Credit Diversification and Its Role in Supporting the Growth of the Tourism and Hospitality Sector: Evidence from Indonesia's Banking Industry

Eka Dyah Setyaningsih[1,*], *Viki* Sulistia[1], *Sofyan* Marwansyah[1], *Alan Budi* Kusuma[1] and *Refany Novia* Siboro[1]

[1]Management, Universitas Bina Sarana Informatika, Indonesia

Abstract. This study aims to analyze the influence of tourism sector credit diversification on banking performance and risk in Indonesia. Using panel data of 204 observations from several banks during the study period, multiple linear regression models were estimated using a fixed effects approach. The results showed that the model was significant overall, with an R^2 value of 0.5150 for ROA and 0.2241 for NPL. Partially, the credit exposure of the tourism sector (HHIE_Tourism) has a significant negative effect on profitability (ROA) and a significant positive effect on NPLs, indicating that increased financing in this sector increases credit risk, while depressing profitability. On the other hand, NIM, LDR, and Z-Score had a significant positive effect on ROA, while foreign ownership (FOREIGN) and Z-Score significantly reduced NPLs. Covid-19 macro variables negatively impacted ROA, reflecting a decline in bank performance during the pandemic. These results confirm the importance of credit diversification across sectors, strengthening banking stability and implementing stricter risk management in high-risk sectors. The findings of this study make an empirical contribution to the banking risk management literature and provide policy implications for regulators to drive the resilience of the banking sector.

1 Introduction

The tourism and hospitality sector plays a strategic role in the Indonesian economy, serving as one of the main contributors to national Gross Domestic Product (GDP) and job creation. As a labor-intensive industry, tourism not only drives foreign exchange income but also stimulates the development of related sectors, such as transportation, retail, and creative industries. According to government data, tourism's contribution to Indonesia's GDP has consistently increased over the past decade, positioning it as a pillar of sustainable economic growth. However, this sector is highly vulnerable to global crises [1]. The COVID-19 pandemic, for example, led to a sharp contraction in international tourist arrivals and a dramatic decline in hotel occupancy rates, which in turn affected income and employment. This volatility highlights the structural fragility of the industry and underscores the importance of a strong financial support mechanism to ensure resilience in the face of external shocks. The banking industry plays an important role in providing financing and liquidity to support the recovery and expansion of tourism-related business. Access to adequate credit allows companies in the

*e-mail: eka.edy@bsi.ac.id

sector to invest in infrastructure, improve service quality, and strengthen their competitiveness. Nevertheless, empirical evidence shows that banking credit allocated to the tourism and hospitality sectors in Indonesia is still relatively small and concentrated in certain subsectors. Such concentrations not only limit growth potential, but also pose liquidity and volatility risks, especially when external shocks occur.

Credit diversification has emerged as an important strategy in this context. By diversifying its loan portfolio across various segments of the tourism and hospitality industry, banks can reduce risks while driving inclusive sectoral development. Diversified lending allows for wider access to financing, reduces vulnerability to shocks in specific subsectors, and increases the sector's capacity to contribute to long-term economic stability and growth. This study investigates the role of credit diversification in supporting the growth of the tourism and hospitality sectors in the Indonesian banking industry. This analysis is expected to provide insight into how credit allocation strategies can be optimized to strengthen resilience and ensure sustainable development in one of Indonesia's most strategic sec-tors

2 Materials

The theoretical foundation of this research comes from the Markowitz portfolio concept, which emphasizes the importance of diversification in reducing risk by spreading assets across instruments or sectors that are not perfectly correlated. In the context of banking, this theory is applied to credit portfolios, where the allocation of loans in various sectors can reduce the concentration risk and improve bank stability [2]. Empirical evidence from Indonesia supports this argument, as applied by Prastiwi and Anik [3] that credit diversification is positively related to stable credit growth and negatively related to the Non-Performing Loan (NPL) ratio. Meanwhile, Susanto, Adib, and Prastiwi [4] showed that income diversification also contributes to bank profitability and resilience.

This perspective is particularly relevant to the tourism and hospitality sector, which plays a strategic role in the Indonesian economy through its contribution to GDP, job creation, and multiplier effects but is also highly vulnerable to external shocks such as the COVID-19 pandemic, which triggered a sharp decline in tourist arrivals and hotel occupancy rates [5]. Under such circumstances, the banking industry plays an important role in providing financing to strengthen the resilience of the tourism sector, including support for the halal tourism subsector, which has been proven to increase regional income [6]. However, evidence shows that banking credit to the tourism sector remains relatively small and concentrated in certain subsectors, especially large-scale hotels, thereby increasing liquidity and volatility risk [7]. Therefore, credit diversification is emerging as a strategic instrument that not only reduces banks' exposure to sector-specific risks but also expands access to financing for other tourism-related subsectors, such as restaurants, transportation, and small and medium-sized enterprises, ultimately driving sectoral credit growth and maintaining asset quality [8]. In line with this, credit diversification policies also support regulatory efforts to encourage a more balanced allocation of credit across economic sectors, thereby strengthening the resilience of the financial system and accelerating the recovery and growth of the tourism sector [9].

2.1 Empirical Studies

Previous empirical studies provide an important foundation for understanding the relationship between credit diversification and bank credit performance as well as its implications for sectoral credit growth. Acharya, Hasan, and Saunders [2] explore the impact of diversifying bank loan portfolios on risk and performance. Using bank-level loan portfolio data and panel

analysis, their findings show that diversification does not always produce uniform results; the effect depends on portfolio characteristics, information quality, and exposure to sectoral risks. The implication of this study is that measuring diversification (e.g., HHI) and controlling for bank-specific characteristics is crucial when assessing their impact on credit growth in specific sectors such as tourism and hospitality.

Berger and Bouwman (2013) highlight the role of bank capital in shaping bank performance, particularly during financial crises. They find that capital structure significantly affects a bank's ability to withstand shocks and maintain credit. These findings underscore the importance of incorporating bank health variables (e.g., CAR, NIM, LDR, and bank size) as controls in models that evaluate the relationship between credit diversification and credit growth, as diversification effects can be moderated or offset by capital adequacy and liquidity conditions.

Studi dalam pengaturan non-bank atau pada penentu struktur modal juga relevan. Misalnya and Serrasqueiro (2017) examine the determinants of capital structure decisions and show that institutional characteristics (such as size, profitability, and risk) consistently influence capital decisions. Although their focus was on non-financial companies in Portugal, the results emphasized the need to control for institutional variables when testing causal relationships in the financial sector principle adopted in the study by including bank size, CAR, LDR, and NIM as control factors. In the Indonesian context, reports and data from Bank Indonesia and the Financial Services Authority (OJK) have provided empirical evidence on the dynamics of sectoral credit and national banking policies over the past decade. Local studies, such as Wibowo & Simanjuntak (2019), which examined lending patterns and bank characteristics in Indonesia, reaffirm that domestic market conditions, regulations, and macroeconomic factors influence banks' sectoral credit patterns. Therefore, examining the impact of credit diversification on credit growth in Indonesia's tourism and hospitality sectors requires careful attention to the institutional context and observation period (2015–2024), which include macroeconomic fluctuations and shifts in banking policy.

3 Methods

This study uses a quantitative approach and panel data regression to analyze the impact of credit diversification on credit growth in the tourism and hospitality sectors of Indonesia. This study relies on secondary data obtained from the Financial Services Authority (OJK), Bank Indonesia, and the World Bank for the period 2015–2024. The dependent variable is credit growth in the tourism and hospitality sectors, while the main independent variable is the Credit Diversification Index, which is measured by the Herfindahl–Hirschman Index (HHI). This includes several control variables, namely bank size, Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Net Interest Margin (NIM), and GDP growth. This analysis uses the Fixed Effects Model (FEM) and the Random Effects Model (REM), with the most appropriate model determined through the Hausman Test and the results of a static panel approach applied to address potential endogeneity issues. All data processing and statistical analyses were performed using STATA software.

Hypotheses

Based on these theoretical arguments and empirical insights, this study proposes the following hypothesis:

H1: Credit diversification positively affects credit growth in the tourism and hospitality sectors.

H2: Credit diversification negatively impacts banks' Non-Performing Loans (NPL) ratios.

4 Results

The results of this study are as follows:

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	204	170.652	1,290.797	-4.9	5.03
NPL	204	1,184.118	0.8411953	0	4.3
Size	204	3.17E+08	4.29E+08	4,045,672	1.99E+09
FOREIGN	204	0.4644088	0.4052603	0	0.99
DPK	204	2.32E+08	3.21E+08	1,891,300	1.49E+09
NIM	204	4.980735	1.391096	1.06	9.3
CAP	204	4.59E+07	6.38E+07	564,403	2.94E+08
LDR	204	8.966863	2.138764	0	232.05
Covid	204	0.2696078	0.4448477	0	1
Z_Score	204	1.028703	3.289407	4.658212	319.414

The average ROA is 1.71% with a standard deviation of 1.29%. A negative minimum value (-4.9) indicates that some banks experience losses, while a maximum value (5.03 indicates that there are banks with very good profitability. The average NPL is 1.18%, which is relatively low, with moderate variation (SD = 0.84), indicating that the overall quality of banking credit remains stable. The average asset value is 3.17×10^8 with a sizable spread (SD = 4.29×10^8), reflecting the heterogeneity of bank sizes in the sample. An average foreign ownership value of 0.46 indicates that approximately 46% of banks have foreign ownership, with considerable variation between banks (0–0.99). The average value of third-party funds is 2.32×10^8, indicating a relatively high scale of public fundraising with large variations between banks. The average NIM is 4.98%, indicating the bank's ability to generate healthy interest income, with a range of 1.06–9.3%. The average capital is 4.59×10^7, but varies widely, indicating differences in capital structure across banks. An average LDR of 89.66% (close to 90%) indicates that most banks optimally channeled their funds. However, the wide variation (0–232%) shows that some banks have credit disbursements that exceed their deposits. For the COVID dummy variable, the average value of 0.27 indicates that around 27% of observations fall within the Covid-19 pandemic period (coded as 1), while the rest belong to normal periods. The average Z-score is 1.03, with a relatively high variation (SD = 3.28), showing significant differences in stability levels across banks, with some banks having a higher risk (minimum value of 4.66e-06).

The results of the Pearson's correlation analysis showed that the linear relationship between variables had a correlation coefficient below 0.75. These results indicate that there were no problems with the independent variables of the study. Thus, hypothesis testing through panel data management analysis can be conducted using the independent variables planned in the regression model.

The selection of the best estimation model with a thirst test aimed at determining a more efficient model, whether the model used was a fixed effect model or a random model effect.

Based on the results of the thirst test, it shows that the best model in this study uses FEM

The regression results for hypothesis testing 1 (ROA) are as follows:

The overall regression results are significant (F-statistically = 25.88; $p < 0.01$) with an R^2 value of 0.5150, which means that approximately 51.5% of the bank profitability variation (ROA) can be explained by the independent variables used. In general, several variables have a significant effect on ROA. The HHIE_Tourism variable had a negative and significant effect

	ROA	NPL	Size	FOREIGN	DPK	NIM	CAP	LDR	Covid	Z_Score
ROA	1									
NPL	-0.4642	1								
Size	0.5139	-0.2949	1							
FOREIGN	-0.1855	-0.0583	-0.5015	1						
DPK	0.5213	-0.2942	0.9985	-0.4986	1					
NIM	0.5127	-0.086	0.3584	-0.1848	0.356	1				
CAP	0.544	-0.2971	0.976	-0.4636	0.9739	0.4124	1			
LDR	0.0927	-0.0552	-0.2039	0.2513	-0.2075	-0.2055	-0.198	1		
Covid	-0.1769	0.0016	0.138	0.036	0.1414	-0.1569	0.134	-0.26	1	
Z_Score	0.1605	-0.1278	0.1116	-0.0726	0.1134	-0.0094	0.147	0.0211	0.3145	1

Figure 1. Correlation Matrik

```
                 ---- Coefficients ----
                 (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                 fem1         rem1           Difference      Std. err.
-------------------------------------------------------------------------
HHIE_Tourism    -1.689657    -1.758138       .0684805        .5167777
        Size     6.40e-10     1.23e-09      -5.91e-10        3.74e-10
    FOREIGN    -.1726879     .0412348      -.2139227        .3462385
         NIM     .4051628     .4002062       .0049566        .0685149
         CAP    -5.60e-09    -3.61e-09      -1.98e-09        1.47e-09
         LDR     .0042389     .0093375      -.0050986        .0018253
       Covid    -.2887901    -.3948648       .1060747               .
     Z_Score     .0574229      .063319      -.005896        .0041848
-------------------------------------------------------------------------
                           b = Consistent under H0 and Ha; obtained from xtreg.
            B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = -31.07
```

Figure 2. FEM best estimation model (ROA)

```
                 ---- Coefficients ----
                 (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                 fem1         rem1           Difference      Std. err.
-------------------------------------------------------------------------
HHIE_Tourism     1.380594     1.769203      -.3886096        .5739173
        Size    -1.45e-09    -1.19e-09      -2.65e-10        4.24e-10
    FOREIGN    -.235165     -.4738128       .2386478        .3412608
         NIM     .0644222     .0296407       .0347814        .0689383
         CAP     9.40e-09     3.26e-09       6.14e-09        1.92e-09
         LDR     .0065593    -.0028224       .0093816        .0020203
       Covid     .0280584     .1430766      -.1150181               .
     Z_Score     .0120209     -.031955       .0439759        .005219
-------------------------------------------------------------------------
                           b = Consistent under H0 and Ha; obtained from xtreg.
            B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = -7.87
```

Figure 3. FEM best estimation model (NPL)

at the 5 % level ($\beta = -1.5138$; $p = 0.010$), which indicates that the increase in credit exposure in the tourism sector actually reduced banks' profitability during the study period. This is consistent with the high risks in the tourism sector, especially during periods of economic uncertainty. The NIM variable had a significant positive influence at the 1% level ($\beta = 0.3137$; $p < 0.001$), suggesting that higher net interest margins significantly increased banks'

Source	SS	df	MS	Number of obs	=	204
				F(8, 195)	=	25.88
Model	174.174489	8	21.7718112	Prob > F	=	0.0000
Residual	164.055339	195	.841309433	R-squared	=	0.5150
				Adj R-squared	=	0.4951
Total	338.229829	203	1.66615679	Root MSE	=	.91723

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
HHIE_Tourism	-1.513845	.5800499	-2.61	0.010	-2.657821	-.3698679
Size	7.27e-10	7.46e-10	0.97	0.331	-7.44e-10	2.20e-09
FOREIGN	.1531626	.1975487	0.78	0.439	-.2364436	.5427689
NIM	.3136679	.0551843	5.68	0.000	.2048333	.4225026
CAP	3.99e-09	5.05e-09	0.79	0.431	-5.98e-09	1.39e-08
LDR	.0133644	.0034534	3.87	0.000	.0065537	.0201751
Covid	-.5223843	.1693299	-3.09	0.002	-.8563375	-.1884311
Z_Score	.0713234	.0215273	3.31	0.001	.0288672	.1137796
_cons	-1.469201	.5338915	-2.76	0.006	-2.520567	-.4178361

Figure 4. Hypothesis Results 1

ROA. Similarly, LDR has a significant positive effect ($\beta = 0.0134$; $p < 0.001$), indicating that the larger the portion of funds channeled into credit, the greater the profitability generated. The Z_Score variable representing bank stability also has a significant positive effect at the 1% level ($\beta = 0.0713$; $p = 0.001$), indicating that banks that are more financially stable tend to be more financially stable and generate better profitability. Conversely, the COVID variable had a significant negative effect at the 1 % level ($\beta = -0.5224$; $p = 0.002$), reflecting a decline in bank performance during the pandemic period. Meanwhile, the Size, Foreign, and CAP variables did not show a significant influence on ROA, meaning that bank size, foreign ownership, and capital were not yet the main determinants of profitability after accounting for other variables. Overall, these findings confirm that bank profitability is influenced primarily by intermediation efficiency (NIM and LDR), financial stability (Z-Score), sector-specific risk factors (HHIE_Tourism), and macro shocks such as pandemics.

The results of the regression of hypothesis testing 2 (NPL) are as follows:

Source	SS	df	MS	Number of obs	=	204
				F(8, 195)	=	7.04
Model	32.1877894	8	4.02347368	Prob > F	=	0.0000
Residual	111.456952	195	.571574112	R-squared	=	0.2241
				Adj R-squared	=	0.1922
Total	143.644741	203	.707609562	Root MSE	=	.75603

NPL	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
HHIE_Tourism	1.790043	.4781055	3.74	0.000	.8471218	2.732965
Size	-9.84e-10	6.15e-10	-1.60	0.111	-2.20e-09	2.28e-10
FOREIGN	-.4618108	.1628293	-2.84	0.005	-.7829433	-.1406782
NIM	.0342353	.0454856	0.75	0.453	-.0554715	.1239422
CAP	1.63e-09	4.16e-09	0.39	0.696	-6.58e-09	9.84e-09
LDR	-.0039472	.0028464	-1.39	0.167	-.009561	.0016665
Covid	.1663512	.13957	1.19	0.235	-.1089093	.4416118
Z_Score	-.0421027	.0177438	-2.37	0.019	-.0770972	-.0071083
_cons	1.424715	.4394001	3.24	0.001	.5581288	2.291302

Figure 5. Hypothesis Results 2

The regression results showed that the model was significant overall (F = 7.04; p < 0.01), with a value of $R^2 = 0.2241$, which means that 22.4% of the NPL variation could be explained by independent variables. The HHIE_Tourism variable has a significant positive effect ($\beta = 1.7900$; $p < 0.01$), indicating that an increase in credit disbursement to the tourism sector increases the NPL ratio. By contrast, FOREIGN has a significant negative effect ($\beta = -0.4618$; $p < 0.01$), so foreign holdings tend to lower NPL rates through stricter risk management practices. In addition, Z_Score has a significant negative effect ($\beta = -0.0421$;

$p < 0.05$), which means that the higher the bank's stability, the lower the level of non-performing loans. Other variables such as Size, NIM, CAP, LDR, and Covid did not show a significant influence on NPLs, so they were not the main determinants of credit quality in the study period. These findings confirm that tourism sector risks, foreign bank governance, and financial stability are key factors that influence banking NPLs.

5 Discussion

5.1 Theoretical Discussion

The findings of this study are consistent with portfolio theory and the banking diversification literature, particularly the work of Acharya et al. [2], which emphasizes that spreading assets across different sectors reduces concentration risk and improves financial stability. The findings of this study strengthen the relevance of financial intermediation theory (Diamond, 1984) and portfolio theory (Marko-Witz, 1952) in the context of Indonesian banking. The regression results in the ROA model show that the HHIE_Tourism variable has a significant negative effect on profitability, whereas in the NPL model, this variable has a significant positive effect on non-performing loans. This indicates that the concentration of credit disbursements in the tourism sector increases the risk of the bank's portfolio, thereby reducing the bank's ability to generate profits. These findings are in line with Markowitz's portfolio theory, which emphasizes the importance of asset diversification in reducing portfolio risk. Banks that are too focused on high-volatility sectors, such as tourism, face greater idiosyncratic risks, which ultimately suppress profitability. This result is also in line with Diamond's (1984) theory, which states that banks function as delegated monitors to manage moral hazards and default risks. The increase in NPLs due to financing in the tourism sector may reflect the limited monitoring of banks on debtors in this sector, especially during times of uncertainty such as the Covid-19 pandemic. Therefore, banks need to improve their credit monitoring mechanisms and strengthen their sector-specific risk management.

The finding that NIM and LDR have a positive effect on profitability reinforces the view that the efficiency of intermediation and the ability of banks to channel public funds to the productive sector are the main determinants of bank performance. This is consistent with the literature that states that banks that can optimize interest margins and increase their loan-to-third-party ratios tend to earn higher profits. Meanwhile, a positive Z_Score on ROA and negative Z _Score on NPLs confirm that capital stability and bank health play a central role in maintaining performance while reducing credit risk. In addition, the negative impact of Covid on ROA highlights the impact of macroeconomic shocks on banking. These results support the view that crisis events can disrupt intermediaries' performance, lower interest income, and increase credit reserve costs. Overall, the results of this study confirm the importance of credit diversification across sectors, strengthening credit monitoring (according to Diamond's theory), and systemic risk management, so that banks can maintain profitability while maintaining asset quality. The policy implications highlight the need for regulations and credit portfolio management strategies that take sectoral distribution into account, especially in vulnerable sectors such as tourism, so that credit risk can be managed optimally.

5.2 Implikasi Praktis

From a practical perspective, these results show that banks need to diversify credit disbursements, especially reducing overconcentration in the tourism sector, which has been proven to increase NPLs and lower ROA. The results show that net interest margins and high credit

disbursments can increase profitability. Banks need to maintain a balance between credit expansion and credit quality to avoid triggering the risk of default. A high Z-Score increases profitability and lowers NPLs, so banks need to strengthen their capital and impairment loss reserves (CKPN). The finding that foreign ownership lowers NPLs can serve as an input for regulators to support foreign investor involvement, which brings about more disciplined risk management practices. The negative impact of Covid on ROA underscores the importance of crisis mitigation strategies, such as strengthening service digitalization, cost management, and implementing countercyclical capital buffers.

6 Discussion

This study shows that bank profitability (ROA) is significantly affected by NIM, LDR, Z-score, tourism credit exposure (HHIE_Tourism), and the Covid-19 pandemic. Meanwhile, credit quality (NPL) improves when tourism credit exposure increases but decreases in banks with greater foreign ownership and higher financial stability. These findings underscore the importance of credit portfolio management, strengthening banking stability, and risk-mitigation strategies for maintaining bank performance.

In addition, these findings support banking policies that encourage more balanced allocation of credit across various sectors of the economy. By expanding credit disbursements to various subsectors, banks can mitigate concentration risks and, at the same time, expand access to financing for the tourism sector, which makes a significant contribution to national economic growth. Therefore, policies that encourage credit diversification should be considered strategic instruments to strengthen banking stability and promote sustainable economic development.

References

[1] I. Prastiwi, A. Anik, The impact of credit diversification on credit risk and performance of indonesian banks, Global Review of Islamic Economics and Business **8**, 17–28 (2020). 10.14421/grieb.2020.081-02

[2] V. Acharya, I. Hasan, A. Saunders, Should banks be diversified? evidence from individual bank loan portfolios, Journal of Business **79**, 1355–1412 (2006). 10.1086/500679

[3] I. Prastiwi, A. Anik, Diversifikasi kredit, monitoring dan kinerja perbankan di indonesia, Jurnal Ilmiah Ekonomi Islam **6**, 72–83 (2021). 10.29040/jiei.v6i1.775

[4] F. Susanto, N. Adib, A. Prastiwi, The impact of revenue diversification on bank profitability and stability: Evidence from the indonesian banking industry, Jurnal Reviu Akuntansi dan Keuangan **13**, 612–628 (2023). 10.22219/jrak.v13i3.36770

[5] M. Rahman, R. Sari, T. Widodo, Analyzing monetary policies and bank credit in indonesia's provincial clusters amidst covid-19 pandemic, Economic Change and Restructuring **57**, 135–158 (2024). 10.1080/13547860.2024.2356338

[6] M. Fadli, Patterns of islamic banks financing to increase the number of halal tourism and the local generated income (pad) growth in indonesia, Jurnal Ekonomi Syariah **4**, 1–12 (2015). 10.22219/jes.v4i1.8492

[7] J. Fadli, Should banks diversify their income and credit? evidence from the indonesian banking industry, Kinerja: Jurnal Ekonomi dan Bisnis **23**, 63–73 (2019). 10.24002/kinerja.v23i1.2124

[8] E. Gurendrawati, H. Khairunnisa, I. Ulupui, T. Suryarini, A. Zakaria, Bank risk profile and credit growth in indonesia, Jurnal Ilmiah Akuntansi dan Bisnis **16**, 197–210 (2021). 10.24843/JIAB.2021.v16.i02.p05

[9] C. Anwar, I. Suhendra, S. Didu, The impact of monetary policy and credit risk on bank credit behavior: An analysis of banks listed on the indonesian stock exchange, Cogent Economics Finance **11**, 2220250 (2023). 10.1080/23322039.2023.2220250