Determinants of Credit Risk: Comparative Analysis of Islamic Banks and Conventional Banks in Malaysia

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ABSTRACT

This study presents a comparative analysis of the key determinants of credit risk in Islamic and conventional banks in Malaysia, a country with a dual banking system. Using panel data from 16 Islamic and 25 conventional banks between 2013 and 2022, the study applies the Random Effects Model to assess the impact of bank-specific variables: size, capitalization, financing growth, liquidity, and profitability. Results indicate significant variations in how these factors influence credit risk across the two banking systems. Notably, profitability is the most influential determinant for Islamic banks, while capitalization dominates in conventional banks. These findings underscore the importance of tailored credit risk strategies and offer policy insights for improving banking stability in dual-system economies.

INTRODUCTION

Effective credit risk management is crucial for the stability of banking institutions and the broader economic landscape, as it involves assessing the likelihood of borrower defaults. Recently, Malaysia has faced economic challenges, including slow growth, rising debt levels, and increasing loan defaults, which intensify the need for robust credit risk management strategies. These phenomena can be attributed to COVID-19, followed by the war in Ukraine and unpredictable weather, all of which disrupt economic growth. This has exposed Malaysian banks to higher credit risks.

The determinants of credit risk have long been a focal point in financial literature and are recognized as key issues in banking (Jaafar, Saddam, Muhamat, Zuhairi, & Abd Aziz, 2023; Misman & Bhatti, 2020). Despite extensive research exploring various factors influencing credit risk across different financial institutions and national contexts, findings remain inconclusive, and a consensus on the definitive variables impacting credit risk is yet to be achieved.

This study addresses the gap in comparative analyses between Islamic and conventional banks regarding their determinant especially significant due to their differing adherence to financial principles. Islamic banks, adhering to Shariah law, avoid riba' (interest) and utilize financing structures such as Tawarruq, Musyarakah, and Ijarah. In contrast, conventional banks operate on an interest-based system, offering loans and credit facilities that involve interest payments. Despite these fundamental differences, limited studies have explored how these divergent practices influence credit risk, with non-performing loans commonly serving as a primary indicator (Jaafar et al., 2023).

Furthermore, this research leverages loan loss provisioning (LLP) as a proxy for credit default risk, investigating both its determinants and its impact on lending practices and the broader economy. The

regulatory environment, including the Malaysian Financial Reporting Standards (MFRS) 9 and guidelines from Bank Negara Malaysia (BNM), plays an instrumental role in shaping these practices. These regulations compel banks to undertake rigorous estimation, judgment, and modeling to predict and mitigate credit risks effectively. Techniques such as stress testing, scenario forecasting, and collateralization are also critical for assessing a bank's resilience to credit-related challenges.

In summary, this research seeks to extend the understanding of the determinant of credit risk, specifically within the unique context of Islamic banking. The insights gained from this study will contribute to both the practical knowledge of financial institution operating in the Islamic banking sector and the academic literature on finance.

LITERATURE REVIEW

Credit Risk

Credit risk assessment is crucial in financial institutions for measuring their financial performance and controlling risk, with credit scoring algorithms widely employed to expedite credit decisions and mitigate potential risks (Ray & Luz, 2024).However, credit risk management differs between Islamic and conventional banks, with Islamic banks adhering to Sharia principles and offering distinct financing structures compared to conventional banks, which operate on an interest-based system (İncekara & Çetinkaya, 2019) .While both types of banks manage various risks, including operational and liquidity risks, Islamic banks face unique challenges due to Sharia compliance requirements and profit-loss sharing models.Previous studies have found that Islamic banks exhibit higher default risks compared to conventional banks, emphasizing the need for effective risk management practices (Koh, Eric, Banna, Hasanul, Lee & Youmkyung, 2022). Comparative analyses between Islamic and conventional banks often use non-performing loans as proxies for credit risk, while novel approaches such as modelling credit risk based on past-due days offer additional insights into default probabilities (Montes & do Nascimento Valladares, 2024). Additionally, loan loss provisioning serves as a proxy for credit default risk, with its impacts on financial performance influenced by regulation, macroeconomic factors, and bank characteristics (Ozili, 2024).

Determinant of credit risk

Several studies have empirically developed several bank-specific factors that may affect banks' credit risk. Therefore, this study identifies five internal components: profitability, financing growth, bank size, capitalization and liquidity, as independent variables to investigate their significant influences as determinants of banks' credit risk.

Profitability

The relationship between bank profitability and credit risk is intricate, with profitability serving as a key indicator of a bank's operational effectiveness. Profits derived from interest on assets and service fees are crucial revenue sources, while interest on liabilities constitutes significant expenditure. Previous studies, such as Ozili (2024), underscore the significance of profitability as a metric for measuring credit risk, highlighting the intricate link between the two. Research also highlights the importance of prudent risk management practices, such as larger loan provisions, in bolstering long-term profitability. Islamic banks, constrained by Sharia principles, exhibit unique patterns in managing loan loss provisions, leveraging profitability to modulate these provisions in response to earnings fluctuations, contrasting with conventional banks' inverse relationship between profitability and loan loss provisions. Understanding these dynamics is vital for navigating the challenges posed by credit risk and ensuring financial stability in banking institutions.

Financing growth

The relationship between loan growth and credit risk in financial institutions is multifaceted and crucial for understanding the dynamics of banking operations. While loan portfolio expansion can potentially increase

credit risk by exposing banks to a wider pool of borrowers, prudent risk management practices and regulatory frameworks can mitigate these risks, as suggested by Bhowmik and Sarker (2021) and Mpofu and Nikolaidou (2018). However, empirical evidence from studies such as (Baron & Xiong, 2017; Deng, Li, & Ren, 2023)indicates that excessive loan growth may lead to asset bubbles, weakened bank solvency, and poor financial performance. Additionally, research by (Sobarsyah et al., 2020; Wu et al., 2022) highlights the nuanced relationship between loan growth and credit risk, emphasizing the role of factors such as bank size, capitalization, and economic context. Striking a balance between loan expansion and prudent risk management practices is crucial for ensuring sustainable and resilient lending practices in financial institutions.

Bank Size

Bank size plays a pivotal role in influencing loan loss provisions and profitability in financial institutions, with larger banks often exhibiting distinct characteristics and strategic features. Studies such as Hazera, Quirvan, and Triki (2017) indicate a negative correlation between bank size and loan loss provisions, suggesting that larger banks tend to make sparse provisions due to their more diversified loan portfolios and greater financial capacity for credit risk management. Conversely, Kouzez (2023) and Tharu and Shrestha (2019) assert that larger banks may also engage in risk-taking behavior, potentially leading to higher loan losses and provisions. However, Rouetbi, Ftiti, and Omri (2023) findings suggest a positive relationship between bank size and profitability, particularly in Islamic banks where larger institutions benefit from economies of scale and higher capital, contributing to enhanced performance. The nuanced relationship between bank size, loan loss provisions, and profitability underscores the importance of understanding bank-specific indicators and risk profiles in assessing banking performance (Terraza, 2015)

Bank Capitalization

Capital is a critical factor in assessing a financial institution's ability to extend loans, with higher levels of capital enabling institutions to lend more and inspire trust among investors and consumers (Barthel, Bezzel, Krüger, Päckert, & Steinheimer, 2018). Cicchiello, Cotugno, Monferrà, and Perdichizzi (2022) find that banks with higher capital buffers tend to have fewer loan provisions and inflows, highlighting the importance of capitalization in loan provision dynamics. In Islamic banking, Sobarsyah et al. (2020) argue that strengthening capitalization is essential to promote countercyclicality in loan loss provisioning and mitigate credit risk, especially during economic downturns. However, increased capitalization may also lead to higher risk-taking behavior among bank managers to offset the cost of capital, potentially worsening financial stability (Sobarsyah et al., 2020). Additionally, (Mateev, Georgieva, & Zlatkov, 2022) highlight the influence of capital regulation and market competition on bank risk-taking, with conventional banks' capital ratio positively impacting credit risk while Islamic banking institutions' risk behavior is more influenced by banking competition. This underscores the importance of considering capital regulation's differential impacts on conventional and Islamic banks in promoting financial stability and prudent risk management.

Liquidation

In the banking sector, liquidity and loan provision are interlinked yet distinct concepts, both crucial for ensuring financial stability and fulfilling obligations to stakeholders. Liquidity refers to a bank's ability to meet short-term commitments, vital for funding loans and handling deposit withdrawals to avoid potential bank runs or collapse. Conversely, loan provisions serve as a tool for controlling credit risk by setting aside funds to cover potential losses from loan defaults. Islamic banks, as demonstrated by Rashid and Yadav (2020), have shown resilience and financial stability during crises compared to conventional banks, owing to their distinct banking models founded on Sharia principles prohibiting interest and promoting halal investments. Pop et al. (2018) argue for regulators to focus on less liquid banks due to their higher sensitivity to non-performing loans (NPLs) and systemic risk, advocating for tailored treatment based on loan portfolio size to optimize risk indicators and enhance monitoring systems. Additionally, Rashid and Yadav (2020) stress the importance of bank liquidity in stabilizing the banking system during economic crises and urge policymakers to develop crisis management strategies centered around banks to maintain financial stability.

RESEACH METHODS

Model Specifications

Model Specification

A Random Effects Model (REM) was selected based on Hausman and Likelihood Ratio tests, offering the best fit by accounting for both within and between-entity variability.

Model Equation:

$$CR\_it = \alpha + \beta1\ FG\_it + \beta2\ ROA\_it + \beta3\ SIZE\_it + \beta4\ LIQUID\_it + \beta5\ CAP\_it + \varepsilon\_it$$

Robustness checks including multicollinearity (VIF), normality (Jarque-Bera), heteroscedasticity (Breusch-Pagan), and serial correlation (Durbin-Watson) were performed to ensure model validity.

Where,

Y_{it} = credit risk of Islamic/conventional bank i bank at year t

GRO_{it} = Financing growth of Islamic/conventional bank i at year t

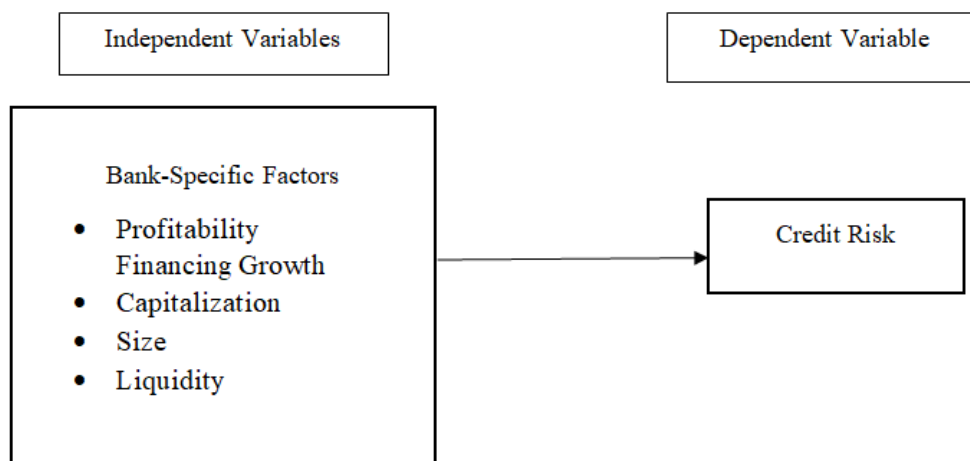ROA_{it} = ROA (Profitability) of Islamic/conventional bank i at year t

$SIZE_{it}$ = Natural logarithm of total assets of Islamic/conventional bank i at year t

$LIQUID_{it}$ = Liquidity of Islamic bank i at year t

CAR_{it} = Bank capitalization of Islamic bank i at year t

$€_{it}$ = error term

Proposed Framework

Variable and Proxies

Variables	Method of Computation
Dependent Variable Credit Risk	Loan Loss Provision/Gross Loan
Independent Variables Financing Growth	Loan Financing$_1$- Loan financing$_0$ /Loan financing$_0$
Bank Size	Natural logarithm of Total Asset
Profitability	ROA = Net Income / Total Asset
Bank Capitalization	(Tier 1-Tier 2)/Risk-weighted assets
Liquidity	Total Financing / Total Deposit

Sample Size

This current study focused on the Islamic and conventional Banks of Malaysia. Due to the availability of data in the database, the Islamic banks selected in both countries are restricted to local banks only. Thus, 16 Islamic banks and 25 conventional banks are chosen as the sample of the study. The data was collected from the annual of the bank from Fitch Connect from year 2013 until 2022. Panel data model was used in this study. The details of the samples are as follows:-

Table 1: Malaysian Islamic Banks

No	Name of banks
1,	Affin Islamic Bank Berhad
2.	Alliance Islamic Bank Berhad
3.	AmBank Islamic Berhad
4.	Bank Islam Malaysia Berhad
5.	Bank Muamalat Malaysia Berhad
6	CIMB Islamic Bank Berhad
7	Hong Leong Islamic Bank Berhad
8	Maybank Islamic Berhad
9	MBSB Bank Berhad
10.	Public Islamic Bank Berhad
11.	RHB Islamic Bank Berhad
12.	HSBC Amanah Malaysia Berhad
13	OCBCAl Amin Malaysia Berhad
14	Standard Chartered Saadiq Berhad
15	Al Rajhi Banking & Investment Corporation (Malaysia) Bhd
16.	Bank Simpanan Nasional

Table 2 : Conventional Banks

No	Name of banks
1,	Affin Bank Berhad
2.	Alliance Bank Malaysia Berhad
3.	Ambank (M) Berhad
4.	Bangkok Bank Berhad
5.	Bank Of America Malaysia Berhad
6	Bank Of China (Malaysia) Berhad
7	Bnp Paribas Malaysia Berhad
8	China Construction Bank (Malaysia) Berhad
9	Cimb Bank Berhad
10	Citibank Berhad
11	Deutsche Bank (Malaysia) Berhad
12	Hong Leong Bank Berhad
13	Hsbc Bank Malaysia Berhad
14	India International Bank (Malaysia) Berhad
15	J.P. Morgan Chase Bank Berhad
16	Malayan Banking Berhad
17	Mizuho Bank (Malaysia) Berhad
18	Mufg Bank (Malaysia) Berhad
19	Ocbc Bank (Malaysia) Berhad
20	Public Bank Berhad
21	Rhb Bank Berhad
22	Standard Chartered Bank Malaysia Berhad

23	Sumitomo Mitsui Banking Corporation Malaysia Berhad
24	The Bank Of Nova Scotia Berhad
25	United Overseas Bank (Malaysia) Bhd

RESULTS AND DISCUSSIONS

Table 3 and 4 represent descriptive analysis of Islamic and conventional bank spanning from 2013 to 2022. This study provides a comparative analysis of Islamic and conventional banks in Malaysia, focusing on credit risk, bank size, capitalization, financing growth, liquidity, and profitability. Islamic banks displayed lower credit risk and variability, while conventional banks showed higher risk levels and greater financial strength, evidenced by their superior capitalization metrics. Despite restricted access to liquidity management tools due to Shariah compliance, Islamic banks managed financing growth more effectively during economic fluctuations, demonstrating resilience in adjusting their financing loss provisions. Conventional banks, however, had higher liquidity and profitability, benefiting from broader market access. The statistical analysis confirmed the regression model's adequacy through comprehensive tests, ensuring the study's robustness in evaluating the financial performance differences between the two types of banks.

Table 3: Descriptive Analysis of Malaysian Islamic Banks

	CR	BS	CAP	FG	LQD	PRO
Mean	1.562817	24.13183	13.52894	10.33704	97.17620	0.679648
Median	1.400000	24.17000	12.94000	10.08000	92.16500	0.745000
Maximum	3.910000	26.39000	24.78000	57.19000	219.2900	1.250000
Minimum	0.510000	22.63000	9.200000	-31.28000	56.68000	-0.950000
Std. Dev.	0.756542	0.920107	2.624663	11.04291	23.42155	0.321467
Skewness	0.931045	0.324945	1.798902	0.464597	2.701369	-1.382648
Kurtosis	3.482236	2.540934	8.043381	6.923097	12.90056	7.048004
Jarque-Bera	21.89127	3.745840	227.0810	96.17004	752.6628	142.1964
Probability	0.000018	0.153674	0.000000	0.000000	0.000000	0.000000
Sum	221.9200	3426.720	1921.110	1467.860	13799.02	96.51000
Sum Sq. Dev.	80.70207	119.3701	971.3283	17194.38	77348.25	14.57108
Observations	142	142	142	142	142	142

Descriptive statistic for Conventional banks

	CR	BS	CAP	FG	LQD	PRO
Mean	1.763718	24.41030	23.00175	13.21915	222.6838	0.936838
Median	1.395000	24.71000	16.09500	5.665000	91.02500	0.965000
Maximum	23.72000	27.58000	254.3100	206.9000	28930.77	2.460000
Minimum	0.010000	19.95000	9.750000	-69.95000	3.390000	-1.750000
Std. Dev.	2.209054	1.690559	25.98537	35.74400	1886.594	0.522497
Skewness	5.935204	-0.264486	5.784126	2.730565	15.15452	-1.337065
Kurtosis	50.62051	2.392308	42.28519	13.15811	231.1037	9.428394
Jarque-Bera	23484.04	6.328728	16352.22	1296.859	516262.0	472.6334
Probability	0.000000	0.042241	0.000000	0.000000	0.000000	0.000000
Sum	412.7100	5712.010	5382.410	3093.280	52108.01	219.2200
Sum Sq. Dev.	1137.021	665.9119	157330.8	297688.5	8.29E+08	63.60966
Observations	234	234	234	234	234	234

Panel Data Analysis

The likelihood Ratio Test is applied in this study to choose the best model between Pooled Ordinary Least Squares (POLS) model and the Fixed Effects Model (REM). The hypotheses under Likelihood Ratio Test are as follows:

H0 = POLS model is preferred

H1 = Fixed Effects Model is preferred

The Hausman specification test was conducted to compare fixed effects and random effects estimations in selecting the most appropriate model estimation (Baltagi, Bresson, & Pirotte, 2008; Hsiao & Gibson, 2003).As the random effects model assumes the exogeneity of all of the regressors and the random individual effects, the fixed effects model allows for the endogeneity of all of the regressors, as well as individual effects. Therefore, Hausman and Taylor (1981) introduced a model in which some of the regressors are correlated with individual effects. This indicates that the individual means of the strictly exogenous regressors are used as instruments for the time-invariant regressors, which are correlated with the individual effects. Therefore, the choice of exogenous regressors is a testable hypothesis.

The hypotheses statement are as follows:

H0 = Random Effects model is preferred

H1 = Fixed Effects model is preferred

Table 6 Panel Data Analysis

	Islamic bank		Conventional Bank	
Likelihood Ratio test	P value		P value	
	Cross-section F	3.2595	Cross-section F	10.3169
	Chi-square	(0.0000) ***	Chi-square	(0.0000) ***
	Cross-section	45.1111	Cross-section	158.508
	Chi-square	(0.0000) ***	Chi-square	(0.0000) ***
Hausman test	P value		P value	
	Cross-section	6.4771	Cross-section	1.76959
	Random	(0.2613)	Random	(0.8823)

In Table 6, which pertains to Islamic banking, the analysis of the Likelihood test reveals a probability value of 0.0000, indicating statistical significance below the 5% threshold. Consequently, the null hypothesis is rejected, and the Fixed Effect Model is adopted for the study. Following this, the Hausman test was performed, yielding a probability value of 0.2609, which exceeds the 5% significance level. Therefore, the Random Effect Model is deemed the most suitable for the data under consideration in this research.

For conventional bank, the Likelihood test results indicate a probability value of 0.0000, signifying that the outcome is statistically significant at a level below 5%. Consequently, the null hypothesis has been rejected, leading to the selection of the Fixed Effect Model for further analysis. Subsequently, the Hausman test yields a probability value of 0.8823, which notably exceeds the 5% significance level. Thus, the Random Effect Model is identified as the most appropriate for the data in this study.

Regression Analysis

Table 8: Islamic Bank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.258470	2.434137	2.981948	0.0034
BS	-0.232713	0.103309	-2.252595	0.0259
CAP	0.052999	0.023878	2.219583	0.0281
FG	-3.98E-05	0.004612	-0.008639	0.9931
LQD	-0.003843	0.003027	-1.269405	0.2065
PRO	-0.583573	0.189296	-3.082854	0.0025

Effects Specification			
	S.D.	Rho	
Cross-section random	0.481811	0.4934	
Idiosyncratic random	0.488210	0.5066	
Weighted Statistics			
R-squared	0.154674	Mean dependent var	0.493800
Adjusted R-squared	0.123596	S.D. dependent var	0.532304
S.E. of regression	0.492775	Sum squared resid	33.02445
F-statistic	4.976953	Durbin-Watson stat	0.691559
Prob(F-statistic)	0.000323		
Unweighted Statistics			
R-squared	0.177473	Mean dependent var	1.562817
Sum squared resid	66.37960	Durbin-Watson stat	0.344057

Conventional Bank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.123056	0.285162	3.938309	0.0001
BS	0.002120	0.005144	0.412011	0.6807
CAP	0.023809	0.004216	5.647161	0.0000
FG	-0.012348	0.003408	-3.622888	0.0004
LQD	0.000668	5.65E-05	11.82210	0.0000
PRO	0.092554	0.214172	0.432147	0.6660
Effects Specification				
		S.D.	Rho	
Period random		0.188795	0.0152	
Idiosyncratic random		1.518136	0.9848	
Weighted Statistics				
R-squared	0.536562	Mean dependent var		1.508575
Adjusted R-squared	0.526444	S.D. dependent var		2.189926
S.E. of regression	1.507262	Sum squared resid		520.2513
F-statistic	53.02669	Durbin-Watson stat		0.657630
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.538282	Mean dependent var		1.762298
Sum squared resid	525.0340	Durbin-Watson stat		0.665522

The analysis of the determinants of credit risk in Islamic and conventional banks reveals distinct influences of bank characteristics. For Islamic banks, variables such as bank size, capitalization, and profitability demonstrate significant effects on credit risk, whereas liquidity and financing growth do not exhibit significant impacts. Conversely, in conventional banks, neither profitability nor bank size shows a significant relationship with credit risk.

Regarding the relationship between bank size and credit risk, Islamic banks display a significant but negative correlation, suggesting larger Islamic banks tend to have lower credit risk. This contrasts with conventional banks, where bank size is not significantly related to credit risk and tends to show a positive relationship, though it is not statistically significant. This pattern aligns with findings from previous research by Niu (2023), which highlighted similar trends. The difference may be attributed to the risk profiles and asset management strategies of the banks. Conventional banks, often larger, can leverage economies of scale to manage and diversify risks effectively, allowing them to engage in higher-risk credit activities without proportional increases in observed risk.

Further, the study by Majeed and Zainab (2021) explores the capitalization levels of Islamic versus conventional banks, noting that Islamic banks typically exhibit better capitalization, reflecting lower risk

profiles and higher liquidity levels. Sobarsyah et al. (2020) suggest that banks can enhance their capitalization by adjusting loan loss provisions according to economic conditions, thus mitigating future credit risk.

In terms of financing growth, both bank types show a negative relationship with credit risk. Conventional banks, similar to their approach in capitalization, adjust their loan loss provisions in alignment with financing growth to manage potential risks effectively. Warninda, Ekaputra, and Rokhim (2019) found that financing growth in Islamic banks tends to decrease credit risk, potentially due to the conservative calculation methods that consider impaired financing against total financing.

The relationship between liquidity, profitability, and credit risk also varies between the two banking systems. Islamic banks show a negative correlation between these factors and credit risk, suggesting that higher liquidity and profitability correspond to lower risk. In contrast, conventional banks display a positive relationship, where increased liquidity and profitability are associated with higher credit risk, as noted by Jimoh et al. (2021). This indicates that while conventional banks may pursue higher profits through increased lending, they also face heightened financial pressure and default risk. This dynamic underscores the contrasting operational frameworks and compliance obligations of Islamic versus conventional banks, particularly in adhering to Shariah principles that prohibit investments in unethical and interest-based ventures.

Table 8 :Comparison Between Malaysian Islamic Banks and conventional Banks

Summary of Islamic Banks

Independent Variable	Result	Relationship
BS	Significance at level 1%	Negative Relationship
CAP	Significance at level 1%	Positive Relationship
FG	Not significance	Negative Relationship
LQD	Not significance	Negative Relationship
PRO	Significance at level 1%	Negative Relationship

Table **Error! No text of specified style in document.**.24 Summary of Conventional Banks

Independent Variable	Result	Relationship
BS	Not significance	Positive Relationship
CAP	Significance at level 1%	Positive Relationship
FG	Significance at level 1%	Negative Relationship
LQD	Significance at level 1%	Positive Relationship
PRO	Not significance	Positive Relationship

CONCLUSION AND RECOMMENDATION

The regression analysis provides compelling evidence that the determinants of credit risk differ substantially between Islamic and conventional banks in Malaysia. For Islamic banks, three variables emerged as statistically significant: bank size, capitalization, and profitability. Bank size was found to have a significant negative relationship with credit risk, indicating that larger Islamic banks are generally better at managing credit exposures, likely due to diversified loan portfolios and stronger internal controls. This supports prior findings in the literature that associate larger institutional scale with enhanced stability and risk mitigation. Profitability also demonstrated a significant negative association with credit risk, suggesting that higher earnings provide Islamic banks with greater buffers to absorb potential loan losses. This aligns with the principles of Shariah-compliant finance, where banks tend to adopt a more conservative approach in provisioning and income utilization. Interestingly, capitalization in Islamic banks showed a significant positive relationship with credit risk. This counterintuitive finding may suggest that well-capitalized Islamic banks could be inclined to engage in riskier credit activities, potentially reflecting a trade-off between capital adequacy and credit discipline.

In contrast, the results for conventional banks highlight a different set of determinants. Capitalization, financing growth, and liquidity all showed significant associations with credit risk. Capitalization maintained a positive and significant relationship, reaffirming the potential risk-taking behavior enabled by strong capital reserves. Financing growth exhibited a negative and statistically significant relationship with credit risk, implying that measured and controlled loan expansion may reduce risk, possibly due to effective credit screening mechanisms and economies of scale in underwriting. Liquidity also showed a significant positive relationship with credit risk in conventional banks, which may reflect a tendency among these banks to channel excess liquidity into higher-risk lending opportunities, particularly in competitive market environments. Interestingly, neither profitability nor bank size were statistically significant in influencing credit risk among conventional banks. This may suggest that in interest-based financial systems, the protective effects of profitability and scale are less pronounced, and credit risk is more influenced by capital structure and liquidity deployment.

Comparatively, these findings highlight the structural and operational contrasts between Islamic and conventional banks. Islamic banks demonstrate greater sensitivity to internal financial health, as reflected in the significance of profitability and bank size. The adherence to Shariah principles appears to instill more conservative credit risk behavior, with profit-sharing mechanisms and ethical financing policies guiding risk assessment. On the other hand, conventional banks are more affected by macroprudential factors such as capitalization and liquidity, which may reflect their broader market engagement and more flexible financial instruments. These differences not only validate the need for differentiated credit risk models but also emphasize the importance of regulatory policies that reflect the operational logic of each banking system.

Recommendations: Future research should address the limitations identified, such as the potential for more comprehensive data collection and the exploration of different variables affecting credit risk. Additionally, it is recommended that banks, especially in dual banking systems like Malaysia, enhance their loan loss provisioning strategies to mitigate credit risk effectively. This includes adopting internationally recognized accounting standards and improving the management of collateral to safeguard against potential defaults. Moreover, regulatory bodies like Bank Negara Malaysia should continue to oversee and provide guidelines to ensure the stability and health of the banking sector, including conducting stress tests to assess banks' resilience to adverse economic conditions.

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