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**DETERMINANTS OF NON-PERFORMING FINANCING IN LOCAL AND
FOREIGN ISLAMIC BANKS IN MALAYSIA: THE MODERATING ROLE
OF STAFF EFFICIENCY**



**MASTER IN ISLAMIC FINANCE AND BANKING
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APRIL 2025**

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FOREIGN ISLAMIC BANKS IN MALAYSIA: THE MODERATING ROLE
OF STAFF EFFICIENCY**

By

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UUM
Universiti Utara Malaysia

**Thesis Submitted to
College of Business,
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In Partial Fulfillment of the Requirement for the
Master in Islamic Finance and Banking**



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ABSTRACT

Non-Performing Financing (NPF) levels recorded by 11 local and 5 foreign Islamic banks in Malaysia from 2017 to 2023 indicate fluctuations throughout that timeframe. High NPF may impact the financial performance of Islamic banks in Malaysia and effect the general financial stability of the country. This study examines the determinants that may influence the NPF levels of both local and foreign Islamic banks in Malaysia. It includes internal factors such as Return on Assets (ROA), Financing to Deposit Ratio (FDR), Bank Size, and Financing Loss Provision (FLP), and external elements like Gross Domestic Product (GDP), Unemployment Rate (UR), Inflation Rate (IR), and Control of Corruption (COC). This research also includes Staff Efficiency (STAFFX) as a moderating factor that affects the link between the independent and dependent variables. Staff Efficiency is important because if personnel do not work effectively (due to insufficient expertise), the performance of the bank is likely to be significantly impacted. The data for this study were sourced from the Fitch Connect Database, the Department of Statistics Malaysia, and the Worldwide Governance Indicator. This research employs Panel Data Regression Analysis with the Generalized Least Squares Method and a hierarchical regression model. The findings indicate that ROA, FDR, Bank Size, FLP, and UR significantly influence the NPF levels of local and foreign Islamic banks in Malaysia. Other predictors, namely GDP, IR, and COC have insignificant impact on NPF. This research also shows that Staff Efficiency can moderate and enhance the correlation between FDR and NPF in local Islamic banks, along with the links between Inflation Rate and NPF as well as COC and NPF in foreign Islamic banks. This study provides new interesting findings regarding the beneficial effect of Staff Efficiency in minimizing NPF during the unstable economic conditions.

Keywords: Local Islamic banks, foreign Islamic banks, non-performing financing, panel data regression analysis, Malaysia

ABSTRAK

Tahap Pembiayaan Tidak Berprestasi (NPF) yang direkodkan oleh 11 bank Islam tempatan dan 5 bank Islam asing di Malaysia dari 2017 hingga 2023 menunjukkan turun naik sepanjang tempoh masa tersebut. NPF yang tinggi boleh memberi kesan kepada prestasi kewangan bank Islam di Malaysia dan menjejaskan kestabilan kewangan umum negara. Kajian ini mengkaji penentu yang boleh mempengaruhi tahap NPF kedua-dua bank Islam tempatan dan asing di Malaysia. Ia termasuk faktor dalaman seperti Pulangan Atas Aset (ROA), Nisbah Pembiayaan kepada Deposit (FDR), Saiz Bank dan Peruntukan Kerugian Pembiayaan (FLP), dan elemen luaran seperti Keluaran Dalam Negara Kasar (GDP), Kadar Pengangguran (UR), Kadar Inflasi (IR) dan Kawalan Rasuah (COC). Penyelidikan ini juga merangkumi Kecekapan Kakitangan (STAFFX) sebagai faktor penyederhana yang mempengaruhi hubungan antara pembolehubah bebas dan bersandar. Kecekapan Kakitangan adalah penting kerana jika kakitangan tidak bekerja dengan berkesan (kerana kepakaran yang tidak mencukupi), prestasi bank berkemungkinan besar akan terjejas. Data untuk kajian ini diperoleh daripada Pangkalan Data Fitch Connect, Jabatan Perangkaan Malaysia, dan Penunjuk Tadbir Urus Sedunia. Penyelidikan ini menggunakan Analisis Regresi Data Panel dengan Kaedah Kuasa Dua Terkecil Umum dan model regresi hierarki. Penemuan menunjukkan bahawa ROA, FDR, Saiz Bank, FLP, dan UR secara signifikan mempengaruhi tahap NPF bank Islam tempatan dan asing di Malaysia. Faktor lainnya, iaitu GDP, IR, dan COC mempunyai kesan yang tidak ketara ke atas NPF. Penyelidikan ini juga menunjukkan bahawa Kecekapan Kakitangan boleh menyederhana dan meningkatkan korelasi antara FDR dan NPF di bank Islam tempatan, bersama-sama dengan hubungan antara Kadar Inflasi dan NPF serta COC dan NPF di bank Islam asing. Kajian ini memberikan penemuan baru yang menarik mengenai kesan berfaedah Kecekapan Kakitangan dalam meminimumkan NPF semasa keadaan ekonomi yang tidak stabil.

Keywords: Bank Islam tempatan, bank Islam asing, pembiayaan tidak berprestasi, analisis regresi data panel, Malaysia

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LIST OF ABBREVIATIONS

AMBANK	Arab-Malaysian Bank
BSIZE	Bank Size
COC	Control of Corruption
FDR	Financing to Deposit Ratio
FLP	Financing Loss Provision
GDP	Gross Domestic Product
GLS	Generalized Least Square
HSBC	Hongkong and Shanghai Banking Corporation
IR	Inflation Rate
MBSB Bank	Malaysia Building Society Berhad Bank.
NPF	Non-Performing Financing
NPL	Non-Performing Loan
OCBC	Oversea-Chinese Banking Corporation
OLS	Ordinary Least Square
ROA	Return on Assets
STAFFX	Staff Efficiency
UR	Unemployment Rate
WGI	Worldwide Governance Indicator

DETERMINANTS OF NON-PERFORMING FINANCING IN LOCAL AND FOREIGN ISLAMIC BANKS IN MALAYSIA: THE MODERATING ROLE OF STAFF EFFICIENCY

CHAPTER ONE

INTRODUCTION

1.1 Introduction to The Study

This paper attempts to analyze the determinants of non-performing financing in 11 local and 5 foreign Islamic banks in Malaysia. The variables consist of internal factors (Return on Assets, Financing to Deposit Ratio, Bank Size, and Financing Loss Provision) and external factors (Gross Domestic Product, Unemployment Rate, Inflation Rate, and Control of Corruption). This study also examines Staff Efficiency as a moderating variable in the relationship between independent variables (internal and external factors) and the dependent variable (NPF). This chapter will focus on the background of the study explaining the related topic and an overview of non-performing financing in Malaysia. In addition, the problem statement will also be discussed in this chapter. Next, research questions, research objectives, significance of the study, scope of the study, definition of key terms, and organization of the research paper will also be explained in this chapter.

1.2 Background of The Study

The inception of Islamic banking in Malaysia was motivated by the management of Hajj funds for the Malaysian Muslim populace via the *Tabung Haji* institution in 1963. The Muslim community's Hajj fund savings at that time were used by the government

REFERENCES

- Abdul Rahman, A., & Shahimi, S. (2010). Credit risk and financing structure of Malaysian Islamic banks. *Journal of Economic Cooperation and Development*, 31(3), 83–105.
- Abdullah, S., & Al, S. (2013). Introduction to history of Islamic banking in Malaysia. *Humanomics*, 29(2), 80–87. <https://doi.org/10.1108/08288661311319157>
- Ahmed, H. (2009). Financial crisis: risks and lessons For islamic Finance. *ISRA International Journal of Islamic Finance*, 1(1), 7–32.
- Ahmed, S., Majeed, M. E., Thalassinou, E., & Thalassinou, Y. (2021). The Impact of Bank Specific and Macro-Economic Factors on Non-Performing Loans in the Banking Sector: Evidence from an Emerging Economy. *Journal of Risk and Financial Management*, 14(5). <https://doi.org/10.3390/jrfm14050217>
- Akhter, N. (2023). Determinants of commercial bank's non-performing loans in Bangladesh: An empirical evidence. *Cogent Economics and Finance*, 11(1). <https://doi.org/10.1080/23322039.2023.2194128>
- Alnabulsi, K., Kozarević, E., & Hakimi, A. (2022a). Assessing the determinants of non-performing loans under financial crisis and health crisis: evidence from the MENA banks. *Cogent Economics and Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2124665>
- Al-Wesabi, H. A. H., & Ahmad, N. H. (2013). Credit Risk of Islamic Banks in GCC Countries. *International Journal of Banking and Finance*, 10. <https://doi.org/10.32890/ijbf2013.10.2.8476>
- ANTARA. (2023). OJK: Pangsa pasar perbankan syariah Indonesia tumbuh jadi 7,3 persen. <https://www.antarane.ws.com/berita/3772113/ojk-pangsa-pasar-perbankan-syariah-indonesia-tumbuh-jadi-73-persen>
- Association of Shariah Advisors in Islamic Finance. (2023). Malaysia Islamic Banking System Edges Towards Banking System Parity as Financing and Deposits Market Share Reach 40% and Total AUM Tops RM1.3 Trillion. <https://www.asas.my/malaysia-islamic-banking-system-edges-towards-banking-system-parity-as-financing-and-deposits-market-share-reach-40-and-total-aum-tops-rm1-3-trillion-us298bn/>
- Ayu Effendi, K., & Dewi Yuniarti, R. (2018). Credit Risk and Macroeconomics of Islamic Banking in Indonesia. *Journal of Smart Economic Growth*, 3(1), 45–56. www.jseg.ro
- Bahaman, M. A. (2020). Household Sector Impaired Financing Determinants of Malaysian Islamic and Conventional Banks. Universiti Utara Malaysia.
- Bank Negara Malaysia. (2024a). List of Islamic banks licensed by Bank Negara Malaysia. BNM. https://www.bnm.gov.my/regulations/fsp-directory?p_p_id=com_liferay_asset_publisher_web_portlet_AssetPublisherPor

tlet_INSTANCE_jXC730NRlqU0&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_r_p_tag=islamic-bank

- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bawono, S., Sanusi, A., Supriadi, B., Triatmanto, B., & Widarni, E. L. (2023). Effects of Asset Diversification and Human Capital Efficiency on Bank Performance: Evidence from Asian Countries. *Journal of Asian Finance*, 10(1), 123–0132. <https://doi.org/10.13106/jafeb.2023.vol10.no1.0123>
- Bloomberg. (2024, June 6). China's Homeowners and Banks Are Trapped in a Mortgage Mess. Bloomberg.Com. https://www.bloomberg.com/news/articles/2024-06-06/china-s-homeowners-and-banks-are-trapped-in-a-mortgage-mess?utm_source=chatgpt.com
- Bougatef, K. (2016). How corruption affects loan portfolio quality in emerging markets? *Journal of Financial Crime*, 23(4), 769–785. <https://doi.org/10.1108/JFC-04-2015-0021>
- Byrne, D., & Strobl, E. (2004). Defining unemployment in developing countries: evidence from Trinidad and Tobago. *Journal of Development Economics*, 73(1), 465–476. <https://doi.org/10.1016/j.jdeveco.2002.12.005>
- Chapra, M. U. (2008). The Global Financial Crisis: Can Islamic Finance Help Minimize The Severity and Frequency of Such A Crisis in The Future?
- Chen, M., Jeon, B. N., Wang, R., & Wu, J. (2015). Corruption and bank risk-taking: Evidence from emerging economies. *Emerging Markets Review*, 24, 122–148. <https://doi.org/10.1016/j.ememar.2015.05.009>
- Chong, B. S., & Liu, M. H. (2009). Islamic banking: Interest-free or interest-based? *Pacific Basin Finance Journal*, 17(1), 125–144. <https://doi.org/10.1016/j.pacfin.2007.12.003>
- Collins, J., & Porras, J. (1994). Built to Last: Successful Habits of Visionary Companies. Harper Business.
- Demsetz, R. S., Saidenberg, M. R., & Strahan, P. E. (1997). Agency Problems and Risk Taking at Banks.
- Destiani, N. A., Juliana, J., & Cakhyanu, A. (2021). Analisis Pengaruh Islamicity Performance Index Terhadap Tingkat Profitabilitas Pada Bank Syariah Indonesia. *Coopetition : Jurnal Ilmiah Manajemen*, 12(3), 301–312. <https://doi.org/10.32670/coopetition.v12i3.554>
- Effendi, J., Thiarany, U., & Nursyamsiah, T. (2017). Factors Influencing Non-Performing Financing (NPF) at Sharia Banking. *Walisongo: Jurnal Penelitian Sosial Keagamaan*, 25(1), 109–138. <https://doi.org/10.21580/ws.25.1.1540>
- Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *Academy of Management Review*, 14(1), 57–74. <https://www.jstor.org/stable/258191>

- Ekinci, R., & Poyraz, G. (2019). The Effect of Credit Risk on Financial Performance of Deposit Banks in Turkey. *Procedia Computer Science*, 158, 979–987. <https://doi.org/10.1016/j.procs.2019.09.139>
- Fajar, H., & Umanto. (2017). The impact of macroeconomic and bank-specific factors toward non-performing loan: Evidence from Indonesian public banks. *Banks and Bank Systems*, 12(1), 67–74. [https://doi.org/10.21511/bbs.12\(1\).2017.08](https://doi.org/10.21511/bbs.12(1).2017.08)
- Fitch Connect. (2023). Non-Performing Financing Levels of Malaysian Islamic Banking in 2017-2023.
- Foglia, M. (2022). Non-Performing Loans and Macroeconomics Factors: The Italian Case. *Risks*, 10(1). <https://doi.org/10.3390/RISKS10010021>
- Frangakis, M. (2015). Public debt crisis, austerity and deflation: the case of Greece. *Review of Keynesian Economics*, 3(3), 295–313. <http://www.telegraph.co.uk/finance/2830598/Euro-Stability-Pact-is-stupid-says-Prodi>.
- Ghosh, A. (2015). Banking-industry specific and regional economic determinants of non-performing loans: Evidence from US states. *Journal of Financial Stability*, 20, 93–104. <https://doi.org/10.1016/j.jfs.2015.08.004>
- Gujarati, D. N. (2003). Basic Econometric (4th ed.). McGraw-Hill Higher Education.
- Gujarati, D. N., & Porter, D. C.. (2010). Essentials of Econometrics (4th ed.). McGraw-Hill/Irwin.
- Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics. McGraw-Hill Education.
- Gulati, R., Goswami, A., & Kumar, S. (2019). What drives credit risk in the Indian banking industry? An empirical investigation. *Economic Systems*, 43(1), 42–62. <https://doi.org/10.1016/j.ecosys.2018.08.004>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). Multivariate Data Analysis (7th ed.). Pearson Education Limited.
- Hardana, A., Syahuri Zein, A., Johanna, A., & Avinash, B. (2023). Factors Influencing Non-Performing Financing (NPF) In Sharia Banking. *Journal Markcount Finance*, 1(2), 87–97. <https://doi.org/10.55849/jmf.v1i2.87>
- Harizanto, H., & Alfarisi, M. F. (2020). The Effect of Loan Loss Provision, Financing Growth, Operational Costs and Return on Assets on Non-Performing Financing in The Sharia Banking of Indonesia. *Economica*, 8(2), 93–101. <https://doi.org/10.22202/economica.2020.v8.i2.3678>
- Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), 1251–1271.
- Havidz, S. A. H., & Setiawan, C. (2015). Bank Efficiency and Non-Performing Financing (NPF) in the Indonesian Islamic Banks. *Asian Journal of Economic Modelling*, 3(3), 61–79. <https://doi.org/10.18488/journal.8/2015.3.3/8.3.61.79>

- Hays, F. H., De Lurgio, S. A., & Gilbert, A. H. (2011). Efficiency Ratios and Community Bank Performance. *Journal of Finance and Accountancy*, 1, 1–15.
- Hosen, M. N., & Muhari, S. (2019). Non-performing financing of Islamic rural bank industry in Indonesia. *Banks and Bank Systems*, 14(1), 20–28. [https://doi.org/10.21511/bbs.14\(1\).2019.03](https://doi.org/10.21511/bbs.14(1).2019.03)
- Hussain, S., & Malik, S. (2011). Inflation and Economic Growth: Evidence from Pakistan. *International Journal of Economics and Finance*, 3(5). <https://doi.org/10.5539/ijef.v3n5p262>
- Hussin, F., Ali, J., & Noor, M. S. Z. (2014). Kaedah Penyelidikan dan Analisis Data SPSS. UUM Press. <https://doi.org/10.32890/9789670474670>
- Imawan, D. R., & Syafitri, W. (2017). Analisis Makro Ekonomi Pada Kredit Bermasalah Perbankan Syariah di Indonesia. *Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya*, 5(2).
- Incekara, A., & Çetinkaya, H. (2019). Credit Risk Management: A Panel Data Analysis on The Islamic Banks in Turkey. *Procedia Computer Science*, 158, 947–954. <https://doi.org/10.1016/j.procs.2019.09.135>
- Ismail, N. N. (2021). Factors Influencing Impaired Financing Rate of Malaysian Islamic Banks. Universiti Utara Malaysia.
- Jabbouri, I., & Naili, M. (2019). Determinants of Non-performing Loans in Emerging Markets: Evidence from the MENA Region. *Review of Pacific Basin Financial Markets and Policies*, 22(04), 1950026. <https://doi.org/10.1142/S0219091519500267>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360. <http://hupress.harvard.edu/catalog/JENTHF.html>
- Juliana, Marlina, R., Saadillah, R., & Maryam, S. (2018). Pertumbuhan dan Pemerataan Ekonomi Perspektif Politik Ekonomi Islam. *Jurnal Ekonomi Dan Keuangan Syariah*, 2(2), 259–268.
- Karim, M. Z. A., Chan, S. G., & Hassan, S. (2010). Bank efficiency and non-performing loans: Evidence from malaysia and Singapore. *Prague Economic Papers*, 2, 118–132. <https://doi.org/10.18267/j.pap.367>
- Kartikasary, M., Marsintauli, F., Serlawati, E., & Laurens, S. (2020). Factors affecting the non-performing loans in Indonesia. *Accounting*, 6(2), 97–106. <https://doi.org/10.5267/j.ac.2019.12.003>
- Kasmir. (2015a). Analisis Laporan Keuangan. Rajawali Pers.
- Kil, K., & Miklaszewska, E. (2017). The Competitive Threats and Strategic Challenges to Polish Cooperative Banks: A Post Crisis Perspective. In *Institutional Diversity in Banking* (pp. 121–146). Springer International Publishing. https://doi.org/10.1007/978-3-319-42073-8_6

- Koju, L., Abbas, G., & Wang, S. (2018). Do Macroeconomic Determinants of Non-Performing Loans Vary with the Income Levels of Countries? *Journal of Systems Science and Information*, 6(6), 512–531. <https://doi.org/10.21078/JSSI-2018-512-20>
- Koju, L., Koju, R., & Wang, S. (2018). Macroeconomic and Bank-Specific Determinants of Non-Performing Loans: Evidence from Nepalese Banking System. *Journal of Central Banking Theory and Practice*, 7(3), 111–138. <https://doi.org/10.2478/jcbtp-2018-0026>
- Komoni, A., Morina, F., Grima, S., Özen, E., & Mazreku, İ. (2022). A Comparative Analysis Between Western Balkan Countries and Selected Oecd Countries (2010 - 2019) of The Effect of Unemployment on Non-Performing Loan. *Journal of Economics and Administrative Sciences Faculty*, 9(1), 656–678. <https://doi.org/10.30798/makuiibf.979620>
- Kuswahariani, W., Siregar, H., & Syarifuddin, F. (2020). Analisis Non-Performing Financing (NPF) Secara Umum dan Segmen Mikro Pada Tiga Bank Syariah Nasional Di Indonesia. *Jurnal Aplikasi Manajemen Dan Bisnis*, 6(1), 26–36.
- Leka, B., Bajrami, E., & Duci, E. (2019). Key Macroeconomic Drivers on Reducing Non-Performing Loans in Albania. *Academic Journal of Interdisciplinary Studies*, 8(2), 88–95. <https://doi.org/10.2478/ajis-2019-0020>
- Lubis, D. D., & Mulyana, B. (2021). The Macroeconomic Effects on Non-Performing Loan and its Implication on Allowance for Impairment Losses. *Journal of Economics, Finance and Accounting Studies (JEFAS)*, 3(2), 13–22. <https://doi.org/10.32996/jefas>
- Masthuroh, A., Efriyanto, & Nugroho, H. (2015). Pengaruh Gross Domestic Product dan Inflasi Terhadap Non-Performing Financing Pada PT Bank Muamalat Indonesia Periode 2006-2013. *Jurnal Akuntansi, Keuangan Dan Perbankan*, 1(4), 316–322.
- Mazreku, I., Morina, F., Misiri, V., Spiteri, J. V., & Grima, S. (2018). Determinants of the Level of Non-Performing Loans in Commercial Banks of Transition Countries. *European Research Studies Journal*, XXI(3), 3–13.
- Messai, A. S., & Jouini, F. (2013). Micro and Macro Determinants of Non-performing Loans. *International Journal of Economics and Financial Issues*, 3(4), 852–860. www.econjournals.com
- Misman, F. N., & Ahmad, W. (2011). Loan Loss Provisions: Evidence from Malaysian Islamic and Conventional Banks. *International Review of Business Research Papers*, 7(4), 94–103. <https://api.semanticscholar.org/CorpusID:159037239>
- Misman, F. N., Bhatti, I., Lou, W., Samsudin, S., & Rahman, N. H. A. (2015). Islamic Banks Credit Risk: A Panel Study. *Procedia Economics and Finance*, 31, 75–82. [https://doi.org/10.1016/s2212-5671\(15\)01133-8](https://doi.org/10.1016/s2212-5671(15)01133-8)
- Mohd-Rashid, R., Mehmood, W., Ooi, C. A., Che Man, S. Z., & Ong, C. Z. (2023). Strengthened rule of law to reduce corruption: evidence from Asia-Pacific

- countries. *Journal of Money Laundering Control*, 26(5), 989–1006. <https://doi.org/10.1108/JMLC-06-2022-0076>
- Mufraini, M. A., Murodi, M., Wicaksono, A. T. S., Fauziah, F., & Mubarak, F. (2021). The Efficiency of Human Resources Management During the Disruption and Pandemic Era: An Empirical Study of Indonesian Islamic Banks. *Journal of Asian Finance, Economics and Business*, 8(6), 437–446. <https://doi.org/10.13106/jafeb.2021.vol8.no6.0437>
- Mufti, O., Parvaiz, G. S., Wahab, M., & Durrani, M. (2016). Human Resource Competencies and Organizational Performance: A Study on Banking Sector Managers in Pakistan. *Journal of Managerial Sciences*, X(1), 83–104.
- Muhammad, R., Suluki, A., & Nugraheni, P. (2020). Internal factors and non-performing financing in Indonesian Islamic rural banks. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1823583>
- Muneeza, A. (2019). A Case Study on the Default of Islamic Financing Facilities: Malaysian Perspective. In *Management of Shari'ah Compliant Businesses: Vol. Part F561* (pp. 35–43). Springer Nature. https://doi.org/10.1007/978-3-030-10907-3_4
- Nor, A. M., & Ahmad, N. H. (2015). Impaired Financing Determinants of Islamic Banks in Malaysia. *Information Management and Business Review*, 7(3), 17–25. <https://doi.org/10.22610/imbr.v7i3.1149>
- Nor, A. M., Hayati Ahmad, N., & Ahmad, M. A. (2017). Impact of Staff Efficiency on Impaired Financing of Islamic Banks, MENA Countries. *Pertanika J. Soc. Sci. & Hum*, 25(2), 977–992.
- Nugraha, E., & Setiawan, A. (2018). Non-Performing Financing Factor in Syariah Commercial Banking in Indonesia. *International Journal of Commerce and Finance*, 4, 27–39.
- Otoritas Jasa Keuangan RI. (2024). Statistik Perbankan Syariah.
- Ozili, P. K. (2022). Economic policy uncertainty, bank nonperforming loans and loan loss provisions: are they correlated? *Asian Journal of Economics and Banking*, 6(2), 221–235. <https://doi.org/10.1108/ajeb-10-2021-0119>
- Pallant, J. (2010). *SPSS Survival Manual* (7th ed.). Routledge. <https://doi.org/10.4324/9781003117452>
- Park, J. (2012). Corruption, soundness of the banking sector, and economic growth: A cross-country study. *Journal of International Money and Finance*, 31(5), 907–929. <https://doi.org/10.1016/j.jimonfin.2011.07.007>
- Polodoo, V., Seetanah, B., Sannasse, R. V., Seetah, K., & Padachi, K. (2015). An Econometric Analysis Regarding The Path of Non-Performing Loans-A Panel Data Analysis From Mauritian Banks and Implications For The Banking Industry. *The Journal of Developing Areas*, 49(1), 53–64.

- Prawira, R., & Wiryono, S. K. (2020). Determinants of non-performing loans in state-owned banks. *Jurnal Akuntansi Dan Auditing Indonesia*, 24(2). <https://doi.org/10.20885/jaai.vol24.i>
- Priyadi, U., Utami, K. D. S., Muhammad, R., & Nugraheni, P. (2021). Determinants of credit risk of Indonesian Shari'ah rural banks. *ISRA International Journal of Islamic Finance*, 13(3), 284–301. <https://doi.org/10.1108/IJIF-09-2019-0134>
- Purba, N. S., & Darmawan, A. (2018). Pengaruh Pertumbuhan Produk Domestik Bruto dan Inflasi Terhadap Non Performing Finance Bank Syariah (Studi Pada Bank Umum Syariah di Indonesia Periode 2014-2016). *Jurnal Administrasi Bisnis (JAB)*, 61(2), 168–176.
- Purnamasari, A. E., & Musdholifah. (2016a). Analisis Faktor Eksternal dan Internal Bank terhadap Risiko Pembiayaan Bank Umum Syariah di Indonesia Periode 2012-2015. *BISMA (Bisnis Dan Manajemen)*, 9(1), 13–25. <https://doi.org/10.26740/bisma.v9n1.p13-25>
- Rachman, R. A., Kadarusman, Y. B., Anggriono, K., & Setiadi, R. (2018). Bank-specific factors affecting non-performing loans in developing countries: Case study of Indonesia. *Journal of Asian Finance, Economics and Business*, 5(2), 35–42. <https://doi.org/10.13106/jafeb.2018.vol5.no2.35>
- Rahmah, A. Z., & Armina, S. H. (2020). Macro and micro determinants of the non-performing finance: The case of Indonesian Islamic bank. *Jurnal Ekonomi & Keuangan Islam*, 6(1), 34–41. <https://doi.org/10.20885/jeki.vol6.iss1.art4>
- RAM Ratings. (2024). Islamic banks continue to drive Malaysia's overall loan growth, profitability intact but outperformance will be limited. <https://www.ram.com.my/pressrelease/?Prviewid=6583#:~:Text=Although%20slower%20than%20the%20year,3.5%25%3B%202022%3A%201.5%25>
- Rehman, A., Mehmood, W., Ali Alsmady, A., & Sharif, A. (2024a). Corruption's impact on non-performing loans of banks in emerging markets: Empirical insights. *Research in Globalization*, 9. <https://doi.org/10.1016/j.resglo.2024.100241>
- Retnowati, A., & Jayanto, P. Y. (2020). Factors Affecting Non-Performing Financing at Islamic Commercial Banks in Indonesia. *Accounting Analysis Journal*, 9(1), 38–45. <https://doi.org/10.15294/aaaj.v9i1.20778>
- Rofi'ah, K., & A'yun, A. 'Aina. (2019). Faktor-Faktor Non-Performing Financing (NPF) di Bank Umum Syariah Indonesia. *Jurnal Ekonomi*, 24(03), 452–467.
- Ruslim, H., & Bengawan, C. H. (2020). The Effect of Capital Aset and Liability Ratio on Non-Performing Loan. *Jurnal Akuntansi*, 23(3), 433. <https://doi.org/10.24912/ja.v23i3.612>
- Sari, E. O., Hadiani, F., & Hazma, H. (2022). The Influence of ROA, BOPO, CAR, and FDR on Non-Performing Financing in Full-Fledged Islamic Banks. *Indonesian Journal of Economics and Management*, 3(1), 114–121. <https://doi.org/10.35313/ijem.v3i1.4678>

- Singh, S. K., Basuki, B., & Setiawan, R. (2021). The Effect of Non-Performing Loan on Profitability: Empirical Evidence from Nepalese Commercial Banks. *Journal of Asian Finance, Economics and Business*, 8(4).
- State of The Global Islamic Economy Report. (2023). State of the Global Islamic Economy Report. *DinarStandard*, 1–40. <https://haladinar.io/hdn/doc/report2018.pdf>
- Stiglitz, J. E. (2002). Information and the Change in the Paradigm in Economics. *The American Economic Review*, 92(3), 460–501.
- Sufian, F., Kamarudin, F., & Mohd Noor, N. H. H. (2012). Determinants of revenue efficiency in the Malaysian Islamic banking sector. *Journal of King Abdulaziz University, Islamic Economics*, 25(2), 195–224.
- Supriani, I., & Sudarsono, H. (2018). Analisis Pengaruh Variabel Mikro Dan Makro Terhadap NPF Perbankan Syariah di Indonesia. *EQUILIBRIUM: Jurnal Ekonomi Syariah*, 6(1), 1–18.
- Suryanto, S. (2015). Non-performing loans on regional development bank in Indonesia and factors that influence. *Mediterranean Journal of Social Sciences*, 6(4), 280–287.
- Szarowska, I. (2018). Effect of macroeconomic determinants on non-performing loans in Central and Eastern European countries. In *International Journal of Monetary Economics and Finance* (Vol. 11, Issue 1, pp. 20–35). Inderscience Enterprises Ltd. <https://doi.org/10.1504/IJMEF.2018.090564>
- Toader, T., Onofrei, M., Popescu, A.-I., & Andrieș, A. M. (2018). Corruption and Banking Stability: Evidence from Emerging Economies. *Emerging Markets Finance and Trade*, 54(3), 591–617. <https://doi.org/10.1080/1540496X.2017.1411257>
- Torres-Reyna, O. (2007). Panel data analysis fixed and random effects using Stata (v. 4.2). Data & Statistical Services.
- Umar, M., & Sun, G. (2018). Determinants of non-performing loans in Chinese banks. *Journal of Asia Business Studies*, 12(3), 273–289. <https://doi.org/10.1108/JABS-01-2016-0005>
- Wangawidjaja. (2012). Pembiayaan Bank Syariah. Gramedia.
- Wooldridge, J. M. (2002). Econometric analysis of cross section and panel data. Massachusetts Institute of Technology.
- Yulianti, E., & Ibrahim, R. (2018). The Effect of Capital Adequacy and Bank Size on Non-Performing Loans in Indonesian Public Banks. *Journal of Accounting Research, Organization and Economics*, 1(2), 205–214. [www/http/jurnal.unsyiah.ac.id/JAROE](http://jurnal.unsyiah.ac.id/JAROE)
- Zheng, C., Das Gupta, A., & Moudud-Ul-Huq, S. (2017). Do market competition and development indicators matter for banks' risk, capital, and efficiency

relationship? *International Journal of Financial Engineering*, 04(02n03), 1750027. <https://doi.org/10.1142/S242478631750027X>

Zolkifli, N. A., Janor, H., & Hamid, M. A. (2015). Market Risk and Bank Specific Determinants. *Jmfir*, 12(2).



APPENDICES

APPENDIX A

Data Trend of Non-Performing Financing of Islamic Banks in Malaysia

No.	Name of Islamic Banks	2017	2018	2019	2020	2021	2022	2023
1	Affin Islamic Bank (Local)	0.92	2.83	3.24	1.61	1.68	1.36	0.87
2	Alliance Islamic Bank (Local)	0.70	1.28	1.13	2.14	2.70	2.37	2.81
3	AmBank Islamic (Local)	1.78	2.08	1.97	1.91	1.74	1.60	1.14
4	Bank Islam Malaysia Berhad (Local)	0.93	0.92	0.86	0.67	0.96	1.27	0.97
5	Bank Muamalat Malaysia Berhad (Local)	2.34	1.95	1.31	1.06	0.82	0.85	1.10
6	CIMB Islamic Bank (Local)	0.66	0.62	1.56	1.74	0.70	1.29	1.51
7	Hong Leong Islamic Bank (Local)	0.87	0.91	0.68	0.73	0.40	0.44	0.75
8	Maybank Islamic (Local)	1.05	1.18	1.62	1.19	0.76	0.95	1.13
9	MBSB Bank (Local)	10.23	2.40	2.41	2.88	2.73	5.46	5.48
10	Public Islamic Bank (Local)	0.58	0.60	0.55	0.31	0.22	0.23	0.34
11	RHB Islamic Bank (Local)	0.80	0.97	0.77	0.65	0.52	0.74	1.41
12	Al Rajhi Banking & Investment (Foreign)	0.41	1.31	1.17	1.03	0.91	0.69	0.40
13	HSBC Amanah (Foreign)	2.78	2.48	2.90	4.38	8.78	6.78	5.17
14	Kuwait Finance House (Foreign)	7	4.59	5.98	7.05	6.77	6.86	6.09
15	OCBC Al-Amin Bank (Foreign)	3.84	3.55	2.87	5.30	4.22	5.56	4.48
16	Standard Chartered Saadiq (Foreign)	0.77	1.17	1.66	3.35	6.20	4.36	4

APPENDIX B

Diagnostic Test and Panel Data Test Results for Local Islamic Banks

Multicollinearity Test for Local Islamic Banks

Variable	VIF	1/VIF
x7	6.37	0.157092
x5	6.05	0.165381
x3	2.11	0.473529
x8	2.04	0.490802
x4	1.78	0.562950
x6	1.72	0.580090
z	1.64	0.610600
x2	1.49	0.670628
x1	1.38	0.727141
Mean VIF	2.73	

Heteroscedasticity Test for Local Islamic Banks

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

$H_0: \sigma(i)^2 = \sigma^2$ for all i

chi2 (11) = 909.41
Prob > chi2 = 0.0000

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity
Assumption: Normal error terms
Variable: Fitted values of y

H_0 : Constant variance

chi2(1) = 77.93
Prob > chi2 = 0.0000

Autocorrelation Test for Local Islamic Banks

Wooldridge test for autocorrelation in panel data

H0: no first order autocorrelation

F(1, 10) = 19.334
 Prob > F = 0.0013

Hausman Test for Local Islamic Banks

. hausman fe re

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fe	(B) re		
x1	-.6275495	-1.656259	1.028709	.
x2	-.0438977	-.0127817	-.031116	.0053964
x3	-.8677006	-.2089408	-.6587598	.2533897
x4	.4892251	1.034852	-.5456274	.0815967
x5	-.0038787	.0339002	-.0377789	.
x6	-.2030704	-.5794381	.3763677	.
x7	.0474015	-.1666804	.2140819	.
x8	1.403607	-2.021534	3.42514	.
z	4.483151	.3667915	4.116359	1.563891

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(9) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 70.44

Prob > chi2 = 0.0000

(V_b-V_B is not positive definite)

APPENDIX C

Diagnostic Test and Panel Data Test Results for Foreign Islamic Banks

Multicollinearity Test for Foreign Islamic Banks

Variable	VIF	1/VIF
x7	6.21	0.160990
x5	5.80	0.172404
z	2.83	0.352767
x1	2.67	0.374304
x3	2.29	0.435860
x2	1.89	0.528544
x8	1.87	0.533446
x6	1.84	0.543208
x4	1.46	0.683807
Mean VIF	2.99	

Heteroscedasticity Test for Foreign Islamic Banks

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

$H_0: \sigma(i)^2 = \sigma^2$ for all i

chi2 (5) = 3.53
Prob > chi2 = 0.6187

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity

Assumption: Normal error terms

Variable: Fitted values of y

H_0 : Constant variance

chi2(1) = 0.70
Prob > chi2 = 0.4028

Autocorrelation Test for Foreign Islamic Banks

```
. xtserial y x1 x2 x3 x4 x5 x6 x7 x8 z
```

Wooldridge test for autocorrelation in panel data

H0: no first order autocorrelation

F(1, 4) = 0.826

Prob > F = 0.4148

Hausman Test for Foreign Islamic Banks

```
. hausman fe re
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fe	(B) re		
x1	-.7657455	-1.411483	.6457374	.
x2	-.0303663	.0042424	-.0346087	.0081745
x3	2.843939	2.00031	.8436294	2.272817
x4	.8163769	.8531063	-.0367294	.4232088
x5	.05677	.1191566	-.0623866	.
x6	.8737769	.6952561	.1785208	.1853894
x7	.1499439	-.1840326	.3339765	.318239
x8	3.026731	.1329174	2.893813	2.242899
z	7.311934	-3.230878	10.54281	3.252635

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(9) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 16.28

Prob > chi2 = 0.0614

(V_b-V_B is not positive definite)

APPENDIX D

Results of The Regression Analysis of Local Islamic Banks

Dependent Variable: Y
Method: Panel EGLS (Cross-section weights)
Date: 01/20/25 Time: 23:15
Sample: 2017 2023
Periods included: 7
Cross-sections included: 11
Total panel (balanced) observations: 77
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.492221	0.031171	47.87143	0.0000
X1	-0.601793	0.244355	-2.462782	0.0168
X2	-0.025766	0.007232	-3.562562	0.0007
X3	-1.041171	0.275374	-3.780936	0.0004
X4	0.594936	0.128635	4.624990	0.0000
X5	-0.023146	0.021527	-1.075205	0.2867
X6	-0.292416	0.086818	-3.368166	0.0013
X7	0.033160	0.066147	0.501308	0.6181
X8	0.749806	0.728778	1.028854	0.3078
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.856157	Mean dependent var	1.792825	
Adjusted R-squared	0.811516	S.D. dependent var	0.896064	
S.E. of regression	0.506269	Sum squared resid	14.86590	
F-statistic	19.17875	Durbin-Watson stat	1.686395	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.857052	Mean dependent var	1.492078	
Sum squared resid	21.40997	Durbin-Watson stat	1.460169	

Dependent Variable: Y
 Method: Panel EGLS (Cross-section weights)
 Date: 01/20/25 Time: 23:18
 Sample: 2017 2023
 Periods included: 7
 Cross-sections included: 11
 Total panel (balanced) observations: 77
 Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.492201	0.033234	44.90043	0.0000
X1	-0.657939	0.270320	-2.433926	0.0181
X2	-0.026788	0.007979	-3.357381	0.0014
X3	-0.976719	0.297535	-3.282708	0.0018
X4	0.535574	0.142213	3.766004	0.0004
X5	-0.015302	0.022859	-0.669388	0.5060
X6	-0.247185	0.096244	-2.568317	0.0129
X7	0.031294	0.070065	0.446640	0.6568
X8	0.753454	0.788749	0.955252	0.3435
Z	1.925846	1.701862	1.131611	0.2625

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics			
R-squared	0.843661	Mean dependent var	1.664064
Adjusted R-squared	0.791548	S.D. dependent var	0.754984
S.E. of regression	0.498730	Sum squared resid	14.17768
F-statistic	16.18906	Durbin-Watson stat	1.661562
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.872099	Mean dependent var	1.492078
Sum squared resid	19.15634	Durbin-Watson stat	1.479638

Dependent Variable: Y
Method: Panel EGLS (Cross-section weights)
Date: 01/20/25 Time: 23:20
Sample: 2017 2023
Periods included: 7
Cross-sections included: 11
Total panel (balanced) observations: 77
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.429219	0.109253	13.08171	0.0000
X1	-0.395950	0.314987	-1.257038	0.2147
X2	-0.033736	0.009902	-3.406945	0.0013
X3	-0.110201	0.336758	-0.327240	0.7449
X4	0.401169	0.170466	2.353368	0.0227
X5	-0.009413	0.024730	-0.380648	0.7051
X6	-0.212419	0.114599	-1.853585	0.0698
X7	0.030223	0.073270	0.412497	0.6818
X8	0.291800	0.817217	0.357065	0.7226
Z	5.888657	2.998539	1.963842	0.0552
X1_Z	-1.874673	1.979059	-0.947255	0.3482
X2_Z	-0.141557	0.063892	-2.215581	0.0314
X3_Z	0.221159	1.377505	0.160551	0.8731
X4_Z	1.477623	0.988999	1.494059	0.1416
X5_Z	0.088540	0.154241	0.574036	0.5686
X6_Z	0.644574	0.730315	0.882597	0.3818
X7_Z	0.296603	0.456909	0.649151	0.5193
X8_Z	1.221990	5.138776	0.237798	0.8130
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.896712	Mean dependent var	1.681487	
Adjusted R-squared	0.839798	S.D. dependent var	0.909983	
S.E. of regression	0.451802	Sum squared resid	10.00211	
F-statistic	15.75560	Durbin-Watson stat	1.599762	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.905229	Mean dependent var	1.492078	
Sum squared resid	14.19431	Durbin-Watson stat	1.372931	

APPENDIX E

Results of The Regression Analysis of Foreign Islamic Banks

Random-effects GLS regression
Group variable: company

Number of obs = 35
Number of groups = 5

R-squared:

Within = 0.4296
Between = 0.9419
Overall = 0.7501

Obs per group:

min = 7
avg = 7.0
max = 7

corr(u_i, X) = 0 (assumed)

Wald chi2(8) = 78.06
Prob > chi2 = 0.0000

y	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
x1	-.5548329	.6351471	-0.87	0.382	-1.799698	.6900326
x2	.0220065	.0110949	1.98	0.047	.0002609	.0437521
x3	2.811222	.7251997	3.88	0.000	1.389857	4.232588
x4	.8930272	.1188513	7.51	0.000	.660083	1.125971
x5	.1171124	.132763	0.88	0.378	-.1430983	.3773232
x6	.9964403	.5608948	1.78	0.076	-.1028933	2.095774
x7	-.2970392	.3455872	-0.86	0.390	-.9743776	.3802993
x8	-.2613631	3.112311	-0.08	0.933	-6.36138	5.838654
_cons	3.848168	.2252414	17.08	0.000	3.406703	4.289633
sigma_u	0					
sigma_e	1.0911499					
rho	0 (fraction of variance due to u_i)					

Random-effects GLS regression
Group variable: company

Number of obs = 35
Number of groups = 5

R-squared:

Within = 0.4664
Between = 0.9947
Overall = 0.7939

Obs per group:

min = 7
avg = 7.0
max = 7

corr(u_i, X) = 0 (assumed)

Wald chi2(9) = 96.30
Prob > chi2 = 0.0000

y	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
x1	-1.411483	.6959429	-2.03	0.043	-2.775506	-.0474599
x2	.0042424	.0128474	0.33	0.741	-.020938	.0294228
x3	2.00031	.7583258	2.64	0.008	.5140184	3.486601
x4	.8531063	.1114369	7.66	0.000	.634694	1.071519
x5	.1191566	.1229699	0.97	0.333	-.12186	.3601733
x6	.6952561	.535704	1.30	0.194	-.3547045	1.745217
x7	-.1840326	.3238236	-0.57	0.570	-.8187152	.4506501
x8	.1329174	2.887735	0.05	0.963	-5.52694	5.792775
z	-3.230878	1.40239	-2.30	0.021	-5.979511	-.4822445
_cons	3.850851	.2086246	18.46	0.000	3.441954	4.259748
sigma_u	0					
sigma_e	1.0182805					
rho	0					(fraction of variance due to u_i)

Random-effects GLS regression
Group variable: company

Number of obs = 35
Number of groups = 5

R-squared:

Within = 0.7756
Between = 0.9917
Overall = 0.9126

Obs per group:

min = 7
avg = 7.0
max = 7

corr(u_i, X) = 0 (assumed)

Wald chi2(17) = 177.55
Prob > chi2 = 0.0000

y	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
x1	-.8511791	.7108076	-1.20	0.231	-2.244336	.5419781
x2	-.011916	.0184899	-0.64	0.519	-.0481556	.0243236
x3	1.364281	1.09501	1.25	0.213	-.7818989	3.510461
x4	.5490783	.1466884	3.74	0.000	.2615744	.8365822
x5	.110673	.1077826	1.03	0.305	-.100577	.3219231
x6	1.421888	.6407795	2.22	0.026	.1659834	2.677793
x7	-.0917063	.3448457	-0.27	0.790	-.7675915	.5841788
x8	.3463145	3.046536	0.11	0.909	-5.624786	6.317415
z	-1.773088	2.125723	-0.83	0.404	-5.939428	2.393252
x1z	1.730408	3.202654	0.54	0.589	-4.546679	8.007495
x2z	.0509523	.0914452	0.56	0.577	-.128277	.2301817
x3z	1.438559	6.239113	0.23	0.818	-10.78988	13.667
x4z	1.809502	1.635077	1.11	0.268	-1.395189	5.014194
x5z	.7957455	.5990556	1.33	0.184	-.3783818	1.969873
x6z	-1.996346	2.006829	-0.99	0.320	-5.929659	1.936966
x7z	-4.148899	2.014773	-2.06	0.039	-8.097782	-.2000156
x8z	-40.7121	16.59216	-2.45	0.014	-73.23214	-8.192062
_cons	3.978361	.3720342	10.69	0.000	3.249187	4.707535
sigma_u	0					
sigma_e	.94540362					
rho	0	(fraction of variance due to u_i)				