

Is the COVID-19 Matters for Islamic Banking Performance? A Cross-Countries Analysis

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Abstract

Research Originality: Considering the originality of the study to have a deeper investigation on the impact of the pandemic on bank's risk and return.

Research Objectives: This study aims to identify the impact of Covid-19 on bank performance and risk levels.

Research Methods: This study focuses on Islamic banks in 12 countries with the most developed financial sector during the 4th quarter of 2016 to the 1st quarter of 2022. The data analysis method in this study adopts panel data analysis with a fixed effect model.

Empirical Results: The finding of the study shows that the Covid-19 pandemic resulted in a decline in the performance of Islamic banks, as seen from the ratio of return on average asset, return on equity, net profit margin, return on average asset, and return on average equity. However, an interesting finding from this research is that there is no concern about worsening bank risk levels as reflected in the nonperforming financing, Z-Score, and leverage ratio. Meanwhile, the control variables, bank size and inflation rate, also affect the performance and risk of Islamic banks.

Implications: The study implies that banking practitioners and financial authority for the banking sector are required to issue some financial strategies in order to achieve and maintain a certain level of financial performance, especially during financial turmoil.

Keywords:

Covid-19, performance, bank risk, Islamic bank

How to Cite:

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INTRODUCTION

Despite its market share in the banking industry, Islamic banks remain considered to have a bright future due to their promising growth (Beck et al., 2013; Al Arif et al., 2023). Many studies' arguments support it, highlighting how Islamic banks' performance can beat market growth in several countries. Islamic banks' potential growth and unique business model that aligns with the Shariah principle attract the attention of financial market stakeholders, which is predicted to lead to substantial growth in the future (Bilgin et al., 2021).

However, the optimistic prediction does not mean it is free from challenges and threats. In certain conditions, such as during financial distress in 2008, the banking system struggled to manage its stability (Olson & Zoubi, 2017). Some financial institutions at that time closed their service due to the issue of financial stability. Looking back, during Turkey's financial crisis in 2002, Ihlas Finance House, one of Islamic banks' special home financing vehicles, was also bankrupt (Ali, 2007; Fakhrunnas et al., 2018).

In addition, the current financial turmoil due to the COVID-19 effect also challenges and tests the banking system, including Islamic banks, either in the viewpoint of profitability or financial stability. Therefore, Islamic banks are not immune from financial risks, particularly during the financial crisis. According to that evidence, the question arises of how Islamic banks manage their performance during the financial turmoil, especially during the pandemic.

In response to that, the study's objective is to examine the impact of the COVID-19 pandemic on Islamic banking performance in selected countries. It is important to measure the impact of the pandemic on the Islamic banking industry due to its significance. To date, ICD-Refinitiv Islamic Development Report (2022) already released the countries that have outstanding performance in the Islamic finance industry. Among the top, it has twelve countries that are considered to have consistent performance, consisting of Malaysia, Saudi Arabia, United Arab Emirates (UAE), Jordan, Bahrain, Indonesia, Kuwait, Pakistan, Qatar, Turkey, Nigeria, and the United Kingdom. In addition, all of the mentioned countries are considered the backbone of the current Islamic banking development.

The contribution of the study is twofold. Firstly, the study enriches and comprehends the previous works that examine the performance of Islamic bank stability, the results of which remain in debate. The first group states that Islamic banks and conventional banks have the same financial stability performance (Uddin et al., 2017). The second group states that Islamic banks are more robust than conventional banks in financial stability, as it is concluded (Rashid et al., 2017; Kabir et al. (2015)). The third group states that conventional banks are better than Islamic banks in terms of stability (Kasri & Azzahra, 2020; Albaity et al., 2019). However, neither result highlights the effect of the COVID-19 pandemic on banking performance.

Secondly, the study provides a new viewpoint by examining Islamic banking performance focusing on profitability and financial stability. We acknowledge that

the previous studies already explained how the COVID-19 pandemic affects banking performance, such as Fakhrunnas et al. (2022) concerning the asymmetric effect of risk performance, Anto et al. (2022) and Fakhrunnas et al. (2021) examining the performance of the credit risk in Islamic bank's bank's home financing, Elnahass et al. (2021) measured the global banking performance using risk and return perspective, but they did not provide sufficient observation of Islamic bank while Li et al. (2021) concern on how the outbreak affect income diversification of in banking industry. The studies mentioned above need to be extended to examine the impact of COVID-19 on Islamic banking performance more comprehensively.

The study is significant for the financial authority to examine the impact of the COVID-19 outbreak on Islamic banks. It is also useful to formulate necessary financial policies to help the bank recover better and stronger. The appropriate regulations are believed to have a pivotal role in creating a sound financial system that benefits Islamic banking development. In addition, the banking institution can formulate a suitable strategy to perform business activity amid economic uncertainty.

Theoretically, the banking sector has contributed to social well-being through banking activity in the economic system (Brucker, 1970). The bank provides more benefits to society through financing activities to deficit units as a part of optimal utilization of resource allocation. Under the microeconomic theory of banking, Brucker (1970) highlights that society benefits when the banking industry has healthy business competition. Indeed, such business competition can be created in stable financial circumstances.

From a business cycle viewpoint, economic condition determines credit performance stability. During stable conditions, the creditor is likelier to return the money to the debtors. However, in the case of the COVID-19 pandemic, the financial condition becomes more vulnerable (Demirgüç-Kunt et al., 2020), which undoubtedly influences the business cycle. As a result, the financial system is disturbed, potentially leading to underperformed financial conditions. As explained by Diamond & Dybvig (1983), during the financial turmoil, the bank faces many financial risks that disturb the level of bank stability. For instance, the risk of a bank run in which the depositors withdraw all deposit funds causes the banks to have liquidity problems. In addition, the spillover effect in the banking industry has a high potential to emerge, which causes the financial crisis in the banking industry to become systemic. Therefore, the banking sector is highly regulated to ensure that banks can achieve and maintain stability.

Empirically, some previous studies discuss the performance of Islamic banks during financial turmoil. Uddin et al. (2017) examine the performance of Islamic banking during the pre, during, and post-financial crisis, with concerns about the financial crisis in 2008. According to the findings, Islamic banks are much more robust and stable during the crisis than conventional banks. The finding also acknowledges that Islamic banks have the same exposure to be affected in terms of profitability and financial stability, yet they are more robust than their counterparty. Islamic banks were robust during the crisis because

they adopted different business models aligned with the Shariah principle. Even though Islamic bank still utilizes a deposit-taking approach, the risk prudential and financial contracts implemented by Islamic banks create a different risk exposure (Uddin et al., 2017). However, during the stable condition, the study found no difference in financial and risk performance for both banks.

The findings of Uddin et al. (2017) are in line with Trad et al. (2017), Safiullah (2021), and Bilgin et al. (2021), who stated that the financial performance of Islamic banks is robust by using cross-countries analysis, particularly in the economic uncertainty. However, Mohammad et al. (2020), Kasri & Azzahra (2020), and Albaity et al. (2019) explain that conventional bank performance is much better than Islamic banks. This condition is because conventional banks have bigger asset sizes, which gives more room for the bank to manage risks through a diversification strategy. However, more assessment is required to examine the impact of the unprecedented crisis caused by the COVID-19 pandemic on Islamic banking performance. Because each financial crisis is unique, different financial conditions have different approaches and impacts on the banking sector.

Some of the early studies about the impact of the COVID-19 pandemic on Islamic banks is conducted by Elnahass et al. (2021). The study reveals that Islamic banks were exposed to macroeconomic factors during the outbreak. In addition, Islamic banks' profitability and risk performance during the pandemic worsened, which indicates that the banks are suffering from financial turmoil. However, the study did not explain sufficiently why Islamic banks possessed such performance during the pandemic. In addition, the observation period in the study is short, possibly leading to bias in the result.

In addition, Ashraf et al. (2022) attempt to explain how the COVID-19 pandemic affects Islamic banking performance. The result of the study reveals that the COVID-19 pandemic influenced Islamic banks in Gulf Countries. The worst effect of the pandemic occurred in the first quarter of 2020. A similar study was also conducted by Rizwan et al. (2022) using cross-country analysis, which found that Islamic banks suffered from financial turmoil during the outbreak. Nonetheless, the observation of both studies uses stock market data to measure Islamic banking performance in the financial market.

Other relevant previous studies examine the asymmetric effect of the COVID-19 pandemic on Islamic banking stability in Indonesia, which Fakhrunnas et al. (2022) studied. The findings explain that macroeconomic variables' impact on Islamic banks' nonperforming financing during the pandemic was asymmetrical. In addition, other studies by Anto et al. (2022) and Fakhrunnas et al. (2021) highlight how the pandemic affected Islamic banks' home financing, emphasizing the impact of regional economics. However, what was studied by Fakhrunnas et al. (2022), Anto et al. (2022), and Fakhrunnas et al. (2021) uses a single-country analysis, which may result in different findings when it is applied to other countries.

Therefore, concerning the previous empirical studies, the impact of the COVID-19 pandemic on Islamic bank performance, either in profitability or financial stability, still needs to be re-examined. By using a more extended study period and observing selected

countries representing the Islamic banking development in the global market, the study is expected to provide more comprehensive findings and new insight into how the pandemic affects Islamic banking performance.

METHODS

This study uses aggregate data of Islamic banks from 12 countries with the most prominent Islamic financial performance, Malaysia, Saudi Arabia, United Arab Emirates (UAE), Jordan, Bahrain, Indonesia, Kuwait, Pakistan, Qatar, Turkey, Nigeria, and the United Kingdom. The research period used is the fourth quarterly data from 2016 to the 1st quarter of 2022 obtained from the Islamic Financial Services Board (IFSB), World Bank, and International Monetary Fund (IMF). The variables in this study are presented in Table 1.

Table 1. Research Variable

Variables	Abbreviations	Definitions
Covid-19 dummy	Covid-19	Denotes value of one if the observed period is either first quarter of 2020 until first quarter of 2022 , and zero otherwise.
Performace Indicator		
Return on Assets	ROA	Net income scaled by total assets
Return on Equity	ROE	Net income scaled by total Equity
Return on Average Assets	ROAA	Net income scaled by average total assets
Return on Average Equity	ROAE	Net income scaled by average total equity
Cost to Income	Cost/Income	Cost to Income ratio
Net Profit Margin	NPM	Net income to gross income
Risk		
Nonperforming financing	NPF	Nonperforming loans scaled by total loans. The higher value of NP/Loan implies higher credit risk
Bank Leverage	Capital to assets	Capital scaled by total assets
Liquidity Risk	Liquid assets ratio	Liquid assest to total assest
Insolvency Risk	Z-Score	It is defined as the distance to default and estimated by a sum of ROA and equity to assets, all divided by the standard deviation of ROA. The greater value of Z-score implies lower default risk.
Control Variable		
Bank size	log Total Assets	Total assets in the natural logarithm form
Inflation	IFL	Quarterly inflation rate
GDP growth rate	GDP	Quartermy GDP growth rate

In general, the model in this study uses panel data model analysis, which consists of the common effect approach, the fixed effect approach, and the random effect approach. The estimation of the common effect only combines time-series data with cross-sectional data without looking at differences in time and individuals. Therefore, the OLS method

can also be applied in estimating panel data models. One of the difficulties of the panel data procedure is that the assumptions of a consistent intercept and slope are challenging to meet. Therefore, the Fixed Effect approach assumes a constant slope, but the intercept differs between individuals.

Meanwhile, the panel data model, involving correlations between error terms due to time changes and different observations, can be overcome with an error component model approach or a random effect model. The Chow test, the Lagrange Multiplier (LM) test, and the Hausman test identify the best model between the common, fixed, and random-effect approaches. Considering that panel data is a combination of time series and cross-section, the model is as follows:

$$\begin{aligned} \text{Performance}_{it} &= \alpha + \beta \text{Covid19}_{it} + \delta \text{Control Variables}_{it} + \varepsilon \\ \text{Risk}_{it} &= \alpha + \beta \text{Covid19}_{it} + \delta \text{Control Variables}_{it} + \varepsilon \end{aligned}$$

The performance shows performance indicators represented by return on assets (ROA), return on equity (ROE), return on average assets (ROAA), return on average equity (ROAE), net profit margin, and cost to income (Cost/Income). The higher the value of ROA, ROE, ROAA, ROAE, and NPM, the more profitable the bank is. In addition, a higher Cost/Revenue ratio indicates lower bank cost efficiency. Risk represents several types of bank risk: (i) default risk as measured by natural logarithm Z-score, (ii) credit risk estimated by nonperforming loan to loan (NPL), (iii) liquidity risk proxied by Liquid assets to total assets and (iv) bank leverage proxied by capital to assets. Both models include Covid-19 by using a dummy variable that takes a value of one if the bank is observed during the Covid-19 period (first quarter of 2020 to the first quarter of 2022) and a value of zero otherwise (fourth quarter of 2016 to fourth quarter of 2019). In addition, this research model also includes control variables that potentially affect bank performance and financial stability. These control factors include bank size (log total assets) and macroeconomic variables such as GDP, inflation, and exchange rates.

RESULT AND DISCUSSIONS

Table 2 presents a summary of the descriptive statistics of the research variables. The performance of Islamic banks based on the ROA, ROE, NPM, CI, ROAA, and ROAE shows a relatively high average value of 1.48%, 15.31%, 34.09%, 49.91%, 1.475 and 15.89%, respectively. Thus, Islamic banks perform well and generate high profitability. Even so, not all Islamic banks during the study period had a positive performance. It can be seen from the minimum value of the negative ROA, ROE, NPM, ROAA, and ROAE variables.

Meanwhile, Islamic banks have a relatively low average credit risk of 3.86% based on the risk indicators. On the other hand, Islamic banks have pretty good stability, as seen from the relatively high ZSCORE average of 16.58%. Furthermore, the bank's ability to fulfill its obligations is 10.29% (LEV) and 13.39% (LAR). The calculations

found striking differences in values between countries of the variables in the study. This difference can be seen from the standard deviation value and the difference in the minimum and maximum figures, which are relatively large.

Tabel 2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SIZE	264	10.187	1.708	5.443	12.549
ROA	264	1.482	0.676	-0.800	3.900
ROE	264	15.311	8.802	-6.280	54.070
NPM	264	34.097	14.477	-21.091	69.462
CI	264	49.907	19.969	11.866	121.091
ROAA	264	1.470	1.022	-0.777	8.110
ROAE	264	15.898	12.924	-7.234	116.742
NPF	264	3.866	2.621	0.600	12.943
LEV	264	10.290	2.895	4.949	20.397
LAR	264	27.865	13.397	6.674	72.376
ZSCORE	264	16.580	4.287	9.334	30.154
INFL	264	4.157	6.370	-3.432	54.799
GDP	264	1.494	4.988	-17.096	28.697

Table 3 shows the results of the correlation analysis between the variables in the study. The existence of multicollinearity problems can be detected at the correlation matrix values ranging from 0.9 and above (Hair et al., 2014). The value of the correlation matrix concludes that the research variables do not have multicollinearity problems, so the model is reliable and valid. It can be seen from the test results, which show a correlation value below 0.9 for all variables.

Overall, the results of this study indicate that the Covid-19 pandemic significantly influences bank performance, as measured by the ROA, ROE, NPM, ROAA, and ROAE variables. Besides that, Covid-19 also impacts the level of bank risk with various relationships. An interesting finding from this study is that the pandemic negatively affects credit risk, which means that during a pandemic, Islamic banks can control customers' default risk. The stages in data analysis are started by testing the model selection using the Chow test, the Lagrange Multiplier (LM) test, and the Hausman test. Table 4 shows the results of the best fixed effect model estimation to identify the effect of the Covid-19 pandemic on financial performance (Panel A) and financial stability, including risk indicators (Panel B). In general, the test results show that the outbreak of the COVID-19 pandemic has had a detrimental impact on the entire banking operating system.

Tabel 3. Correlation Matrix

	SIZE	ROA	ROE	NPM	CI	ROAA	NPF
SIZE	1						
ROA	-0.0991	1					
ROE	-0.1413	0.7758	1				
NPM	0.2515	0.473	0.3673	1			
CI	-0.4007	-0.0224	-0.0724	-0.4891	1		
ROAA	-0.0788	0.8256	0.8171	0.4093	-0.0885	1	
NPF	-0.2579	-0.1427	-0.1286	-0.3959	0.5014	-0.0815	1
CAR	-0.3900	0.1946	-0.1068	-0.0192	0.2887	0.0831	-0.02
LEV	0.0241	0.0927	-0.4443	0.0605	0.0298	-0.0748	0.0351
LAR	-0.2399	0.1663	0.1773	0.2571	-0.3413	0.1536	-0.1533
ZSCORE	-0.0967	0.3133	-0.2594	0.0974	0.1652	0.0881	0.1113
INFL	-0.4431	0.223	0.4624	-0.2588	0.1517	0.3514	0.0946
GDP	0.0136	0.0297	0.1263	-0.0847	0.2205	0.0470	0.0237

	CAR	LEV	LAR	ZSCORE	INFL	GDP
CAR	1					
LEV	0.4744	1				
LAR	0.0006	-0.0862	1			
ZSCORE	0.5511	0.9240	-0.0883	1		
INFL	0.0974	-0.3129	0.3872	-0.2074	1	
GDP	-0.109	-0.2029	0.0323	-0.1816	0.2117	1

Panel A shows that the Covid-19 coefficient has a significant negative effect on bank financial performance (ROA, ROE, NPM, ROAA, ROAE) and shows that the Covid-19 outbreak significantly reduced the profitability of Islamic banks by 0.4%, 4.9%, 2.8%, 0.5%, 4.04% respectively for ROA, ROE, NPM, ROAA, and ROAE. These results are consistent with Elnahass et al. (2021), who stated that there was a decrease in banking profitability during the pandemic before the Covid-19 period. The pandemic created an unstable economic environment due to social restriction policies and decreased economic activity, causing imbalanced financial conditions (Bakar & Nashirah, 2020). Nicolaidis (2020) conducted research across countries and confirmed that the banking sector could not avoid the negative impacts of the Covid-19 pandemic. A similar view was also expressed by Demir & Danisman (2021), who stated that COVID-19 had a negative impact on bank financial performance because the pandemic made liquidity in the market tighter, thereby narrowing the flow of funds to the banking sector. Besides that, the pandemic has also resulted in a decrease in the trend of savings, thereby suppressing the ability of banks to extend credit and hindering new investment (Acharya et al., 2021). Another possible reason is the worsening financial performance of banks due to increased credit withdrawals during the pandemic (Xie et al., 2022). Miah et al. (2021) found that one of the factors that contributed to the decline in Islamic bank

income during the COVID-19 period was the reduction in bank operations by closing branches. This condition resulted in limited scope of activities, hours of operation, and delays in service delivery. The consequence of these conditions was that banks could not adjust operational costs in the short term due to decreased bank operational activities.

Tabel 4. Panel A: Accounting-based Performance

Variables	ROA	ROE	NPM	CI	ROAA	ROAE
D_Var	-0.420*** (0.0882)	-4.769*** (0.91)	-2.550** (1.268)	2.396* (1.24)	-0.485*** (0.101)	-3.786*** (1.2)
lasset	1.247*** (0.209)	22.99*** (2.153)	16.40*** (3.002)	-21.25*** (2.936)	3.483*** (0.239)	36.21*** (2.842)
INFL	0.0485*** (0.00935)	0.822*** (0.0965)	0.586*** (0.134)	-0.345*** (0.132)	0.125*** (0.0107)	1.811*** (0.127)
GDP	-0.0107 (0.00692)	-0.108 (0.0714)	-0.125 (0.0996)	0.454*** (0.0974)	-0.00788 (0.00792)	-0.11 (0.0942)
Constant	-11.24*** (2.101)	-220.2*** (21.68)	-134.2*** (30.22)	266.2*** (29.56)	-34.33*** (2.404)	-358.8*** (28.61)
R-squared	0.202	0.449	0.189	0.281	0.632	0.648

Meanwhile, Ghouse *et al.* (2022) stated an exciting behavior from Islamic-based banks: they derive most of their profits from the SME sector. On the other hand, the Covid-19 pandemic significantly affects small businesses, whose source of life is conducting their daily business. This phenomenon shows that banks, mostly exposed to loans for the small business sector, will also feel the negative impact of the weakening performance of MSEs due to COVID-19 (Barua & Barua, 2021; Dua *et al.*, 2020). Furthermore, the test results also found that Covid-19 significantly positively affected the Cost Income Ratio. A higher Cost/Income Ratio indicates low-cost efficiency. Thus, the COVID-19 pandemic has caused banking cost efficiency to decrease. Sang (2022) stated that the COVID-19 pandemic decreased loan output, income, and profits, reducing banking efficiency. Aliyah *et al.* (2023) shows that the efficiency of the Islamic banks in Indonesia should be maintained by balancing the distribution of assets, portfolio diversification, sufficient liquidity, and management quality.

In the control variables, the results show that bank size positively affects the financial performance of Islamic banks (ROA, ROE, NPM, ROAA, and ROAE). These results support previous literature, showing that larger banks have higher profitability than small ones (Shaffer, 1985; Pasiouras & Kosmidou, 2007; Gul *et al.*, 2011; Nugrohowati *et al.*, 2022). Alharbi (2017), Staikouras *et al.* (2008), and Bikker and Hu (2002) explain that larger banks can achieve economies of scale through product diversification and lower unit costs from larger service volumes, thereby increasing bank profits. Islamic banking in Indonesia still needs to establish Islamic finance friendly regulations (Mala *et al.*, 2023).

Our research has also shed light on the influence of macroeconomic variables, such as inflation and exchange rates, on the financial performance of Islamic banks.

Inflation, for instance, has been found to have a positive effect on ROA, ROE, NPM, ROAA, and ROAE. This result suggests that Islamic banks can anticipate inflation by adjusting the loan profit-sharing ratio, which is then passed on to customers, as Bourke (1989) and Perry (1992) have previously noted that inflation significantly negatively impacts the cost-income ratio, indicating that high inflation can lead to higher cost efficiency. This condition is due to banks' proactive measures to offset the additional costs imposed by inflation on customers. On the other hand, the GDP growth variable has a significant impact on ROA, ROE, NPM, ROAA and ROAE, further underscore the complex interplay between macroeconomic factors and the financial performance of Islamic banks.

Tabel 5. Panel B: Risk Indicators

VARIABLES	NPF	ZSCORE	LEV	LAR
D_Var	-0.582*** (0.172)	0.303 (0.316)	0.437** (0.204)	-2.065** (0.834)
lasset	1.050** (0.406)	-7.599*** (0.747)	-5.256*** (0.483)	8.703*** (1.975)
INFL	-0.0421** (0.0182)	0.0429 (0.0335)	0.00241 (0.0216)	0.161* (0.0885)
GDP	-0.00872 (0.0135)	-0.0296 (0.0248)	-0.00874 (0.016)	-0.115* (0.0655)
Constant	-6.401 (4.092)	93.73*** (7.518)	63.66*** (4.858)	-60.44*** (19.88)
R-squared	0.07	0.405	0.407	0.091

Regarding the analysis of bank financial stability in Table 5 Panel B, specifically, the COVID-19 coefficient negatively influences NPF. It implies a decrease in credit risk during the pandemic, which does not align with initial expectations. Concerns about credit problems due to the collapse of economic activity during the COVID-19 pandemic were expressed by Lucchese and Pianta (2020). Awad et al. (2020) reinforce this view that the most significant impact on banking due to the COVID-19 pandemic shock is a high risk of default. The decline in income in various sectors of the economy resulted in borrowers needing help to meet their obligations when they were due. In addition, the worsening performance of companies due to weakening macroeconomic conditions resulted in an increasing portion of bad loans in bank portfolios Nicolaides (2020). This study shows that the different results can be explained by the fact that the Covid-19 period used in the study was until the first quarter of 2022.

Banks have taken recovery steps to reduce credit risk during this period, including a credit restructuring policy (Hidayat et al., 2021). In addition, during the pandemic, banks were required to apply strict credit standards and requirements to maintain a healthy capital and liquidity position. Li et al. (2021) state that the effects of COVID-19 resulted in tightened credit standards and reduced demand for various types of loans.

In addition, in many countries, banks are reducing the number of approved credit applications and narrowing overdraft limits for their customers (Elnahass et al., 2021). Several monetary policies, such as providing massive liquidity and direct credit support for the real sector, also play a role in stabilizing financial conditions and reducing credit risk (Mosser, 2020).

The same thing was expressed by Ozsoy et al. (2020), which precisely measures the impact of the liquidity injection policy on bank stability. The findings reveal that banking liquidity assistance can increase a bank's ability to expand credit and improve stability. They also found differences in the impact felt by banks in locations with high Covid-19 exposure and locations with low levels of exposure. Degryse & Huylebroek (2023) expressed a different view and found that fiscal policy in direct support, such as tax breaks and tax deferrals, reduces the risk of bank loan portfolios. The relevant explanation of this argument is that direct fiscal support can overcome the company's liquidity and solvency problems, thereby reducing the potential for bad loans in banks.

Meanwhile, liquidity assistance does not affect the level of bank risk during a pandemic because liquidity injections do not necessarily increase the capacity of company credit payments to banks (Casanova et al., 2021). The decline in NPLs during the COVID-19 pandemic indicated that Islamic banks could maintain good credit growth. Boubakri et al. (2023) found that Islamic banks were more resilient than conventional banks during the Covid-19 period. They explained that countries with regulators actively utilizing macroprudential policies will have more substantial credit growth during the pandemic. Thus, sustaining credit growth will depend heavily on implementing macroprudential policies.

Interesting findings can be seen from the positive influence of the Covid-19 pandemic on bank leverage as measured by the capital-to-capital ratio. The ratio of capital to assets (bank leverage) is one of the ratios that shows a bank's ability to meet obligations. The test results show conditions where Islamic banks have greater leverage during the pandemic. This study shows that during the COVID-19 recession period, banks adjusted to leverage targets more quickly than usual (Mohammad & Khan, 2021). Abbas et al. (2020) provide empirical evidence showing that banks adjust their capital structure more quickly during periods of crisis. Likewise, Mohammad & Nishiyama (2021) found that the banking capital buffer used to absorb losses when the economy entered a downturn was unaffected by the Covid-19 case. It shows that Islamic banks still have a strong capital buffer during the pandemic. Besides, effective policies also influence the banking capital structure. Even though Islamic banks have relatively strong leverage, banking liquidity has decreased by 2.06% during the Covid-19 period. The liquidity ratio, measured using liquid assets to total assets, shows a bank's ability to fulfill its obligations in the short term. In other words, the pandemic resulted in banks becoming less liquid. These results are consistent with a study conducted by El-Chaarani et al. (2022) that banking in GCC countries experienced decreased liquid assets during the COVID-19 pandemic.

The impact of the COVID-19 pandemic on banks is highly dependent on the policy response undertaken by the government. Mansour et al. (2022) describe several

policies in the global Islamic banking sector. From a monetary perspective, policies adjust interest rates and extend loan facilities to banks to facilitate deferred debt repayment. Second, delaying loan installment payments so does not harm credit quality. Third, carrying out debt restructuring and loan facilities to support SMEs.

Meanwhile, the fiscal policies are: first, allocating additional funds to deal with the impact of COVID-19. Second, additional funds are allocated for the health sector and social support for the community, such as meeting citizens' needs and paying salaries. Third, policies support SMEs and reduce or postpone taxes for individuals.

Then, the control variable is the total assets that indicate the size of the bank. The test results show that bank size positively influences NPF; the more extensive the bank, the higher the credit risk. This study supports previous findings by (Chaibi & Friti, 2015; Gambo et al., 2017; Louzis et al., 2012). Stern & Feldman (2004) considers it "too big to fail"; larger banks tend to take excessive risks because they expect government protection when a bank fails. Under these conditions, the bank will increase its leverage by providing loans to uncredible borrowers, even bad ones. A higher level of assets makes a bank significantly riskier. It has terrible consequences for bank stability, as shown by the negative effect of bank size on bank stability (zscore).

Köhler (2015) reveals that larger banks tend to be less stable because large banks have much more unstable returns, especially when the portion of non-interest income is high. Moreover, the size of the bank also negatively affects the level of bank leverage. It indicates that the larger the bank, the lower the leverage or ability of the bank to fulfill its obligations. Thus, this research finds that larger Islamic banks tend to have high levels of risk, low stability, and smaller leverage ratios. However, larger banks increase the ability of Islamic banks to fulfill their obligations in the short term. In other words, the larger the bank, the more liquid it will be, as shown by the positive correlation between bank size and liquidity assets ratio.

The macroeconomic perspective found that inflation negatively affects NPF, which means high inflation reduces credit risk. According to Castro (2013), the negative impact of inflation on credit risk is caused by two reasons: high inflation will reduce the actual value of the loan and is associated with the Phillips curve. Based on the Phillips curve, high inflation will be followed by a low unemployment rate, thereby increasing the ability of customers to pay their debts to banks. Roman & Bilan (2015) strengthen this argument by stating that rising inflation makes it easier for borrowers to pay off their debts, thereby improving the quality of bank loan portfolios. Similar results were expressed by Fajar & Umanto (2017) and Bayar (2019), who found that inflation had a negative effect on NPF.

CONCLUSION

This study looks at the impact of the COVID-19 pandemic on performance and the level of risk faced by Islamic banks in 12 countries with the most developed Islamic financial sector. The research results show that the COVID-19 pandemic has significantly affected Islamic banks' performance and risk levels. The finding strengthens previous

literature that the Covid-19 pandemic had a sizable effect on financial performance, especially banking. The test results show that the COVID-19 outbreak negatively impacts the performance of Islamic banks, as indicated by a decrease in the ratios ROA, ROE, NPM, ROAA, and ROAE. It cannot be denied that the pandemic created financial system instability due to social restriction policies and a decrease in economic activity. Meanwhile, the control variable found that bank size and a macroeconomic variable, the inflation rate, also influenced bank performance.

An interesting finding from this study is that the COVID-19 pandemic impacts the risk level of Islamic banks but less severely than predicted. The study results show that the COVID-19 pandemic harms credit risk (NPF) and positively affects bank leverage as measured by the ratio of capital to assets. It shows that a fast and appropriate policy response reduces the risk level of Islamic Banks. Various regulations from both the monetary and fiscal sectors overcame the increase in high credit problems. During the pandemic, Islamic banks still had a strong capital buffer. However, banking liquidity decreased by 2.06%. Meanwhile, the control variable found that bank size, macroeconomic variables, and inflation rate also influenced Islamic banks' performance and risk level.

This study implies the importance of maintaining financial system stability through monetary and macroprudential policies so that banks remain healthy. Some policy recommendations that can be made are to stimulate increased liquidity in the market to minimize the negative impact of COVID-19 and encourage economic recovery. The issuance of long-term investment *sukuk* can be an alternative to assist the government in allocating funds for economic recovery. Besides that, direct fiscal policies such as tax breaks can increase the company's solvency, reducing the risk of bad credit in banks. Improved economic conditions will drive risk reduction and increase bank performance and profitability. Policy in the banking sector can be implemented by relaxing the capital adequacy ratio (CAR) policy but maintaining stability without breaking CAR into the danger zone. Lowering the capital adequacy ratio is intended to allow bank credit to flow to the real sector, especially SMEs.

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