. Furthermore, based on the guidelines provided (NCSS & LLC, 2007) the statistical values are significantly within the acceptable range, namely skewness is not much different from 0 and kurtosis is below 3. Based on the test results above, the probability of normality is greater than 0.05 (De La Rubia, 2022), which directly rejects H0, so it can be concluded that the data is normally distributed.

Autocorrelation Test

The presence or absence of autocorrelation symptoms is proven through the Durbin Watson test, with the test decision if the Durbin Watson value is between DU and 4-DU, then it can be concluded that H0 is accepted, which means there are no autocorrelation symptoms. The following are the results of the Durbin Watson test that has been carried out.

Table 8.
Autocorrelation Test Results

| DL | DU | DW | 4-DU |
|-------|-------|-------|-------|
| 1,515 | 1,739 | 1,899 | 2,261 |

Source: Data processed by researchers (2024)

Based on the test above, the Durbin Watson value is 1.899 which is between the DU value of 1.739 and 4-DU of 2.261. So it can be concluded that the null hypothesis (H0), which means there is no autocorrelation symptom.

Multicollinearity Test

Multicollinearity test is used to see the correlation between independent variables, this test uses the VIF test with the basis of decision making through a VIF value of less than five, if all models meet the basis of the decision then the null hypothesis is rejected (H0). The results of the multicollinearity test are attached as follows.

Table 9.
Multicollinearity Test Results

| Model | Dependent Variable | R2 | VIF |
|----------|--------------------|-------|-------|
| Model X1 | X1 | 0.167 | 1,199 |
| Model X2 | X2 | 0.109 | 1,123 |
| Model X3 | X3 | 0.155 | 1,184 |
| Model X4 | X4 | 0.203 | 1,254 |

Source: Data processed by researchers (2024)

In the results of the multicollinearity test attached to the table above, no high correlation was found, all VIF values were less than five so it can be concluded that the null

hypothesis (H0) is rejected. Therefore, it can be concluded that the variables used in this study do not experience multicollinearity problems.

Heteroscedasticity Test

Heteroscedasticity is tested using Breusch-pagan Goefrey with LM test, if the calculated LM value exceeds the chi-square table, then the null hypothesis (H0) is rejected, which means there is an indication of heteroscedasticity in the model. The following are the results of the LM test χ^2 .

Table 10.
Heteroscedasticity Test Results

| Chi-square | Chi-square Table |
|------------|------------------|
| 1,405 | 7,815 |

Source: Data processed by researchers (2024)

Based on the results of the heteroscedasticity test using the Breusch Pagan Goefrey LM Test method, the Chi-square value of 1.405 was obtained, which was smaller than the Chi-square Table of 7.815, which means that there are no symptoms of heteroscedasticity so that H0 is accepted. All of these variables have a significant value greater than 0.05 or 5%. Therefore, the assumption of heteroscedasticity has been met in the data variables of this study. χ^2

Hypothesis Testing

Simultaneous Effect Test Results (F-Test)

The F-test is used to see the influence of independent variables simultaneously affecting the dependent variable. The F-test refers to the probability value of the F-statistic, if the probability value of $F < 0.05$ then H0 is accepted.

Table 11.
F-test Result

| Test | Coefficient |
|-------------------|-------------|
| F Statistics | 12,099 |
| Prob(F-statistic) | 0,000 |

Source: Data processed by researchers (2024)

The test results above show that the probability value of $F < 0.05$ with an F-Statistic value of 12.099 which is greater than the F-table value of 2.502. It can be concluded that all independent variables simultaneously affect the dependent variable.

Partial Test (t-stat test)

In this test, the probability value of t-statistic is used as a measuring tool. If the probability value of t-statistic > 0.05 , then it can be concluded that the independent variable has no effect on the dependent variable. On the other hand, if the probability value of t-statistic < 0.05 , then the independent variable shows its effect on the dependent variable.

Table 12.
Partial Test Results (t-stat Test)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| C | -0.026 | 0.108 | -0.242 | 0.809 |

| | | | | |
|----|--------|-------|--------|-------|
| X1 | 0.008 | 0.005 | 1,544 | 0.127 |
| X2 | 0,000 | 0.015 | 0.042 | 0.966 |
| X3 | -0.215 | 0.058 | -3,670 | 0,000 |
| X4 | 0.070 | 0.012 | 5,533 | 0,000 |

Source: Data processed by researchers (2024)

The following is an interpretation of the results of testing the independent and dependent variables in the table above.

- The carbon emission variable (X1) has a t-count value of 1.544 which is smaller than the t-table value of 1.992 with a probability value of $0.127 > 0.05$, so it can be concluded that the carbon emission variable does not have a significant influence on the bank loan variable (Y).
- The corporate social responsibility variable (X2) has a t-count value of 0.042 which is smaller than the t-table value of 1.992 with a probability value of $0.9661 > 0.05$, so it can be concluded that the corporate social responsibility variable (X2) does not have a significant influence on the bank loan variable (Y).
- The return on equity variable (X3) has a t-count value of 3.671 which is greater than the t-table value of 1.992 with a probability value of $0.0005 < 0.05$, so it can be concluded that the return on equity variable (X3) has a significant influence on the bank loan variable (Y).
- The leverage variable (X4) with a t-count value of 5.534 which is greater than the t-table value of 1.993 with a probability value of $0.0000 < 0.05$, so it can be concluded that the carbon leverage variable (X4) has a significant influence on the loan bank variable (Y).

Hypothesis Results

Tests show that the Common Effect Model (CEM) is the best model for panel data regression equations. The following are the results of the panel data regression equation model.

$$Y_{it} = -0,026 + 0,008X1 + 0,006X2 - 0,215X3* + 0,070X4* + u_{it}$$

The regression equation presented above describes the relationship between the independent and dependent variables. The following is an interpretation of the results of the equation.

- The constant value of -0.026 shows that if all independent variables are equal to zero, then bank loans (Y) will decrease by 2.6%.
- The coefficient of the carbon emission variable (X1) of 0.008 shows that if all independent variables are equal to zero, bank loans will increase by 0.87%.
- The coefficient of the CSR variable is 0.000, indicating that if all independent variables are equal to zero, then bank loans will increase by 0.66%.
- The coefficient of the Return on Equity (X3) variable is -0.215, indicating that if all independent variables are equal to zero, then bank loans will decrease by 21%.
- The coefficient of the Leverage variable (X4) is 0.070, indicating that if all independent variables are equal to zero, then bank loans will increase by 7%.

Coefficient of Determination (R-Squared) goodness of fit

The R-Squared test refers to the R-squared value, when the R-Squared value is greater and approaches 1, the independent variable is considered strong, conversely, if the R-Squared value approaches 0, the independent variable is considered not to have a strong influence on the dependent.

Table 14.
R-Squared Test Result

| Test | Coefficient |
|-------------|--------------------|
| R-Squared | 0.408 |

Source: Data processed by researchers (2024)

The results of the R-Squared test in the table above show a value of 0.408, which can be concluded that all independent variables together influence the bank loan variable by 40.8%, and the remaining 59.13% is explained by other variables that are not included in the model being tested.

The Impact of Carbon Emissions on Bank Loans

The test that has been conducted provides the conclusion that the carbon emission variable does not have a significant influence on bank loans. Thus, the first hypothesis (H1) that has been developed is rejected. So, the companies listed on the Indonesian Stock Exchange that are the research samples, even though they produce high carbon emissions, do not have any influence at all in accessing bank loans. In contrast to China, research by Ding et al (2023) show that the impact of carbon emissions on bank loans is more prominent in companies listed on the stock exchange, companies with high-quality internal controls, and companies with strong environmental law enforcement; bank loans play a role in green governance, and encourage companies to proactively reduce carbon emissions. As compensation, when the company is unable to reduce carbon emissions, the bank should be able to provide pressure in the form of costs incurred or additional. This is supported by the analysis conducted by Ho & Wong (2023) regarding whether banks will set higher interest rates for companies with high levels of greenhouse gas (GHG) emissions in the syndicated loan market in developing countries.

In principle, companies with high emissions may be more vulnerable to transition risk, where their future cash flows and ability to service debt could be negatively affected by the shift to a disorderly low-carbon economy. If banks take this risk into account when lending, they may charge higher interest rates to compensate for the additional costs associated with transition risk. Furthermore, the study finds that banks in developing countries have begun to take climate transition risks into account when lending to high-emission sectors since the Paris Agreement, indicating an increased awareness of the climate transition risks faced by these companies.

The determination of the transition risk premium level also depends on the bank's environmental stance. In particular, banks committed to green principles are known to set higher interest rates than other banks when lending to companies with large environmental impacts after the Paris Agreement. In addition to including the transition risk premium in determining the loan interest rate, banks also apply stricter contractual terms, such as

shortening the loan term and setting collateral requirements, especially for companies with higher levels of credit risk uncertainty. Banks significantly reduce lending to companies with high GHG emissions. Research by Takahashi & Shino (2023) found that banks significantly reduce lending to companies with higher GHG emissions. Moreover, this effect of GHG emissions was already visible even before the signing of the Paris Agreement, which in the literature is considered the starting point where GHG emissions began to be included in the pricing of debt instruments as a credit risk. Finally, banks with higher leverage and lower returns on assets tend to be more likely to reduce lending to companies with high GHG emissions.

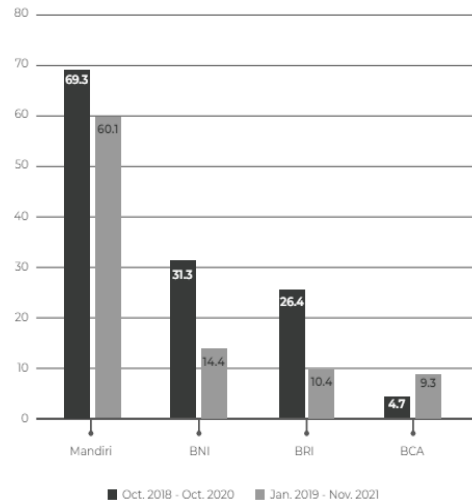


Figure 4.
Total Coal Financing by Bank (Loans and Underwriting)
Source: (Loeksmanto et al., 2023)

In the banking sector, Bank Mandiri, Bank BNI, Bank BRI, and Bank BCA continue to finance the coal industry through loans and guarantees from October 2018 to November 2021. Bank Mandiri dominates as the largest funder for the coal industry, with total loans and guarantees reaching IDR 69.3 trillion during the 2018-2020 period and IDR 60.1 trillion during the 2019-2021 period. However, there has been a decline in funding for the coal mining industry from 2018 to 2021.

One country that has considered green loans is China. China has introduced the Green Credit Guideline contained in the China Green Credit Policy (CGC) since 2012 to guide banking financial institutions in developing green credit services and evaluating their effectiveness in preventing credit risk. The regulation stipulates that the financial sector at all levels should consider the environmental assessment of borrowers when granting credit. Since then, the green credit policy has been strengthened, and related research has been further advanced. In 2012, the China Banking Regulatory Commission issued the Green Credit Policy. Compared with previous green finance policies, this guideline stipulates more detailed and specific requirements for financial institutions, emphasizing that financial institutions should consider factors such as energy conservation and environmental protection as important bases for credit decisions (Xiong et al., 2023). According to the China Green Finance Research Report in 2021, the balance of green loans in domestic and foreign

currencies in China reached RMB 15.9 trillion. This figure accounts for more than 90% of the total green financing and makes China the world leader in terms of share size (China Green Finance Policy, 2021).

China Bohai Bank (CBB) is one of the banks that has implemented the China Green Credit (CGC) policy. In reviewing loan applications by companies, CBB carries out a holistic process by identifying, assessing, monitoring, and controlling environmental risks. The process used includes credit investigation, credit review, credit approval, contract signing, loan review, and post-loan inspection with an emphasis on the assessment and supervision of Environmental, Social, and Governance (ESG) risks related to the project, which are then divided into three categories of debtors based on risk. Each category is given a different credit strategy according to the classification by providing conditions that are relevant to ESG risk and management. At least green loans based on the results of the CBB report, the balance of green loans reaches RMB 100 million with a growth of 14% in 2023, which has an impact on reducing Carbon emissions by 47,420 tons (China Bohai Bank, 2023).

The reasons why banks have not considered green *finance* are based on the fact that it does not have a significant influence on bank performance. According to Andaiyani et al (2023), based on the fact that green credit provided by banks is generally only a small part of their overall credit portfolio. The findings of this study emphasize the need for government to play a role in encouraging bank involvement in sustainable financing. There is a risk of climate change in bank loan supply, which contains four findings that will impact the economy (S. Li & Wu, 2023). First, climate risk has a significant negative impact on credit supply from the banking sector. Second, the negative impact of climate risk can be reduced by the government's climate protection policies and monetary policy expansion. Third, climate risk can hinder credit supply by reducing banks' risk appetite and reducing their deposit amounts. Finally, the negative impact of climate risk on credit supply is more pronounced in banks with smaller deposit amounts and banks located in coastal areas. One of the policy implications is the need for commercial banks to adjust their credit business structure and innovate credit products. Supported by research by Ginglinger et al (2023), some companies affected by climate risk tend to adjust their capital structure. They reduce leverage by reducing the use of debt financing, which will likely lead to a decrease in credit demand as well. Therefore, debt has a significant impact on investment strategies, including investments that can result in lower carbon emissions.

Indonesia must consider carbon *emissions* as one of the risks in macroprudential and monetary financial policies, in line with research by Campiglio (2016), by adjusting the incentives and constraints that banks face when determining their credit strategies, such as through differentiating reserve requirements based on the purpose of lending, can help expand credit creation directed to low-carbon sectors.

The Influence of Corporate Social Responsibility (CSR) on Bank Loans

(CSR) reflects the company's social involvement and investment and is part of the company's image. However, based on statistical analysis shows that the CSR variable does not have a significant effect on access to bank loans. Therefore, the second hypothesis (H2) is rejected. A high CSR score, which is obtained as a reward for social investment, does not affect the company in obtaining bank loans. This is different from companies in the United States of America (USA), where research conducted by Goss & Roberts (2011) using data from 3996 loans to companies showed that companies with high social responsibility pay

higher interest rates, between 7 and 18 basis points, compared to companies that pay less attention to CSR. Lenders in the United States consider aspects of social responsibility more when providing unsecured loans. Lenders pay more attention to social responsibility issues when providing unsecured loans. The results of this study reflect mixed reactions to discretionary social responsibility investments. Low-quality borrowers who engage in discretionary CSR activities tend to face higher interest rates and shorter repayment terms, while lenders pay less attention to CSR investments made by high-quality borrowers. Furthermore, the study investigates the effect of CSR on bank lending for a sample of firms in the United States. The findings of the study suggest that banks pay less attention to discretionary CSR investments by high-quality firms, but they charge higher spreads to low-quality firms that engage in CSR.

High CSR has an effect on company performance, but the high level of CSR implementation in companies also depends on the challenges and risks that will arise, including easy access to financing, which makes companies unmotivated to implement CSR. Based on research by Chava et al (2011) and Bae et al (2019), there are indications that the relationship between corporate social responsibility (CSR) and financing (either in the form of equity or debt) depends on the corporate governance system in the country. Corporate obligations in Indonesia have been regulated by Government Regulation (PP) Number 47 of 2012 concerning the Social and Environmental Responsibility of Limited Liability Companies, which contains the form of regulations, responsibilities, and others that regulate how the company's CSR. In contrast to China, the Chinese government actually provides reciprocity for companies that have CSR. Research conducted by Broadstock et al (2021), concluded that corporate social responsibility (CSR) has the potential to protect companies from social crises. This is due to the fact that companies committed to CSR tend to get more legitimacy, good reputation, and material rewards from the government due to higher CSR spending. Furthermore, the Chinese government tends to use direct subsidies and bank loans that are closely related to the government to provide incentives to companies that show a high commitment to corporate social responsibility (CSR). Subsidies are provided directly by the government, while loans are channeled indirectly through state-owned banks. Therefore, the impact of CSR on subsidies and loans can change during normal periods and during crises (Chan & Feng, 2019). Thus, the renewal of the roadmap like China in supporting the implementation of CSR needs to be considered by Indonesia, how the guidelines contain the relevance of bank responsibility when financing companies, which means that financing must also consider the external risks of the financed company.

The Influence of Return on Equity on Bank Loans

Return on Equity (ROE) reflects the sustainability of the company and its ability to generate profits using its own capital. Statistical analysis shows that ROE has a significant effect on access to bank loans, so the third hypothesis (H3) is accepted. This shows that banks consider financial aspects, especially ROE, which represents company performance when making credit decisions. Although statistically significant, the effect of ROE on access to bank loans is negative. This finding is contrary to the trade-off theory, which states a positive relationship between profitability and capital structure, where high profitability generally leads to greater lending capacity (Parwoto, Agus Sunarya Sulaeman, 2021).

The research that has been conducted is in line with the research results by Becchetti & Manfredonia (2022), which also found that ROE has a negative effect on bank loans. In

addition, it also has a negative and significant impact on loan interest rates and the amount of loan facilities (Hasan et al., 2017). Higher ROE is usually associated with lower credit risk; however, high ROE can also reflect greater growth opportunities, which in turn can result in higher credit risk. The negative and significant sign of ROE indicates that firms with high levels of profitability have better access to internal financial resources and are less likely to experience credit problems (Chong et al., 2013).

The Effect of Leverage on Bank Loans

Leverage in the test results statistically has a significant effect on bank loans, so the second hypothesis (H4) is accepted. The effect of leverage on bank loans leads positively to access to bank loans. The company's ability to obtain loans will be increasingly disrupted if the company already has a high level of leverage. High debt levels will result in less funds available for managers to invest in projects that do not generate cash flow (Grossman & Hart, 1982). Companies with high leverage often have high levels of debt, so they tend to be riskier and are subject to higher debt costs. However, in situations where companies face financial constraints and cannot access debt financing, this relationship may not apply. For example, companies that cannot obtain bank loans tend to have low leverage even though they still have significant risk (Kling et al., 2021).

Before deciding to take out a loan, many companies spend years looking for lines of credit that they don't use, according to survey findings in the study by Campello et al (2010) indicate the high cost of utilizing credit lines. When finally obtaining debt financing, mostly through banks and some through private sources, companies use the funds to finance large and profitable investment projects. In addition, there are also various motivations for companies to choose a low-leverage capital structure. A study conducted by (Rahaman, 2011) evaluates the extent to which managerial embeddedness and financial constraints influence low-leverage decisions. If overcommitted managers choose low leverage, then improvements in corporate governance have the potential to increase leverage and firm value. However, if firms face constraints that increase the cost of debt and make debt financing unattractive, then firms may be reluctant to use debt. When large projects emerge that are still profitable despite higher external financing costs, firms may use debt financing to finance these investments rather than pass up the opportunity.

In the Indonesian context, banks usually assess a company's leverage level as one of the important factors in assessing the feasibility of lending. Although having high leverage indicates a higher risk for the company, if the company can show that its use of debt is in line with growth and profitable investment projects, banks tend to be more willing to provide loans to the company. Based on Credit Risk Management Bank, good leverage based on the assessment is below 100%. However, in the research conducted, there were several companies consistently in the research period that had leverage of more than 100%.

CONCLUSION

This study reveals that environmental and social performance variables, such as CE and corporate CSR, do not have a significant impact on bank loan approval. On the other hand, financial performance variables, such as ROE and Leverage, show a significant influence. This indicates that banks in Indonesia focus more on the fundamental financial factors of companies in determining creditworthiness.

More specifically, there is an interesting pattern in the relationship between ROE and bank loans. Although higher ROE generally indicates better financial performance, a one-point increase in ROE actually leads to a decrease in bank loans. This may be due to the banks' perception that firms with high ROE have achieved adequate levels of profitability and, therefore, may be less likely to require additional loans. On the other hand, the relationship between Leverage and bank loans shows the opposite trend. A one-point increase in Leverage tends to increase the number of bank loans received by firms. This may be due to the banks' perception that firms with higher Leverage have a greater level of financial dependence and, therefore, are more likely to require loans to support their operations and growth.

In this context, it is important for companies to pay attention not only to their financial performance but also to their capital structure when considering access to external financing. Prudent Leverage and achieving optimal ROE can be important factors in shaping bank perceptions and influencing the availability of bank loans.

This study involved 15 companies listed on the Indonesia Stock Exchange (IDX) from the manufacturing and mining sectors, with data collected from 2018 to 2022. The variables measured include carbon emissions, company scores, and two financial ratios: return on equity and leverage (debt-to-equity ratio). This study has not taken into account other factors such as interest rates, governance, and others that may have a greater influence, so there is complexity in explaining the relationship between variables.

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