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Comparative Analysis of Operational and Liquidity Risks of Islamic Banks in the ASEAN Region Using Basel III

Bintang Tri Wahyudi[1], A. Zuliansyah[2], Ujang Hanief Musthofa[3]

[1] Universitas Islam Negeri Raden Intan Lampung, Indonesia; bintangtriwahyudi@gmail.com
[2] Universitas Islam Negeri Raden Intan Lampung, Indonesia; bintangtriwahyudi@gmail.com
[3] Universitas Islam Negeri Raden Intan Lampung, Indonesia; bintangtriwahyudi@gmail.com

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Abstract

This research aims to analyze the differences in operational and liquidity risks of Islamic banks in the ASEAN region based on the Basel III framework. The study employs a quantitative methodology, utilizing the Kruskal-Wallis analysis and Mann-Whitney U test, drawing on financial reports from Islamic banks from 2021 to 2023. Key indicators examined include the Operational Risk Capital Charge (ORCC), Net Stable Funding Ratio (NSFR), and Liquidity Coverage Ratio (LCR). The findings reveal significant differences in the management of operational risk (ORCC) and long-term funding stability (NSFR), while no significant differences were observed in short-term liquidity (LCR). It was noted that predominantly Muslim countries are better equipped to handle operational risks, whereas banks in smaller markets face liquidity challenges. However, the study is limited to Islamic banks in five ASEAN countries and does not consider external variables such as macroeconomic conditions. Overall, these findings contribute to the existing literature on risk management in Islamic banks within the ASEAN region and offer valuable insights for regulators to develop policies tailored to local characteristics.

Keywords Operational Risk; Liquidity; Basel III; Islamic Banks

Corresponding Author
Bintang Tri Wahyudi
Universitas Islam Negeri Raden Intan Lampung, Indonesia; bintangtriwahyudi@gmail.com

1. INTRODUCTION

The global financial system is essential for maintaining global economic stability, managing risks, and supporting investments that drive economic growth. (Mishkin, 2008) The global financial crisis of 2008 highlighted the critical importance of robust risk management to maintain the banking sector's stability and mitigate the negative impacts it has on the system as a whole. Stricter risk management mechanisms, such as Basel III, emerged in response to this crisis. This framework aims to enhance the banking system's stability through increased capital and liquidity requirements. (Laeven et al., 2010)

Basel III is a regulatory framework designed to enhance the stability of the global banking system following the financial crisis of 2007-2009. One of the key components of Basel III is the increased capital adequacy requirements, which include the Common Equity Tier 1 (CET1) ratio that must reach a minimum of 4.5% of risk-weighted assets, as well as the Tier 1 Capital and Total Capital ratios, which

must reach 6% and 8%, respectively. (Le et al., 2023) Additionally, Basel III introduces a capital conservation buffer of 2.5% to strengthen banks' resilience further. Another significant component is the liquidity standards, encompassing the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). The LCR ensures banks maintain sufficient liquid assets to cover net cash outflows over a 30-day stress scenario. At the same time, the NSFR requires banks to have stable funding that exceeds the amount needed over one year in stressed financial conditions.

Furthermore, Basel III enhances risk management practices by adopting a more comprehensive approach to liquidity and market risk and increasing supervisory and managerial responsibilities in risk identification and reporting. (Safitri & Geraldina, 2024) The primary objectives of Basel III are to improve the resilience of the banking sector, prevent the recurrence of global financial crises, and promote overall financial stability. In the context of the literature, Basel III has become a significant topic of research, with various studies exploring its impact on financial stability and banking practices, thereby providing a deeper understanding of how this regulation influences the behavior of banks and financial markets as a whole. (Mattayaphutron, 2022)

Islamic banking has emerged as an alternative financial system based on moral values. Through Shariah principles, it prohibits riba (interest) and gharar (uncertainty) and promotes social justice. (Iqbal & Mirakhor, 2018) With these values, Islamic banking has become an important part of the global financial system, particularly in ASEAN. This sector continues to grow thanks to government policy support and the increasing demand for ethical-based financial services. (Hasan & Dridi, 2010; IFSB, 2023)

According to data from Market Data Forecast, the global Islamic finance market is projected to grow at a Compound Annual Growth Rate (CAGR) of 10.2%, increasing from 2.46 billion USD in 2019 to approximately 3.99 billion USD by 2029. This growth is driven by rising demand for Sharia-compliant products, government support for Islamic finance, and technological advancements that enhance accessibility. The Middle East and Africa continue to dominate the market due to their large Muslim populations and established Islamic banking systems, while the Asia-Pacific region, particularly countries like Malaysia and Indonesia, is experiencing rapid growth supported by robust regulatory frameworks. The market encompasses various segments, including Islamic banking, Takaful (Islamic insurance), and Sukuk (Islamic bonds), each contributing to the overall expansion. The Islamic finance market is expected to maintain its upward trajectory, reflecting a broader global trend towards ethical and sustainable financial practices (Forecast, 2024). With assets totaling 2.25 trillion USD at the end of 2022, the Islamic banking sector is set to account for 69.3% of the total assets in the global Islamic financial services industry. (IFSB, 2023)

Digital transformation, economic diversification, and government regulatory initiatives that enhance efficiency and competitiveness have driven the growth of the Islamic banking sector. However, Islamic banking faces significant challenges in managing operational and liquidity risks despite offering a more stable option. Islamic banks cannot utilize interest-based liquidity instruments because Shariah principles prohibit interest-based products. This limitation makes it difficult for Islamic banks to meet liquidity standards such as the Net Stable Funding Ratio (NSFR) and Liquidity Coverage Ratio (LCR) established by Basel III. (Putra, 2023) Liquidity instruments such as sukuk often have low liquidity and limited availability. (Kammer et al., 2015) In addition, regulatory variations among countries further increase the complexity of implementing international standards. (Song & Oosthuizen, 2014) Operational risk is also a major concern, encompassing challenges related to compliance with Shariah principles, internal system failures, and regulatory changes. (Aliyu et al., 2016) Islamic banking in the ASEAN region also faces technological challenges and dependence on government policies, particularly concerning state-owned institutions. (Ummah, 2014)

Previous research has shown differences in liquidity and operational risks among Islamic banks in ASEAN. A study conducted by (Zakhariah & Hesniati, 2022) found that there are significant differences in risk management between Shariah Business Units (UUS) and Shariah Commercial Banks (BUS). Meanwhile, (Islamiyah, 2023) also notes that the financial stability of Islamic banks in Indonesia, Brunei, Malaysia, Thailand, and the Philippines varies significantly. This differentiation highlights the economic, legal, and banking structure complexities within ASEAN, examining how each country adapts to the Basel III framework.

Therefore, comparative research is crucial to understanding ASEAN countries' risk management strategies. For instance, a study conducted by (Hasan & Dridi, 2010) shows that the global crisis has impacted various types of both Islamic and conventional banks. This provides important insights for enhancing risk management in the Islamic sector. The research focuses on Islamic banks in ASEAN, aiming to analyze how these banks meet Basel III standards, particularly concerning liquidity and operational risks. (Mattayaphutron, 2022)

The anticipated practical contributions of this research are multifaceted, particularly in the context of regulatory policies in the ASEAN region and the development of new Sharia-compliant financial products. Firstly, the findings of this study are expected to provide valuable insights for policymakers in ASEAN countries, enabling them to refine and enhance regulatory frameworks governing Islamic banking. By identifying best practices and potential areas for improvement, the research can inform the formulation of policies that promote financial stability while ensuring compliance with Sharia principles. This could lead to more robust regulatory environments that support the growth of Islamic finance in the region. (Isnurhadi et al., 2022)

Secondly, the study aims to contribute to developing innovative Sharia-compliant financial products that cater to the evolving needs of consumers and businesses in ASEAN. By analyzing current market trends and consumer preferences, the research can guide financial institutions in designing products that adhere to Islamic principles and meet the demands of a diverse clientele. This could include introducing new investment vehicles, savings accounts, and financing options that align with ethical considerations and market expectations. (Misman & Bhatti, 2020)

Ultimately, the practical implications of this research extend beyond theoretical contributions; they can potentially shape the future landscape of Islamic finance in ASEAN, fostering a more inclusive and sustainable financial ecosystem that benefits a wide range of stakeholders. By bridging the gap between academic research and practical application, this study aspires to play a pivotal role in advancing the Islamic banking sector in the region.

While existing literature addresses various aspects of the topic, significant gaps warrant further exploration. One key gap is the lack of studies focusing on specific populations with unique characteristics or needs, limiting our understanding of how certain factors affect these groups. For instance, although much research has been conducted on technology's impact on adolescents, few studies examine toddlers' interactions with technology. Additionally, the rapid development of emerging technologies, such as artificial intelligence, has outpaced research on their ethical, legal, and social implications. This article addresses these gaps and provides valuable insights for future studies.

2. METHODS

This study compares Islamic banks concerning operational risk and liquidity management in the ASEAN region, using Basel III standards as a reference framework. To achieve this, a quantitative approach is employed to analyze various risk indicators derived from these banks' financial statements. The focus is on key metrics such as capital adequacy, liquidity ratios, and compliance with Basel III standards. The overarching goal is to enhance the understanding of risk management practices within Islamic banks and assess their adherence to international regulations.

The rationale for utilizing quantitative methods in this research is grounded in several compelling reasons. First and foremost, quantitative methods facilitate the collection and analysis of numerical data, which can be measured objectively. This objectivity is crucial in risk management, where risks are often quantified regarding potential losses, probabilities, or volatility. Researchers can identify patterns and relationships among various risk-related variables by employing statistical analyses, leading to more robust conclusions.

Moreover, the findings derived from quantitative research can be generalized to a broader population. By utilizing representative samples, the results can provide insights applicable across

different sectors, which is particularly valuable for policymakers and practitioners seeking reliable data to inform their decisions. This generalizability enhances the relevance of the research findings beyond the specific context of the studied banks.

In addition to objectivity and generalizability, quantitative methods offer significant efficiency advantages. Data collection through surveys or other measurement instruments can be conducted swiftly, allowing researchers to gather information from many respondents relatively quickly. This efficiency stands in contrast to qualitative methods, which often require more time-consuming processes such as in-depth interviews or content analysis, potentially limiting the volume of data that can be collected. (Mahisi & Usman, 2024)

Finally, quantitative methods enable mathematical and statistical models to predict risks and develop effective mitigation strategies. Regression analysis allows researchers to provide data-driven recommendations for improved risk management practices. While qualitative and mixed methods have their own merits, the advantages of quantitative methods—namely, objectivity, generalizability, efficiency, and analytical depth—make them particularly suitable for comprehensively understanding risk management in Islamic banking. (Mattayaphutron, 2022)

Population and Sample

The study's population consists of 33 Islamic commercial banks in the ASEAN region, distributed as follows: 14 in Indonesia, 16 in Malaysia, and one in the Philippines, Brunei, and Thailand (Sugiyono, 2013). A purposive sampling method is used to select relevant samples based on specific criteria: a. Status as a government/state-owned Islamic bank. b. Availability of annual financial reports from 2021 to 2023 on official websites. c. Compliance with Basel III risk management standards. d. Registration with the Bank for International Settlement (BIS).

The selected banks for this study include Bank Islam Brunei Darussalam (BIBD), Al Amanah Islamic Investment Bank of the Philippines (AIIBP), Bank Islam Malaysia Berhad (BIMB), Islamic Bank of Thailand (Ibank), and Bank Syariah Indonesia (BSI). The selection of these banks is justified by their diversity in size, operational models, and geographical locations, allowing for a comprehensive analysis of risk management practices. Additionally, these banks have significant market presence and influence, making the findings relevant for stakeholders interested in effective risk management approaches. (Isnurhadi et al., 2022)

Data and Data Sources

This study utilizes secondary data, primarily from the annual reports of Islamic banks in the ASEAN region from 2021 to 2023. These reports provide insights into Basel III implementation, operational risk, liquidity, and financial performance. Additional data is sourced from financial institutions and regulatory bodies, such as central banks, to understand the regulatory environment and

risk management practices. Reports from international organizations like the International Monetary Fund (IMF) and the World Bank will also be referenced to provide context regarding economic conditions and the performance of the Islamic banking industry globally. This multi-source approach enhances the robustness of the analysis. (Mahisi & Usman, 2024)

Data Collection Techniques

The data collection technique involves documentation methods to gather annual reports and relevant documents from financial authorities in the ASEAN countries. This includes reviewing literature on Islamic banking risks and Basel III policies.

Data Analysis Techniques

Data analysis is conducted systematically based on the collected reports and documentation. The Kruskal-Wallis test can be applied to groups with more than two, such as groups with three or more. The final result of the Kruskal-Wallis test is the p-value, which indicates that we can draw a statistical conclusion that the proposed hypothesis has a significant effect or difference between the two tested variables if the p-value is less than the critical threshold (in this case, 0.05) (Sugiyono, 2013). Here is the formulation for the Kruskal-Wallis H test:

$$H = \frac{12}{12\,(n+1)} X \sum_{k-1}^{k} \frac{R_k^2}{N_k} - 3\,(n+1)$$

H	: The calculated value of the test statistic
R2k	: The square of the total rank sum
N	: The total number of samples
nk	: The number of samples in each group
2, 1, dan 3	: Constants.

3. FINDINGS AND DISCUSSION

3.1. Descriptive Statistical Analysis

Tabel 1.

Results Descriptive Statistical Test

	BSI			IBANK			BIMB			AIIBP			BIBD		
	NSFR	LCR	ORCC	NSFR	LCR	ORCC	NSFR	LCR	ORCC	NSFR	LCR	ORCC	NSFR	LCR	ORCC
Minimum	0,98	17,97	6161773500000,00	0,94	-691,65	128619265440,00	0,73	-37,01	15176000000000,00	0,75	-5,27	8538327590,00	0,96	-47,51	459880198800,00
Maximum	0,99	7256,23	1138700000000,00	0,94	1081,87	152974627686,00	0,83	28898,69	21999000000000,00	0,79	24,07	1320532739,00	0,97	16,13	624996164100,00
Mean	0,9855	2531,4472	8673440500000,00	0,9393	-545,4505	143747587832,00	0,7685	9636,1625	18135191546 25.00	0,7691	8,5773	1148744464,00	0,967	-13,7359	531408188750,00

Source: SPSS 25 Output, Data Processed

The analysis in Table 2 offers a descriptive statistical overview of key variables from the Islamic banks studied, specifically the Net Stable Funding Ratio (NSFR), Liquidity Coverage Ratio (LCR), and Operational Risk Capital Charge (ORCC). A deeper interpretation of these figures reveals important implications for risk management within Islamic banking in the ASEAN region.

Starting with the NSFR, Bank Syariah Indonesia (BSI) shows strong funding stability, with values ranging from 0.98 to 0.99 and an average of 0.9855, indicating resilience against liquidity shocks. In contrast, the Islamic Bank of Thailand (IBANK) has a consistent NSFR of 0.94, suggesting potential vulnerabilities in its funding structure. The LCR presents a more concerning picture for IBANK, with a negative value of -545.4505, indicating significant liquidity challenges. Conversely, BSI's LCR, averaging 2531.4472, reflects robust liquidity, positioning it well to meet short-term obligations.

Bank Islam Malaysia Berhad (BIMB) exhibits higher liquidity risk with an NSFR ranging from 0.73 to 0.83 and a fluctuating LCR averaging 9636.1625, suggesting challenges in maintaining consistent liquidity levels. Similarly, Al Amanah Islamic Investment Bank of the Philippines (AIIBP) shows a low LCR alongside an NSFR of 0.7691, indicating potential liquidity shortfalls.

The variations in liquidity performance and operational risk among these banks can be attributed to economic conditions, regulatory environments, and cultural influences within the ASEAN region. This study highlights a gap in the literature regarding comparative risk management practices among Islamic banks in ASEAN, providing a broader perspective than previous research focused on individual banks or countries.

Moreover, ASEAN countries' regulatory and economic contexts shape Islamic banks' risk profiles, influencing their compliance with Basel III standards. Findings highlight the role of government policies, financial literacy, and technology in improving risk management. The lack of uniform Basel III compliance could affect the international competitiveness of Islamic banks in a globalized market.

Kruskal-Wallis Test

Tabel 2.

Results Kruskal-Wallis Test

Test Statistics[a,b]

	Net Stable Funding Ratio	Operational Risk Capital Charge	Liquidity Coverage Ratio
Kruskal-Wallis H	12.900	13.233	4.767
df	4	4	4
Asymp. Sig.	.012	.010	.312

a. Kruskal Wallis Test

b. Grouping Variable: Kode Bank

Source: SPSS 25 Output, Data Processed

To assess the significance of differences in operational and liquidity risks among Islamic banks in

the ASEAN region, the Kruskal-Wallis test was employed. The results indicate significant differences in operational risk with an Asymp. Sig. Value of 0.010 for the Operational Risk Capital Charge (ORCC), below the 0.05 threshold. This suggests that Islamic banks adopt varied approaches to managing operational risks, aligning with Basel III guidelines for capital adequacy.

Similarly, the liquidity analysis revealed significant differences in liquidity management, as indicated by the Net Stable Funding Ratio (NSFR) with an Asymp. Sig. Value of 0.012, also below 0.05. This finding highlights variations in how banks manage stable funding during market instability despite most meeting Basel III requirements.

Conversely, the Liquidity Coverage Ratio (LCR) showed no significant differences with an Asymp. Sig. Value of 0.312, indicating that short-term liquidity management is consistent across banks. However, the variation in LCR values underscores some banks' challenges in maintaining liquidity, which is essential for financial stability and compliance with Basel III.

***Post Hoc* non Parametrik Test**

Tabel 3.

Results *Post Hoc Mann Whitney U Test*

INDICATOR	(I) COUNTRY	(J) COUNTRY	Asymp. Sig. (2-tailed)	DESCRIPTION
ORCC	Indonesia	Malaysia	0.049535	Different
	Indonesia	Brunei	0.126630	No Difference
	Indonesia	Thailand	0.049535	Different
	Indonesia	Filipina	0.049535	Different
	Malaysia	Brunei	0.049535	Different
	Malaysia	Thailand	0.049535	Different
	Malaysia	Filipina	0.049535	Different
	Brunei	Thailand	0.049535	Different
	Brunei	Filipina	0.049535	Different
	Thailand	Filipina	0.049535	Different
NSFR	Indonesia	Malaysia	0.049535	Different
	Indonesia	Brunei	0.049535	Different
	Indonesia	Thailand	0.049535	Different
	Indonesia	Filipina	0.049535	Different
	Malaysia	Brunei	0.049535	Different
	Malaysia	Thailand	0.049535	Different
	Malaysia	Filipina	0.512691	No Difference
	Brunei	Thailand	0.049535	Different
	Brunei	Filipina	0.049535	Different
	Thailand	Filipina	0.049535	Different

Source: SPSS 25 Output, Data Processed

Post Hoc tests, specifically the Mann-Whitney U Test, are essential following the Kruskal-Wallis test, which identifies whether significant differences exist among groups but does not specify which

groups differ. In this study, ten Mann-Whitney U tests were conducted to compare operational risk, indicated by the Operational Risk Capital Charge (ORCC), and liquidity, indicated by the Net Stable Funding Ratio (NSFR), across five countries: Indonesia, Malaysia, Brunei, Thailand, and the Philippines.

The results, as shown in Table 3, reveal significant differences in the ORCC among several country pairs, including Indonesia and Malaysia, Indonesia and Thailand, Indonesia and the Philippines, Malaysia and Brunei, Malaysia and Thailand, Malaysia and the Philippines, Brunei and Thailand, Brunei and the Philippines, and Thailand and the Philippines, all with an Asymp. Sig (2-tailed) value of 0.049535, which is below the 0.05 threshold. However, the comparison between Indonesia and Brunei yielded an Asymp. Sig value of 0.126630, indicating no significant difference in ORCC.

For the NSFR, significant differences were also noted among several pairs, including Indonesia and Malaysia, Indonesia and Thailand, Indonesia and the Philippines, Malaysia and Brunei, Malaysia and Thailand, Indonesia and Brunei, Brunei and Thailand, Brunei and the Philippines, and Thailand and the Philippines, all with an Asymp. Sig value of 0.049535. Conversely, the comparison between Malaysia and the Philippines showed no significant difference in NSFR, with an Asymp. Sig value of 0.512691.

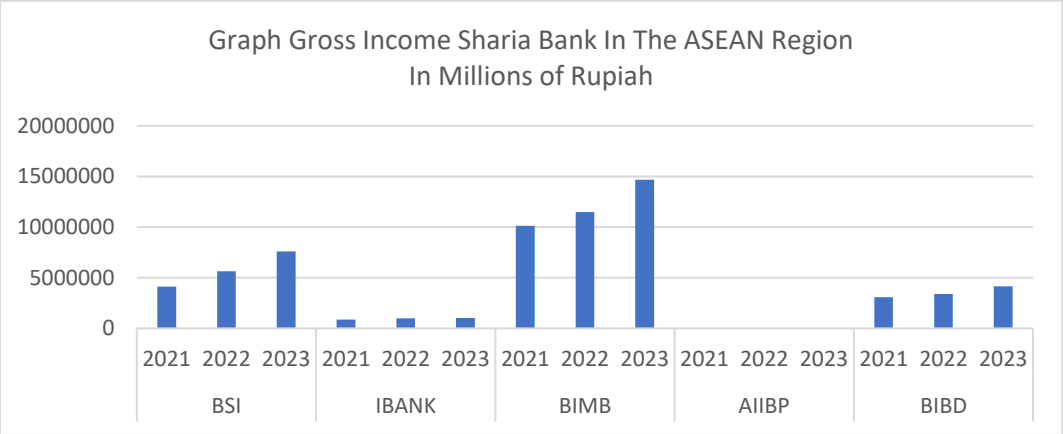
3.2. Comparison Of Operational Risk Based on Operational Risk Capital Charge (ORCC) Among Islamic Banks in the ASEAN Region

The testing results indicate significant differences in operational risk management among Islamic banks in the ASEAN region, as measured by the Operational Risk Capital Charge (ORCC). The ORCC represents the capital banks must reserve to cover potential losses from operational risks, such as fraud or system failures. A higher ORCC indicates better preparedness for operational risks, while a lower ORCC suggests vulnerability.

The Kruskal-Wallis test revealed an Asymp. Sig. Value of 0.010 indicates significant variability in banks' operational risk management strategies. Post hoc analysis using the Mann-Whitney U Test confirmed significant differences in ORCC among several country pairs, including Indonesia-Malaysia and Indonesia-Thailand, with Asymp. Sig. Values below 0.05. These findings align with previous research, highlighting notable differences in operational risk among Islamic banks in the ASEAN region (Islamiyah, 2023) bahwa Risiko Operasional pada Bank Syariah dikawasan ASEAN Operational risk among Islamic banks in the ASEAN region shows notable differences.

Graph 1.

Gross Income Sharia Bank Period 2021-2023



Source: Microsoft Excel 2020, Data Processed

Islamic banks encounter varying risks based on the Muslim population in their countries. As shown in Graph 1, countries with a majority Muslim population generally have a greater capacity to generate income, while those with a minority Muslim population require more skilled management to attract customers to Islamic banks. Effective management is crucial to ensure operational costs do not exceed income, thereby minimizing operational risk.

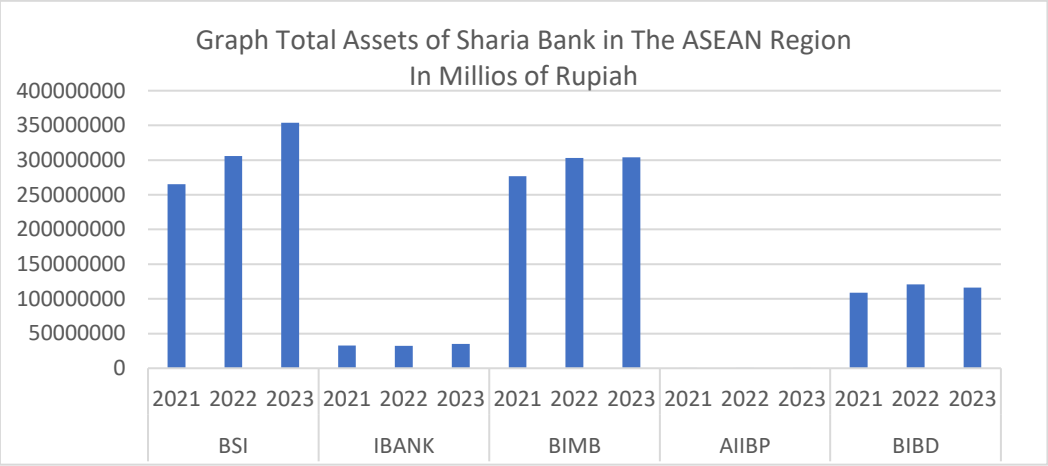
Interestingly, Indonesia and Brunei exhibit similar ORCC values, with an Asymp. Sig. (2-tailed) value of 0.126630, suggesting uniform operational risk management due to comparable scales and regulations. This consistency may arise from non-competitive markets, where fewer players lead to similar strategies for managing operational risks. Consequently, operational risk management frameworks may become standardized, reflecting the specific market conditions. Overall, while Basel III aims to enhance consistency in operational risk management, its implementation in the ASEAN region still reveals notable differences. (Naibaho & Mayayogini, 2023)

3.3. Comparison of Liquidity Based on Net Stable Funding Ratio (NFRS) Between Islamic Banks in the ASEAN Region

The testing results reveal significant differences in long-term funding stability among Islamic banks in the ASEAN region, as measured by the Net Stable Funding Ratio (NSFR). The NSFR assesses a bank's ability to support long-term assets with stable funding, with Basel III setting a minimum threshold of 100%. A Kruskal-Wallis test yielded an Asymp. Sig. value of 0.012, indicating significant differences in NSFR among banks. Post hoc analysis using the Mann-Whitney U Test confirmed that country pairs, including Indonesia-Malaysia and Indonesia-Thailand, showed significant differences, with Asymp. Sig. values below 0.05.

Graph 2.

Total Assests Sharia Bank Period 2021-2023



Source: Microsoft Excel 2020, Data Processed

This research is in line with the results found by (Wahyuni & Sukirno, 2016), which states that the liquidity of Islamic banks in the ASEAN region shows significant differences. This study is also supported by research (Adusei, 2015), The study indicates significant differences in liquidity among Islamic banks in the ASEAN region, supported by (Adusei, 2015), which suggests that banks in larger markets have more stable funding systems, enabling them to better withstand market fluctuations. In contrast, banks in smaller markets or with looser regulations struggle to maintain a healthy Net Stable Funding Ratio (NSFR). However, no significant difference was found in NSFR management between Malaysia and the Philippines, with an Asymp. Sig value of 0.512691, indicating that both countries face similar structural challenges in funding stability due to comparable market characteristics and economic policies. (Perotti, 2007)

3.4. Liquidity Comparison Based on Liquidity Coverage Ratio (LCR) Between Islamic Banks in the ASEAN Region

The testing results indicate no significant differences in short-term liquidity management among Islamic banks in the ASEAN region, as measured by the Liquidity Coverage Ratio (LCR). The LCR assesses a bank's ability to meet short-term obligations during financial stress, with a minimum requirement of 100% under Basel III. The Kruskal-Wallis test yielded an Asymp. Sig. value of 0.312, greater than 0.05, leading to the acceptance of the null hypothesis. This suggests that Islamic banks in ASEAN generally employ similar liquidity management practices. However, notable variations in LCR values indicate that some banks struggle to meet short-term liquidity standards.

According to (Basel Committee on Banking Supervision, 2015), Although many banks meet the LCR requirements, the differences among banks may be attributed to variations in risk management approaches, funding structures, and local market conditions. In line with this, (Natsir et al., 2023) states

that liquidity management can be influenced by local factors such as economic conditions and the monetary policies of the country, even in the presence of international standards. Therefore, although there are no statistically significant differences, the variations in LCR values among banks indicate that some banks still face greater challenges in maintaining short-term liquidity.

4. CONCLUSION

This study analyzes operational risk and liquidity management among Islamic banks in the ASEAN region, using Basel III standards as a reference. The findings reveal significant differences in operational risk management, as indicated by the Operational Risk Capital Charge (ORCC). Banks in Indonesia, Malaysia, the Philippines, and Thailand adopt varied approaches, while no significant differences were found between Indonesia and Brunei, highlighting the influence of local contexts and regulations.

Regarding liquidity risk, significant differences were observed in long-term liquidity management, measured by the Net Stable Funding Ratio (NSFR). However, no significant differences were found in short-term liquidity management based on the Liquidity Coverage Ratio (LCR). This indicates ongoing challenges in maintaining liquidity stability, particularly in smaller markets or those with looser regulations.

The study's implications suggest that Islamic banks should develop flexible risk management strategies tailored to local conditions. Regulators are encouraged to consider each country's structural characteristics when formulating policies to enhance financial stability. Additionally, increased transparency in risk management practices can build trust among stakeholders.

Overall, the findings underscore the need for a nuanced approach to risk management in Islamic banks across the ASEAN region, emphasizing the importance of adapting practices to local contexts while striving to meet international standards. This understanding is vital for enhancing the resilience and stability of the Islamic banking sector.

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