The Resilience of Sharia and Conventional Banks in Indonesia during the Covid-19 Pandemic Crisis

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Abstract. *This study aims to analyze the effect of Covid-19 on banking resilience in Indonesian Islamic and conventional banks. Using panel regression with robust standard error on 38 Islamic and conventional banks going public in Indonesia, covering the period before and during the Covid-19 pandemic, shows that the Covid-19 crisis has a significant effect on all bank financial performance but not significant on all bank risk indicators. Using the independent t-Test test with the assumption of unequal variance and Welch correction on six panels of criteria, this study finds that Islamic banks are more resilient than conventional banks.*

Keywords: *resilience; bank financial performance; bank risk; Covid-19*

Abstrak. *Penelitian ini bertujuan untuk menganalisis pengaruh Covid-19 terhadap resiliensi perbankan syariah dan konvensional di Indonesia. Menggunakan regresi panel dengan Robust standard error pada 38 bank syariah dan konvensional yang sudah 'go public' di Indonesia, meliputi periode sebelum dan selama pandemi Covid-19, studi ini menunjukkan bahwa krisis Covid-19 berpengaruh signifikan terhadap semua indikator kinerja keuangan bank, namun tidak signifikan terhadap semua indikator risiko bank. Dengan menggunakan uji Independent t-Test dengan asumsi unequal variance dan Welch correction terhadap enam panel kriteria, penelitian ini menemukan bahwa bank syariah lebih tangguh dibandingkan bank konvensional.*

Kata kunci: *ketahanan; kinerja bank; risiko bank; Covid-19*

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Introduction

Unlike the previous financial crises caused by financial system indiscipline and bubbles, the crisis since 2020, which is still ongoing until now, is caused by the Covid-19 pandemic, which impacts various sectors, especially the economy. Covid-19 reduced World GDP by -2.2 in May 2020. The financial sector experienced fluctuations as indicated by foreign capital outflows and fluctuating exchange rates. This condition triggers an increase in credit risk, thus motivating policymakers around the world to take extraordinary steps to provide assistance to affected borrowers (World Bank, 2020). Although banking regulators are trying to control the situation by continuing to make policy revisions, the OECD (2021) noted that there was an increase in the percentage of NPLs (Non-Performing Loans) in 2020 from the previous year in several regions, as in North America increased by around 75%, Europe 40%, the Asia Pacific by 80%, and EMEs increased by 42%. Studies also show that Covid-19 threatens to trigger a worldwide liquidity and solvency crisis (Adrian and Natalucci, 2020; Ari, Chen, and Ratnovski, 2020). So that banks are required to increase provisions (Miglionico, 2019) and control their risks (Abu Hussain & Al-Ajmi, 2012; Ben Selma Mokni et al., 2014; Khan & Ahmed, 2001) so as not to worsen their balance sheet.

In Indonesia, Covid-19 has caused a decline in macro and microeconomic indicators. These include recessions, current account deficits, and exchange rate volatility. Macro conditions contributed to the slowdown in the banking sector. Some of the risks that threaten banks are a decrease in TPF (Third Party Funding), and an increase in NPL/NPF. The growth of ATM-Debit, Credit Cards, and Electronic Money is slowing, but the volume of digital banking transactions is increasing (Warjiyo, 2020). Other impacts on the banking sector include liquidity problems, increased credit/financing risk, decreased profits, and the need for financial restructuring. The long-term impacts include reducing bank capital, reducing its ability to channel financing, a decrease in the quality of financing for Islamic rural banking, especially for SMEs (Hidayat, 2020).

In response to these problems, the Government of Indonesia issued various fiscal stimulus policies with a larger fiscal deficit and the Government's national economic recovery program. The government has increased the deficit to 6.34% of GDP (Rp 1,093.2 T), including the cost of the National Economic Recovery of Rp 582.15 T: health of Rp. 87.55 T, social protection of Rp. 203.90 T, Incentives Rp. 120.61 T, MSMEs Rp. 123.46 T, Corporate Financing Rp. 44.57 T, Sectoral and Regional Government Rp. 97.11 T. In the banking sector, regulators (Indonesia's Central Bank (BI/Bank of Indonesia) and Indonesia's Financial Service Authority

(OJK/Otoritas Jasa Keuangan)) issued various policies to maintain banking stability and performance while taking into account the national banking intermediation function. BI has issued monetary and macroprudential stimulus, while OJK has issued a credit restructuring policy and relaxed a number of microprudential provisions. These policies include stabilizing the Rupiah exchange rate, reducing interest rates, providing liquidity funds such as SBN (National Security Assets) repos, reducing the statutory reserves, and relaxing macroprudential policies.

In the midst of these efforts, the performance of the national banking sector is still showing a slowdown. Credit has decreased from Rp. 5,712,040 billion in March 2020 to 5,496,419 billion in March 2021. Meanwhile, NPL increased from 2.77% in March 2020 to 3.17% in March 2021. Based on OJK data, national banking performance from March 2020 to March 2021 shows that CAR (Capital Adequacy Ratio) has increased from 21.67% to 24.04 %, OER (Operating Expense Ratio) decreased from 88.84% to 86.44%, LDR (Loan to Deposits Ratio) decreased 92.55% to 80.93%, NIM (Net Income Margin) increased from 4.31% to 4.62%, and ROA (Return on Assets) decreased from 2.57% to 1.87%.

The dual banking system (Islamic and conventional) raises the question of the extent to which banks are better able to absorb crisis shocks. Until now, the resilience study between Islamic and conventional banks in facing the crisis continues to show inconsistent results. Study shows that Islamic banks are more resilient to crises than conventional banks (Alqahtani et al., 2017; Chazi & Syed, 2010; Fakhfekh et al., 2016; Hashem, 2017; Khediri et al., 2015; Rajhi & Hassairi, 2013), and perform better during the crisis (Johnes et al., 2014; Majeed & Zainab, 2021). Another study by Cihak & Hesse (2010), Hassan & Dridi (2011), and Beck et al. (2013) found that Islamic banking has a lower level of resilience to economic crises than conventional banking (Beck et al., 2013; Čihák & Hesse, 2010). Then, several studies have found no difference between Islamic banks and conventional banks in dealing with the crisis (Bourkhis & Nabi, 2013; Johnes et al., 2014; Olson & Zoubi, 2017).

Regarding the impact of Covid-19 on the performance of Islamic and conventional banking, recent studies have shown that the Covid-19 outbreak has adversely affected financial performance across various financial performance indicators (i.e., accounting-based and market-based performance measures) and financial stability (i.e., risk indicators) in the global banking sector (Elnahass et al., 2021). However, Hartadinata & Farihah (2021) found that there was no difference in performance between before (2019) and during the Covid-19 crisis (2021) in Indonesian banking based on return on assets (ROA). Thus, this study aims to

contribute to the academic debate on the resilience of Islamic and conventional banking in facing the Covid-19 pandemic crisis. It will examine the effect of the Covid-19 crisis on Indonesian banking resilience based on financial performance indicators and risk indicators and analyze a comprehensive comparison of the resilience of conventional banks and Islamic banks in Indonesia, before and during crisis Covid-19.

Literature Review

There are three streams of opinions on the resilience of Islamic banks compared to the conventional ones. The first stream argues that Islamic banking is better at resisting shocks due to the crisis than conventional banking. Rosman et al. (2014) found that most Islamic banks in Middle Eastern and Asian countries were able to survive the 2007-2008 crisis even though their incomes decreased due to their smaller scale of operations. In addition, during the crisis period, Islamic banks in Persian Gulf countries were relatively more stable and able to improve their credit growth performance compared to conventional banks (Al-Khouri and Arouri 2016; Hasan and Dridi 2011). Similarly, the ability of Islamic banking to maintain a better capital ratio during the global financial crisis is also better than that of conventional banking (Chazi and Syed 2010). Recent findings conclude that Islamic banking is more resilient than conventional banking because the latter is more volatile than the former (Fakhfekh et al., 2016). Hashem (2017) found that conventional banks are the sector that is least resilient to systemic events and is one that has the highest contribution to systemic risk during times of crisis.

The second stream argues that Islamic banking is more vulnerable to shocks due to the crisis than conventional banking. Beck et al. (2013) found that Islamic banking has a lower level of resilience to economic crises than conventional banking. Researching the determinant factors, Hassan and Dridi (2011) argue that Islamic banking has poor risk management. Johnes et al. (2014) concluded that both banks were affected by the 2008 crisis and began to recover in 2009; however, he found that although Islamic banks performed quite efficiently during the crisis, conventional banking operating systems are more efficient during crisis periods. As a result of this financial crisis, the regulators have to strengthen various indicators to create a healthier financial ecosystem and provide a safety net for banks and their customers. As a strategy to protect their customers, banks are required to save a certain amount of funds from bearing the risk of a crisis that can be used to settle certain obligations. However, Grira et al. (2016) found that sharia banking deposit insurance premiums did not increase during the crisis. This finding

indicates that Islamic banking has lower deposit insurance premiums in times of crisis than conventional banking, which explains the fundamental differences in the business models of the two types of banking. Therefore, regulators and policy makers need to consider the differences between Islamic and conventional banking when formulating policies for these two different types of banking.

The third stream argues that there is no difference between Islamic banks and conventional banks facing a crisis (Bourkhis & Nabi, 2013; Johnes et al., 2014; Olson & Zoubi, 2017). Both experienced decreased profitability and increased risk during the crisis since both are intermediary companies.

The crisis due to Covid-19 has a different nature from 1998 Asian and the 2008 global crisis. The impact of the Covid-19 was significant on the decline in people's incomes and business activities which then spread to the financial sector. This resulted in a global financial market panic, capital outflows, and the exchange rate weakening. Governments from various affected countries issued significant economic stimulus policies, both fiscal stimulus and monetary and financial stimulus (World Bank, 2021). However, credit risk proxied by NPL/NPF still shows an increase in 2020 (OECD, 2021). The study of Ghosh & Saima (2021) found that most banks in Bangladesh were affected by the Covid-19 pandemic crisis, indicated by the decline in capital adequacy, liquidity ratio, profitability, non-performing loans, and resilience capacity to adverse effects of the Covid-19 pandemic. Elnahass et al. (2021) also showed that the Covid-19 pandemic crisis lowered bank profitability and bank stability indicators. Financial institutions are said to be financially stable if they meet the elements of profitability, liquidity, solvency (Ghassan & Krichene, 2017). This study adopts the previous literature indicating that capital adequacy, liquidity ratio, and non-performing loans (NPLs) are commonly used in measuring the resilience of financial institutions (Maheswaran and Rao, 2014; Patra and Padhi, 2020) and performance volatility (Z-Score) as stability measurement (Fu et al., 2014; Gamaginta & Rokhim, 2009; Khediri et al., 2015).

Methods

This study analyzes and compares the effect of the Covid-19 pandemic crisis on the resilience of Islamic and conventional banks in Indonesia. Bank resilience in this study is measured using two indicators, namely financial performance, and risk indicators. Referring to the study by Elnahass et al. (2021), bank performance in this study is measured by profitability which shows the bank's ability to earn a profit, proxied by Return on Assets (ROA) and Return to Equity (ROE), and

bank efficiency is measured using operating expense ratio (OER). While for the risk indicators, this study refers to Aldoseri & Worthington (2020); Ali & Puah (2019); Ghassan & Krichene (2017); Mohammad Yusuf & Reza Nurul Ichsan (2021) that employed liquidity risk, credit risk, and capital adequacy. Profitability shows the bank's ability to earn profit, proxied by Return on Assets (ROA) and Return on Equity (ROE).. Liquidity is measured by using Loan/Financing to Deposit Ratio (LDR or FDR). Credit quality is measured using Non-Performing Loan/Financing. To examine the available capital of a bank in relation to extended credit, this study employs capital adequacy ratio (CAR).

To find out whether the Covid-19 pandemic crisis influences bank resilience, this study uses panel regression model as follows:

$$PERF_{i,t} = \alpha + \beta_1 COV + \beta_2 CONTROL_{i,t} + \varepsilon$$

Then, to find out whether there are differences in resilience between Islamic and conventional banks in the period before and during the crisis, this study adopts an independent t-test with the assumption of unequal variance and Welch correction on the resilience indicators as follows:

Table 1. Variables Used in This Study

Variables	Description	Measurements
Dependent variables: **Financial Performance Indicators**		
ROA	Return on Assets	Earning after tax/Total assets
ROE	Return on Equity	Net income /shareholders' equity
OER	Operating Expenses Ratio	Operating Expenses/Operating Income
Risk Indicators		
LFDR	Loan/Financing to Debt Ratio	Loan atau Financing/Total deposit
NPLF	Non Performing Loan /Financing	NPF or NPL/Total Financing atau Loan
CAR	Capital Adequacy Ratio	
Independen variables:		
Covid-19	Crisis Covid-19	Dummy variable, 1 to distinguish the period of the Covid-19 crisis and 0 for the period before the Covid-19 crisis.
Control variables: Bank Specific and Macro factors		
lnBS	Bank Size	Natural Log of Total Assets
LEV	Bank's Leverage	Total liabilities/total assets
GDP	GDP	GDP growth rate
INF	Inflation	Inflation rate

Data Sources

This study uses a balanced set of panel data from 47 banks (Islamic and Conventional) listed in the Indonesia stock exchange. The data in this study is quarterly, from Q3 2018 to Q2 2021, covering the period before the Covid-19 pandemic (Q3 2018- Q4 2019) and during the Covid-19 pandemic (Q1 2020 – Q2 2021). The data is sourced from each bank's annual and financial reports, which can be accessed online from the OJK website.

Results and Discussion

Table 2 below shows a statistical description of a sample of Indonesian Islamic and conventional banks before and during the Covid-19 pandemic crisis. Table 2 indicates that almost all dependent variables have standard deviation and variance values that are higher than the mean so that it can be interpreted that all bank resilience indicator variables have a high level of variation and distribution of data. This is due to the diversity of the bank samples, both in terms of bank size and type.

Table 2. Descriptive Variables

Variable	Obs	Mean	Min	Max	Std. Dev.	Variance	Skewness	Kurtois
Dependens:								
ROA	456	1.544	-10.530	13.580	2.170	4.710	2.099	16.867
ROE	456	7.342	-56.780	68.000	9.217	84.951	-0.784	15.554
FLDR	456	89.932	20.170	231.740	23.770	565.019	1.542	8.879
NPFNPL	456	1.782	-0.610	20.870	1.624	2.637	4.489	46.540
OERBOPO	456	86.518	37.720	240.440	16.796	282.098	2.152	19.628
CAR	456	25.194	10.180	103.280	11.656	135.852	2.735	14.122
Independen:								
Covid-19	456	0.500	0.000	1.000	0.501	0.251	0.000	1.000
Controls:								
GDP	456	15.181	15.121	15.245	0.033	0.001	0.044	2.600
INF	456	2.383	1.330	3.390	0.754	0.569	-0.198	1.445
LEV	456	0.821	0.293	0.951	0.087	0.008	-2.572	12.699
lnBS	456	17.532	13.662	21.075	1.822	3.321	0.114	2.142
Syariah	456	0.079	0.000	1.000	0.270	0.073	3.123	10.752

Table 2 shows that only two of the six dependent variables are normally distributed based on the skewness value. Still, based on the Kurtois value, all

variables have a value not equal to 3, so it can be concluded that the data are not normally distributed, which is reasonable in the data panel. Therefore, GLS (Generalized Least Square) is more appropriate to use in this study. Table 2 shows the correlation matrix of the independent variables, and all variables have a correlation value of less than 0.8, so it can be said that there is no multicollinearity. Because this study uses various performance models, to ensure that multicollinearity is not a serious problem in this study, we performed the Variance inflation factor (VIF) test on each model test. We obtained a VIF value of less than 10, so it can be concluded that there is no multicollinearity problem. However, several models have heteroscedasticity problems based on the Breusch-Pagan / Cook-Weisberg test. Thus, we use a robust approach for each best model estimator.

The mean value for the Islamic banks variable is only 0.079, which means that the Islamic bank samples are smaller than 10% of the total observations, so this study does not use the dummy variable to distinguish Islamic and conventional banks. Instead, this study adopts the Independent T-Test test with the assumption of unequal variance and Welch correction for further comparative analysis. However, this study uses the dummy variable to distinguish the influence of the Covid-19 pandemic on the bank resilience before and during the crisis.

An empirical test for the bank performances

Table 3 shows the least square panel estimation with a robust standard errors approach to test the impact of Covid-19 on the resilience of Islamic and conventional banks in Indonesia based on performance indicators (panel A) and risk indicators (panel B). This study found that Covid-19 significantly affected all bank performance indicators while not on bank risk indicators based on the two-panel groups.

In the bank performance indicator panel (A), it was found that Covid-19 had a significant effect on both profitability indicators and bank efficiency indicators. In table 3, it is known that there is a negative relationship between Covid-19 and the two profitability indicators. This means that the Covid-19 has reduced the profitability of Islamic and conventional banks in Indonesia, both based on ROA and ROE. In contrast, the Covid-19 has a positive effect on bank efficiency. This means that the Covid-19 has forced the banks to be more efficient.

In the control variables, all bank-specific variables (leverage & bank size) were found to have a significant effect on all bank performance indicators. It is known that leverage has a significant negative effect on profitability (ROA and ROE) but

has a significant positive effect on bank efficiency (OER). Macro variables (GDP and Inflation) were found to have no significant effect on all bank performance indicators except GDP on ROE, where this effect had a negative relationship.

In the bank risk indicator panel (B), it was found that Covid-19 did not significantly affect all risk indicators of Indonesian Islamic and conventional banks. However, the relationship between the impact of the crisis on liquidity risk is positive, meaning that the ratio of financing/credit disbursed by the banks to the third party fund increases with the presence of Covid-19. There are two possibilities that can explain this increase in liquidity risk. The first is a condition in which total credit/financing growth increases with constant growth in the third-party fund. The second is that the total credit/financing growth is constant, but the number of third-party funds decreases during the Covid-19 pandemic.

Table 3 The Effect of the Covid-19 Pandemic on Bank Resilience in Indonesia

	Bank Performance Indicators (A)			Bank Risk Indicators (B)		
	ROA	ROE	OER	LFDR	NPLF	CAR
Covid-19	-0.364***	-2.155***	4.902***	1.747	-0.177	-0.021
	0.086	0.078	0.08	0.304	0.249	0.957
LEV	-4.773*	-21.686*	55.876*	-210.663*	5.298**	-152.933*
	0.006	0.008	0.002	0.002	0.020	0.000
lnBS	0.965**	2.570*	-12.702*	3.630	-0.364*	5.209
	0.016	0.000	0.009	0.281	0.000	0.101
GDP	-1.909	-14.838**	18.469	-47.968*	-1.134	16.039**
	0.177	0.028	0.116	0.00	0.428	0.017
INFLASI	0.120	-0.076	0.733	4.757*	-0.088	-1.006*
	0.359	0.932	0.637	0.000	0.468	0.006
_cons	17.407	206.615**	-21.247	915.275*	21.333	-181.638**
	0.376	0.046	0.883	0.000	0.333	0.035
Obs	456	456	456	456	456	456
Bank	38	38	38	38	38	38
R-sq Within	0.072	0.037	0.068	0.319	0.020	0.707

Note: This table presents the results of the regression of the impact of Covid-19 on each resilience indicator (bank performance and bank risk) with the standard error Robust used to overcome the problem of heteroscedasticity. LEV and lnBS are control variables for bank-specific factors, GDP and INFLATION are control variables for macroeconomic factors. LEV is a proxy for bank leverage, lnBS as a proxy for bank size is obtained from the Natural logarithm of Total Assets. GDP is a proxy for economic growth, and INFLATION shows the rate of inflation. ***, ** and * indicate a significance level of 10%, 5% and 1%, respectively.

Regarding the control variables, bank-specific factors were also found to have a significant influence on all bank risk indicators. While leverage has a negative effect on liquidity risk and bank adequacy, credit risk has a positive effect. On the other hand, bank size positively affects liquidity risk and bank adequacy, while credit risk has a negative effect. This shows that the larger the bank, the smaller the credit risk faced by the bank. Meanwhile, based on macroeconomic factors, GDP and inflation significantly affect liquidity risk and bank adequacy but not on bank credit risk.

The Resilience of Islamic and Conventional Banks in Indonesia

The comparison of the resilience of Indonesian Islamic and conventional banks in this study uses an independent t-test with the assumption of unequal variance and Welch correction. Comparative tests were carried out on six panels of criteria, namely 1) comparing indicators of Indonesian banking resilience before and during the Covid-19 pandemic; 2) comparing indicators of resilience between Islamic and conventional banks before Covid-19; 3) comparing indicators of resilience between Islamic and conventional banks during Covid-19; 4) comparing indicators of Indonesian banking resilience between before and during Covid-19; 5) comparing the conventional bank resilience indicators between before and during Covid-19, and 6) comparing the Islamic bank resilience indicators between before and during Covid-19

Comparison of Resilience of Islamic and Conventional Banks in Indonesia: Financial Performance Indicators

Table 4 shows that out of three bank financial performance indicators (ROA, ROE, and OER), only OER does not have significant differences on all six previous panel criteria above. However, the mean value of the OER of Islamic banks tends to be lower than the conventional ones both in the pre and during Covid-19. In general, the OER of banks in Indonesia increased during the Covid-19 pandemic. The results of this comparison support the regression findings in table 4, which finds a positive relationship between the Covid-19 crisis and OER, meaning that the Covid-19 increases the OER of banks, which means banks are increasingly inefficient. However, when divided by type of bank, the increase only occurred in conventional banks, while Islamic banks tended to have lower OER values during the Covid-19 pandemic. So it can be assumed that Islamic banks were more efficient than conventional banks during the Covid-19 pandemic.

On the ROA indicator, the results show that there are differences in performance based on the ROA indicator on all six-panel criteria above except for panel F, namely the comparison of the performance of Indonesian Islamic banks before and during the crisis, where the p-value shows a value of more than a significance level of 1%, 5% even 10% meaning that there is no significant difference in ROA of Indonesian Islamic banks between before and during the Covid-19 pandemic. Comparison of ROA of Islamic and conventional banks shows a significant difference with the mean ROA of Islamic banks being higher than conventional banks, both in the entire study period, the period before the crisis, and during the crisis. Suppose Indonesia's banking performance based on ROA is compared based on the crisis period. In that case, it is found that there is a significant difference in the performance of Indonesian banking where before the crisis is better than during the crisis. However, if divided by type of bank, conventional banks appear to perform significantly worse during the crisis period. On the other hand, Islamic banks also experience a decrease in performance but not significantly.

The performance of Islamic banks and conventional banks based on the ROE indicator found significant differences in the entire study period, where the ROE of Islamic banks (10,586) was higher than the ROE of conventional banks (7,064), but when divided by crisis period, there was no significant difference in ROE between conventional and Islamic banks both in the pre-crisis period and during the crisis. In general, table xx also shows that there was a significant decline in performance based on ROE in Indonesian banking during the crisis period. Where conventional banks had an average ROE level of 7,974 before the crisis and to 6,154 during the crisis, Islamic banks also experienced a decline in ROE performance on average from 11,301 before the crisis and to 9,870 during the period during the crisis.

In general, the comparison of conventional and Islamic banks' performance shows that Islamic banks perform better than conventional banks in terms of profitability (ROA and ROE) in the entire research period, the period before the crisis, and during the crisis although with declining growth. However, if grouped by type of bank, the decline in ROA and ROE performance of Islamic banks is not significant, so it can be concluded that Islamic banks are more resilient than conventional banks in facing a crisis.

Table 4 Comparison of Resilience of Islamic and Conventional Banks in Indonesian: Financial Performance Indicators

	ROA				ROE				OER			
	Mean	Obs.	Std. Dev.	P Value	Mean	Obs.	Std. Dev.	P Value	Mean	Obs.	Std. Dev.	P Value
A. Comparison of Islamic and Conventional Banks During the Research Period												
Conventional Banks	1.332	420	1.473	0.005	7.064	420	8.914	0.091	86.710	420	16.825	0.402
Islamic Banks	4.017	36	5.331	*	10.586	36	11.886	***	84.278	36	16.512	
B. Comparison of Islamic and Conventional Banks Before Covid-19												
Conventional Banks	1.494	210	1.363	0.052	7.974	210	8.476	0.330	85.474	210	14.280	0.885
Islamic Banks	4.483	18	6.058	***	11.301	18	13.892		84.847	18	17.661	
C. Comparison of Islamic and Conventional Banks During Covid-19												
Conventional Banks	1.170	210	1.562	0.044	6.154	210	9.263	0.138	87.947	210	18.988	0.294
Islamic Banks	3.551	18	4.620	**	9.870	18	9.838		83.709	18	15.771	
D. Comparison of Indonesian Banks Resilience Before and During the Crisis												
Before Crisis	1.730	228	2.261	0.067	8.237	228	9.023	0.038	85.424	228	14.530	0.165
During Crisis	1.358	228	2.064	***	6.447	228	9.341	**	87.612	228	18.759	
E. Comparison of Resilience of Indonesian Conventional Banks Before and During Crisis												
Before Crisis	1.494	210	1.363	0.024	7.974	210	8.476	0.036	85.474	210	14.280	0.132
During Crisis	1.170	210	1.562	**	6.154	210	9.263	**	87.947	210	18.988	
F. Comparison of the Resilience of Indonesian Islamic Banks Before and During the Crisis												
Before Crisis	4.483	18	6.058	0.607	11.301	18	13.892	0.724	84.847	18	17.661	0.840
During Crisis	3.551	18	4.620		9.870	18	9.838		83.709	18	15.771	

Note: This table presents a comparison of the resilience of Indonesian Islamic and conventional banks based on bank financial performance indicators. There are six types of comparisons, namely the comparison of resilience based on the type of bank during the study period, before the Covid-19 crisis, and during the Covid-19 crisis; and a comparison of resilience by period (before the Covid-19 crisis and during the Covid-19 crisis) for all samples of banks in Indonesia, Conventional Banks and Islamic Banks. This table presents the calculation results of the Independent T-Test with the assumption of unequal variance and Welch correction. The ***, **, and * marks indicate the significance level of 10%, 5% and 1%, respectively.

Comparison of Resilience of Islamic and Conventional Banks in Indonesia: Risk Indicators

The liquidity risk indicator (LFDR) of banks shows that Islamic banks have a significantly higher liquidity risk (94,801) than conventional banks (87,064) during the period during the Covid-19 pandemic crisis. In the period before the crisis, Islamic banks had a lower risk than conventional banks but were not significant. Meanwhile, no significant differences were found in the general period and the period before the Covid-19 pandemic. If grouped by period, it is generally found that liquidity risk decreased significantly during the Covid-19 pandemic crisis. It seems that this significant decrease was caused by a significant reduction in the liquidity risk of conventional banks because, in Islamic banks, it was found that liquidity risk increased during the Covid-19 pandemic but was not significant.

Indonesia's banking credit risk generally decreased during the crisis, from 1,839 before the crisis to 1,725 during the crisis, although not significantly. Interestingly, the comparison test results show that with the increase in the LFDR of Islamic banks during the Covid-19 pandemic, the risk level of Islamic bank financing has decreased significantly. The calculation results in the 5 table also show that credit risk also decreased slightly during the Covid-19 pandemic but was not significant. When compared by type of bank, in general, Islamic banks have a higher credit risk than conventional banks, 2,064 and 1,758, respectively, but the difference is not significant. Significant differences between Islamic and conventional banks were found only in the period before the crisis due to the Covid-19 pandemic, with conventional bank credit risk being lower than Islamic banks at 1,777 and 2,563, respectively.

Table 4 shows that there is no significant difference in the capital adequacy ratio between the period before and during the crisis in general in Indonesian banks, Islamic and conventional banks, although there was an increase in the adequacy ratio in the period during the Covid-19 pandemic crisis which was caused by an increase in the adequacy ratio. Islamic bank CAR. Significant CAR differences were found between Islamic and conventional banks in the entire study period (24,794 and 29,864) and before the crisis due to the Covid-19 pandemic (24,085 and 29,181), which is higher for Islamic banks in both types of periods.

Table 5 Comparison of Resilience of Conventional Banks and Indonesian Islamic Banks: Bank Risk Indicators

	LFDR				NPF/NPL				CAR			
	Mean	Obs.	Std. Dev.	P Value	Mean	Obs.	Std. Dev.	P Value	Mean	Obs.	Std. Dev.	P Value
Comparison of Islamic and Conventional Banks During the Research Period												
Conventional Banks	89.687	420	24.584	0.134	1.758	420	1.619	0.297	24.794	420	11.618	0.013 **
Islamic Banks	92.800	36	10.033		2.064	36	1.674		29.864	36	11.219	
Comparison of Islamic and Conventional Banks Before Covid-19												
Conventional Banks	92.309	210	18.973	0.512	1.777	210	1.457	0.099 ***	24.085	210	10.229	0.045 **
Islamic Banks	90.799	18	7.923		2.563	18	1.872		29.181	18	9.689	
Comparison of Islamic and Conventional Banks During Covid-19												
Conventional Banks	87.064	210	28.946	0.028 **	1.739	210	1.770	0.609	25.503	210	12.843	0.125
Islamic Banks	94.801	18	11.662		1.566	18	1.319		30.547	18	12.816	
Comparison of Bank Indonesia Resilience Before and During the Crisis												
Before Crisis	92.190	228	18.339	0.043 **	1.839	228	1.504	0.454	24.487	228	10.260	0.196
During Crisis	87.675	228	28.035		1.725	228	1.737		25.901	228	12.885	
Comparison of the Resilience of Indonesian Conventional Banks Before and During the Crisis												
Before Crisis	92.309	210	18.973	0.029 **	1.777	210	1.457	0.808	24.085	210	10.229	0.212
During Crisis	87.064	210	28.946		1.739	210	1.770		25.503	210	12.843	
Comparison of the Resilience of Indonesian Islamic Banks Before and During the Crisis												
Before Crisis	90.799	18	7.923	0.237	2.563	18	1.872	0.074 ***	29.181	18	9.689	0.721
During Crisis	94.801	18	11.662		1.566	18	1.319		30.547	18	12.816	

Note: This table presents a comparison of the resilience of Indonesian Islamic and conventional banks based on bank risk indicators. There are six types of comparisons, namely the comparison of resilience based on the type of bank during the study period, before the Covid-19 crisis, and during the Covid-19 crisis; and a comparison of resilience by period (before the Covid-19 crisis and during the Covid-19 crisis) for all samples of banks in Indonesia, Conventional Banks and Islamic Banks. This table presents the calculation results of the Independent T-Test with the assumption of unequal variance and Welch correction. The ***, **, and * marks indicate the significance level of 10%, 5%, and 1%, respectively.

Based on the comparison above, this study finds that Islamic banks were more resilient during the Covid-19 pandemic, despite declining profitability. These results contribute to the academic debate by giving the empirical evidence in the first stream opinion, which states that Islamic banks are more resilient than conventional banks, where they survived the crisis despite decreasing profitability, similar to the findings of Rosman et al. (2014).

The results of this study support the study by Al-Khouri and Arouri (2016) and Hasan and Dridi (2011), which also found that although Islamic banks have a higher level of liquidity risk than conventional banks, proxied by the higher the F/LDR ratio of Islamic banks indicates that the level of disbursement Islamic bank financing is higher than conventional banks during the Covid-19 pandemic crisis. This shows that Islamic banks do not hold back their funds and provide opportunities for a capital deficit and help accelerate economic recovery. Although liquidity risk has increased, Islamic banks have shown good performance with a decreased level of credit risk, meaning that the quality of Islamic bank financing has increased during the Covid-19 pandemic crisis.

Although the difference in capital adequacy between Islamic banks and conventional banks is not significant during the Covid-19 pandemic, it can be assumed that Islamic banks have better capital adequacy than conventional banks based on the higher capital adequacy ratio of Islamic banks in all six panels comparison criteria. These results support the findings of Chazi and Syed (2010), who found that Islamic banks were better at maintaining their capital than conventional banks during the crisis.

Regarding the impact of Covid-19 on the reliance of bank indicators, this study found different results from the study of Elnahass et al. (2001), who found that the Covid-19 crisis affected various indicators of resilience, both indicators of financial performance and risk. Meanwhile, this study found that Covid-19 only affected financial performance indicators but not risk indicators in Indonesia. These results indicate that it seems that the Indonesian government's efforts to carry out economic recovery by providing stimulus and relaxation of credit and policies are able to contain bank risks.

This study also found different results from Hartadinata & Farihah (2001), who found that there was no difference in performance between before (2019) and during the Covid-19 crisis (2021) in Indonesian banking-based on return on assets (ROA). By using not only ROA indicators, this study also finds significant differences in both ROA and ROE indicators. This difference could be due to

differences in the types of data used. Hartadinata & Farihah (2021) used annual data. This study used quarterly data to show trends in bank performance before and during the Covid-19 crisis.

Conclusion

This study aims to provide empirical evidence regarding the effect of the Covid-19 on indicators of banking resilience in Indonesia and to find differences in the impact of Covid-19 on two groups of resilience indicators. The results show that Covid-19 affects all bank financial performance indicators and is not significant for all bank risk indicators. The existence of the Covid-19 crisis was found to have a negative effect on all profitability indicators and had a negative effect on bank efficiency ratios.

This study also aims to compare indicators of the resilience of Islamic and conventional banks based on six panels of criteria, on the first criterion, 1) the comparison of indicators of Indonesian banking resilience before and during the Covid-19 pandemic shows that Islamic banks, in general, have significantly higher profitability and liquidity risk. 2) the comparison of indicators of resilience between Islamic and conventional banks before the Covid-19 pandemic crisis shows that Islamic banks have a higher return on assets but have higher credit risk and capital adequacy than conventional banks before the Covid-19 pandemic crisis; 3) the comparison of indicators of resilience between Islamic and conventional banks during the Covid-19 pandemic crisis also shows that Islamic banks have a higher return on assets but have higher credit risk and capital adequacy than conventional banks during the Covid-19 pandemic crisis; 4) the comparison of indicators of Indonesian banking resilience between before and during Covid-19 shows that in general Indonesian banks experienced a decline in profitability and liquidity during the Covid-19 crisis; 5) the comparison of conventional bank resilience indicators between before and during Covid-19 shows a significant decrease in all indicators of profitability and liquidity risk. 6) Comparing the indicators of the resilience of Islamic banks between before and during Covid-19 shows no significant differences in all indicators except for the credit risk indicator, which was lower during the Covid-19 crisis. So it can be concluded that Islamic banks are more resilient than conventional ones.

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