Jurnal Ekonomi dan Keuangan Islam
Available at https://journal.uii.ac.id/jeki

Is Islamic banking stronger than conventional banking during the Covid-19 pandemic? Evidence from Indonesia

I Made Dauh Wijana[1], I Wayan Widnyana[2]

[1,2]Universitas Mahasaraswati Denpasar, Denpasar, Indonesia

Article History
Received : 30 October 2021
Revised : 2 December 2021
Accepted : 1 January 2022
Published : 15 January 2022

Keywords:
Islamic economics, Islamic finance, Islamic, Islamic banking, Islamic capital market

DOI:
10.20885/JEKI.vol8.iss1.art9

JEL Clasification:
B26, C23, E43, G21, G32

Corresponding author:
mdw323@yahoo.com

Author's email:
wywid@unmas.ac.id

Paper type:
Research paper

Cite this article:
Wijana, I. M. D., & Widnyana, I. W. (2022). Is Islamic banking than conventional banking during the Covid-19 pandemic? Evidence from Indonesia. *Ekonomi dan Keuangan Islam*, 8(1), 125-136. https://doi.org/10.20885/JEKI.vol8.iss1.art9

Abstract

Purpose – We intended to test and compare the durability of Islamic banking and conventional banking during the Covid-19 pandemic in Indonesia. To that end, we first compared their performance before and during the pandemic. Next, we examined the effects of pandemic shocks on the performance of each of them.

Methodology – The data covers 80 banks in Indonesia, which were divided into four groups, namely Islamic and conventional commercial banks, and Islamic and conventional rural banks. Each group consisted of 20 banks. Our observation period is 10 quarters, which was divided into two periods, namely the period before the pandemic (Q1-2019 – Q1-2020) and the period during the pandemic (Q2-2020 – Q2-2021). For comparison, we used a paired sample t-test, while testing the effect of shocks using a panel regression model.

Findings – Islamic banking outperformed conventional banking, both before and during the Covid-19 pandemic. The Covid-19 pandemic has predominantly shaken conventional banking indicators and has only slightly shaken Islamic banking. However, this does not mean Islamic banks were superior to their conventional counterparts because both were shaken, it's just that conventional banks experienced a bigger shock than their Islamic counterparts.

Originality – This is an original study that examines and compares the performance between Islamic and conventional banking using financial ratios during the Covid-19 pandemic.

Introduction

Is Islamic banking stronger than conventional banking during the Covid-19 pandemic? So far, Islamic banking is considered superior to conventional banking, especially when there is a contraction or economic shock. Many empirical studies have documented this matter, for example, Rahim and Zakaria (2013) found Islamic banks in Malaysia to be more stable than conventional banks during the 2007 global financial crisis. In addition, Farooq and Zaheer (2015), Rasyid et al. (2017), Imam and Kpaordar, (2010), Alaro and Hakeem (2011), Miah and Uddin (2017), Odeduntan et al. (2016) also found something similar findings. However, several empirical findings also refuted the favorable assessment of Islamic banking. For example, Hasan and Dridi (2011) found that Islamic banks were only stronger in the early stages of the crisis, but that the three crises spread to the real sector, their performance was worse than conventional banking. The same thing was found by Alqahtani and Mayes (2018), Kassim and Majid (2010), and Abdulle and Kassim

P ISSN 2088-9968 | E ISSN 2614-6908

(2012), Karim et al. (2012). Thus, the assessment of Islamic banking which is superior to conventional banking becomes ambiguous.

Right now, the world is dealing with the terrible shock of the Covid-19 pandemic. The pandemic was triggered by the SARS-CoV-2 virus, which was first detected in Wuhan City, Hubei, China on December 31, 2019. The virus quickly spread throughout the world, so the World Health Organization (WHO) declared a Public Health Emergency of International on January 30, 2020, and declared it a pandemic on March 11, 2020. Our World in Data notes that up to October 30, 2021, the total number of cases of Covid -19 has reached 246 million cases, with the death toll reaching 4.98 million people.

Concerning the pandemic, Indonesia is one of the countries with the worst Covid-19 cases in the world. At the world level, Indonesia occupied the 14th position, while at the ASEAN level it was in the first rank. The first Covid-19 case was detected in Indonesia on March 15, 2020, with 21 cases. Furthermore, new cases were increasing day by day, which was accompanied by the number of deaths. Until the end of July 2021, the total number of Covid-19 cases in Indonesia reached 3.50 million, of which 3.41 million (97.31%) were reactive cases and 94.12 thousand (2.69%) were deaths.

As a result of the pandemic, the national economy experienced a terrible shock. Broadly, this could be seen from the growth of the national economy. The Central Statistics Agency noted that Indonesia's economic growth in the first quarter of 2020 fell to the level of 2.97% and in the second quarter it fell to -5.32%. In the 3rd quarter of 2020, economic growth again increased to 5.05%, but in the 4th quarter, it fell back to -2.19%. Economic growth began to improve in 2021, although in the first quarter it was still negative (-0.74%), however the second quarter, it reached the level of 7.07%. Specifically in the banking sector, most of their indicators also contracted. Indonesian Banking Statistics showed that the average capital adequacy ratio (CAR) of banks in Indonesia fell to 7.38%, while the average return on assets (ROA) fell to 13.52%, the average loan to deposit ratio (LDR) decreased by 4.23%, and the average net interest margin (NIM) decreased to 14.67%, and the average operating expenses to operating income (OEOI) decreased by 3.37%. Thus, this indicates that banks in Indonesia have been affected by the Covid-19 pandemic. However, Islamic banking indicators tend to contradict the general data. Their average CAR actually increased by around 1.16%. Similarly, the average ROA (0.62%), net operating margin (NOM) (1.66%), and OEOI (0.04%). Meanwhile, the financing to deposit ratio (FDR) only fell 0.35% or lower than banking in general. Thus, is the durability of Islamic banking superior to their conventional counterparts?

This paper aims to re-examine and compare banking resilience during the Covid-19 pandemic. Specifically, we intended to prove whether Islamic banking is stronger than conventional banking during the pandemic or vice versa. To achieve that goal, we first compared banking performance before and during the pandemic. Following, we examined the effects of the pandemic on the performance of each bank. During the Covid-19 pandemic that hit the world, especially in Indonesia, empirical studies on the impact of the pandemic on banking resilience or performance have been explored by any researcher. However, the impact of other shocks, such as the global financial crisis and the European crisis, has been widely carried out, as we mentioned earlier. We at first explored the impact of the Covid-19 pandemic on banking resilience. Therefore, we hoped that this could happen in the banking literature, especially regarding the resilience of Islamic and conventional banking when experiencing shocks.

The second part of this paper describes the relevant literature. The third part describes the research method, the fourth section presents the results of data analysis and discussion, and the fifth part contains the conclusion, which is also the closing part of this paper.

Literature Review

There is no exact definition for banking stability or durability. This term only refers to the performance of a bank in the event of an external shock, such as a financial or economic crisis. A bank is said to be stable or have strong resilience if the existing shocks do not affect its performance. However, if their performance is also shaken, then they are referred to as unstable banks or banks with weak resilience. Therefore, studies on banking stability or resilience are always carried out when certain shocks occur.

Since the boom of the Islamic banking system, studies on banking stability or durability are often carried out with a comparative approach. This is intended to find out whether the Islamic banking system is better than the conventional banking system or maybe vice versa. In general, the empirical evidence related to this is in favor of Islamic banking. Why is that? There are at least three explanations about the stability of Islamic banking. First, Islamic banking has greater liquidity than conventional banking (Rahim & Zakaria, 2013). This is due to the limited sharia-based investment channels. Second, Islamic banking focuses on investment and profit-sharing financing, so that there is shared risk sharing (Hasan & Dridi, 2010). Third, Islamic banking is less influential than conventional banking, because Islamic banking should not engage in speculative practices and excessive leverage.

Although in general empirical studies showed that Islamic banking was superior to conventional banking, some researchers have also found that Islamic banking was not much better than conventional banking. Hasan and Dridi (2011) examined the stability of Islamic and conventional banking in 8 countries during the global financial crisis. They found that Islamic banks had stronger resilience in the early stages of the 2008 financial crisis, but when the financial crisis shifted to the real sector in 2009, their profitability declined drastically compared to conventional banks. The same thing was also found by Alqahtani and Mayes (2018). Using data from 76 banks in the Gulf Cooperation Council (GCC) region, they found that at the start of the financial shock, the performance of Islamic and conventional banking did not differ significantly. However, when financial shocks spread to the real sector, Islamic banking experiences higher volatility than conventional banks. In addition, Kassim and Majid (2010) also show the ambiguity of the durability of Islamic banking. By combining the two major financial crises, namely the 1997 Asian financial crisis and the 2007 global financial crisis, they found that the Islamic and conventional banking systems were equally vulnerable to shocks. The same thing was also found by Abdulle and Kassim (2012), Wahid and Dar (2016), Chakroun and Gallali (2015). Meanwhile, Bourkhis & Nabi (2013) found that there was no significant difference between the soundness of Islamic banks and conventional banks. This shows that Islamic banks deviate from their theoretical business model, thus enabling their health to be the same as conventional banks.

Several reasons why Islamic banking was not better or underperformed than conventional banking, among others, because of irregularities in credit risk management (Cihak & Hesse, 2010). In addition, bank size also determines their stability, where large banks tend to be more stable than large banks (Shahid & Abbas, 2012; Rajhi & Hassairi, 2013). In addition, deviations between concepts and practices (Bourkhis & Nabi, 2013) and inefficiency also greatly determine bank stability (Beck et al., 2013).

Research Methods

The data consists of 80 banks in Indonesia, which were selected based on a sampling quota for four groups, namely Islamic commercial banks, conventional commercial banks, Islamic rural banks, and conventional rural banks. Each group consists of 20 banks. This was done to meet the balance of the data. The data used is quarterly data, starting from the 1st quarter of 2019 to the 2nd quarter of 2021. The data were divided into two periods. First, the period before the Covid-19 pandemic (Q1-2019 to Q1-2020). Second, the Covid-19 pandemic period (Q2-2020 to Q2-2021).

Banking stability or resilience was measured by six indicators, namely capital adequacy ratio (CAR), return on assets (ROA), non-performing financing/loans (NPF/NPL), financing/loan to deposit ratio (FDR/LDR), operating expenses to operating income (OEOI), and net operating/interest margin (NOM/NIM). These data were obtained from the financial statements of each bank. As for the shocks of the Covid-19 pandemic, using data on total cumulative cases at the end of each quarter. This data was obtained from JHU CSSE Covid-19 Data. The control variables use the USD/IDR exchange rate, economic growth (eco_growth), banking reference interest rate (BI rate), deposit insurance rate (LPS rate), economic growth, the stock market index (JCI), and size of the bank (log_assets). These data were obtained from the Central Statistics Agency, Bank Indonesia, and the Deposit Insurance Corporation.

To test whether Islamic banking has a stronger resilience than conventional banking, we first compared the performance of banks before and during the pandemic. This was done with a paired sample t-test. Next, we examined the effects of pandemic shocks on the performance of

each of them. This was done using a panel regression model, with the data used being data from Q2-2020 to Q2-2021 (only data during the pandemic).

We implemented a panel regression model for data analysis. For that, we first determined the best estimation model. In this case, whether the model has a common effect, fixed effect or random effect., Sequentially, the common effect (1), fixed effect (2), and random effect (3) models that we developed are:

$$R_{it} = \alpha + \beta_1 Covid19_{it} + \beta_2 USD/IDR_{it} + \beta_3 eco\_growth_{it} + \beta_4 BIrate_{it} + \beta_5 LPSrate_{it} + \beta_7 Stock\_Index_{it} + \beta_8 log\_assets_{it} + \varepsilon_{it} \quad (1)$$

$$R_{it} = (\alpha + \varepsilon_i) + \beta_1 Covid19_{it} + \beta_2 USD/IDR_{it} + \beta_3 eco\_growth_{it} + \beta_4 BIrate_{it} + \beta_5 LPSrate_{it} + \beta_7 Stock\_Index_{it} + \beta_8 log\_assets_{it} + \varepsilon_{it} \quad (2)$$

$$R_{it} = \alpha + \beta_1 Covid19_{it} + \beta_2 USD/IDR_{it} + \beta_3 eco\_growth_{it} + \beta_4 BIrate_{it} + \beta_5 LPSrate_{it} + \beta_7 Stock\_Index_{it} + \beta_8 log\_assets_{it} + (\varepsilon_{it} + \varepsilon_i) \quad (3)$$

Where: R is the resilience of banks, as proxied by CAR, ROA, NPF/NPL, FDR/LDR, OEOI, and NOM/NIM; Covid19 is the shock of the covid-19 pandemic, proxied by the cumulative total of reactive cases and deaths; USD/IDR is the exchange rate, as a proxy for financial market conditions (control variable 1); eco_growth as a proxy for economic conditions (control variable 2); BIrate is the benchmark interest rate for Indonesian banks as a proxy for monetary policy (control variable 3); LPSrate is the deposit insurance interest rate as a proxy for financial system stability (control variable 4); Stock_Index is a composite stock price index as a proxy for investment climate (control variable 5); log_Assets is a size of a bank (control variable 6); β is the slope; ε is the residual error; i represents bank i; t represents the t-th quarter.

Determination of the best estimate using the chow test, lagrange multiplier, and hausman test. The Chow test was intended to select the best model between the common effect or fixed effect, where common is chosen when the p-value is < 10%. Meanwhile, the Hausman test was to choose between a fixed effect or a random effect, where the fixed effect is selected when the p-value is < 10%. The lagrange multiplier was intended to choose between a common effect or a random effect, where the random effect is chosen when the p-value is < 10%.

Results and Discussion

Statistics

Table 1 presents statistical data, and it can be seen that the average number of Covid-19 cases reached 206.10 thousand cases, of which 97.07% (200.06 thousand) were reactive cases and 2.93% (5.54 thousand) were death cases. Cumulatively, the total number of Covid-19 cases in Indonesia during that period reached 929.40 thousand cases, of which 97.22% (903.40 thousand) were reactive cases and 2.78% (903.40 thousand) were death cases. From this data, it is clear that the case of the Covid-19 pandemic was very severe in Indonesia.

The high number of Covid-19 cases in Indonesia has had a wide impact on all aspects of life, including the economy. All selected economic indicators contracted. In this context, exchange rates, economic growth, benchmark interest rates and deposit guarantees, and stock market performance contract. Specifically, IDR depreciated by USD up to 357.58 points or was corrected by 2.52% from the previous period. There is a positive and significant correlation between the exchange rate before and during the pandemic (corr. = 0.66), which indicates that before the pandemic, the IDR was already depreciating and during the pandemic the rate of depreciation was getting worse. Meanwhile, economic growth (eco_growth) was also significantly lower than in the previous period (-0.93% vs. 3.43%). The negative and significant correlation of economic growth before and during the pandemic (corr. = -0.94) indicates that economic growth has really slumped due to the pandemic. Previously, the average growth was at 3.43% per quarter, but during the pandemic, the average growth fell to a level of -0.93%. The benchmark interest rate (BI rate) and deposit guarantee rate (LPS rate) were also lowered to a significantly lower level than the previous period. However, the decline in the benchmark interest rate and the deposit guarantee rate had also

occurred before the pandemic took place, and was further reduced during the pandemic (corr. = 0.78%). In addition, the stock market is also underperforming. The Composite Stock Price Index (JCI) fell to 679.71 points or 12.32% from the level of 6,198.29 to the level of 5,518.58. However, there is no significant correlation between stock indexes before and during the pandemic.

Table 1. Statistics

	General		Before		During		Differences	
	N	Mean	N	Mean	N	Mean	t-test	Corr.
Covid-19 Pandemic								
Total (th.,)	5	206.10	n/a	n/a	5	206.10	n/a	n/a
Reactive (th..)	5	200.06	n/a	n/a	5	200.06	n/a	n/a
Deaths (th..)	5	5.54	n/a	n/a	5	5.54	n/a	n/a
Total Cum.	5	929.13	n/a	n/a	5	929.13	n/a	n/a
Reactive Cum. (th.)	5	903.40	n/a	n/a	5	903.40	n/a	n/a
Deaths Cum. (th.)	5	25.72	n/a	n/a	5	25.72	n/a	n/a
Economy Indicators								
Currency (US$/IDR)	10	14,393.58	5	14,214.79	5	14,572.37	-4.24***	0.66***
Eco_Growth (%)	10	1.25	5	3.43	5	-0.93	10.16***	-0.94***
BI Rate (%)	10	4.74	5	5.59	5	3.88	23.74***	0.78***
LPS Rate								
Comm. Bank (%)	10	5.73	5	6.66	5	4.79	17.05***	0.73***
Rural Bank (%)	10	8.23	5	9.16	5	7.29	17.05***	0.73***
Stock Market (IHSG)	10	5,858.44	5	6,198.29	5	5,518.58	4.13***	-0.11
Banking Indicators								
CAR (%)	800	23.27	400	23.36	400	23.19	0.14	0.11
ROA (%)	800	2.04	400	2.22	400	1.91	5.69***	0.36***
NPF/NPL (%)	800	6.50	400	6.46	400	6.52	-0.71	0.93***
FDR/LDR (%)	800	90.04	400	91.64	400	88.44	4.70***	0.93***
OEOI (%)	800	84.39	400	82.69	400	86.09	-1.90*	0.02
NOM/NIM (%)	800	2.56	400	2.54	400	2.57	-0.84	0.97***
Log_Assets	800	5.75	400	5.74	400	5.75	-5.26***	0.99***

Note: * significant 10%, ** significant 5%, and *** significant 1%.

Even though economic indicators contracted during the pandemic, banking indicators looked stable. Only the risk of financing/bad credit (NPF/NPL) and NOM/NIM are problematic. The average NPF/NPL is 6.50%, which exceeds the maximum limit set by the central bank, while the average NOM/NIM is 2.57% or lower than the central bank standard. However, the instability in these two indicators was not caused by the pandemic, because the high NPF/NPL and low NOM/NIM had occurred before the pandemic took place. This can be seen from the negative and significant correlation between NPF/NPL and NOM/NIM before and during the pandemic. Meanwhile, other banking indicators tend to be stable or in accordance with the standards set by the central bank.

During the pandemic, the average CAR was under control at the level of 23.19%, and this was not significantly different from the previous period which was also at the level of 23.36%. Likewise, ROA, FDR/LDR, and OEOI are also under control or still in accordance with central bank standards. However, these indicators also contracted during the pandemic. During the pandemic, banking ROA was significantly lower than the previous period (1.91% vs. 2.22%), but OEOI and FDR/LDR were significantly better. This shows that on the one hand, banks are able to improve their intermediation function and operating efficiency. However, on the other hand, they are less successful in increasing their profitability. Meanwhile, bank size tends to increase, and there is a significant difference between bank size before and during the pandemic. The average total bank assets before the pandemic were around IDR 30.44 trillion and during the pandemic, it increased by about 2.71% to IDR 31.26 trillion.

Is Islamic Banking Stronger than Conventional Banking?

Prior to the pandemic, Islamic banking underperformed conventional banks. The average CAR and OEOI do not show a significant difference between Islamic and conventional banking (see Table 2, Panel A). This shows that both are very competitive in meeting capital adequacy and operating

efficiency. Meanwhile, ROA and NOM/NIM are quite controlled, both in Islamic and conventional banks. However, the ROA and NOM of Islamic banking are significantly lower than conventional banks, even though the financing ratio (FDR) of Islamic banking is significantly higher than the credit ratio (LDR) of conventional banks. As for the risk of financing/non-performing loans (NPF/NPL), both Islamic and conventional banks have exceeded the maximum limit of the central bank standard, and the FDR of Islamic banks is significantly better than the LDR of conventional banks. Specifically, Islamic commercial banks are the trigger for the underperformance of Islamic banks as a whole. When compared to other Islamic banks, Islamic commercial banks underperform than Islamic rural banks. But when compared to conventional banks, Islamic commercial banks underperform conventional commercial banks. Meanwhile, Islamic and conventional rural banks tend to compete. Specifically, their comparisons can be seen in Table 2, Panel B and Panel C.

Table 2. Islamic Banking vs. Conventional

	Islamic		Conventional		Differences			Corr.
	Mean	STDev.	Mean	STDev.	Mean	STDev.	t-test	
Panel A. All Bank								
Before								
CAR (%)	23.54	12.57	23.17	4.08	0.38	8.89	0.25	0.93***
ROA (%)	1.97	0.48	2.46	0.18	-0.49	0.57	-4.98***	-0.38**
NPF/NPL (%)	6.12	2.80	6.79	0.48	-0.66	2.50	-1.55***	0.68***
FDR/LDR (%)	97.42	18.62	85.86	8.47	11.56	26.93	2.50**	-0.97***
OEOI (%)	81.02	20.43	84.36	3.71	-3.34	21.92	-0.89	-0.33*
NOM/NIM (%)	1.39	0.40	3.68	1.29	-2.28	1.01	-13.18***	0.78***
During								
CAR (%)	24.42	3.77	21.96	1.86	2.46	4.72	3.04***	-0.33*
ROA (%)	1.92	0.41	1.91	0.21	0.01	0.40	0.17	0.33*
NPF/NPL (%)	5.86	2.66	7.19	0.78	-1.33	0.34	-3.93***	0.91***
FDR/LDR (%)	95.49	18.45	81.39	4.45	14.10	21.66	3.80***	-0.61***
OEOI (%)	86.47	2.57	85.72	1.06	0.76	2.78	1.58	-0.00
NOM/NIM (%)	1.60	0.30	3.56	0.98	-1.97	0.88	-13.02***	0.47***
Panel B. Commercial Banking								
Before								
CAR (%)	20.30	0.52	23.17	0.44	-2.87	0.59	-20.14***	0.25
ROA (%)	1.56	0.19	2.51	0.07	-0.95	0.20	-19.78***	0.09
NPF/NPL (%)	3.47	0.20	6.46	0.41	-2.99	0.25	-50.13***	0.90***
FDR/LDR (%)	79.23	1.41	94.14	0.82	-14.92	1.13	-54.31***	0.60**
OEOI (%)	86.43	2.02	81.46	2.67	4.96	3.52	5.82***	-0.11
NOM/NIM (%)	1.72	0.17	4.93	0.10	-3.21	0.25	-53.19***	-0.66***
During								
CAR (%)	22.09	1.78	23.58	0.94	-1.49	1.33	-4.61***	0.68***
ROA (%)	1.66	0.30	1.93	0.25	-0.27	0.33	-3.37***	0.26
NPF/NPL (%)	3.27	0.08	6.52	0.35	-3.25	0.30	-44.38***	0.70***
FDR/LDR (%)	77.59	1.89	84.53	4.32	-6.94	3.06	-9.34***	0.79***
OEOI (%)	84.54	1.67	85.59	1.10	-1.05	2.14	-2.03*	-0.16
NOM/NIM (%)	1.72	0.38	4.52	0.11	-2.80	0.31	-37.54***	0.74***
Panel C. Rural Banking								
Before								
CAR (%)	26.76	3.81	20.35	0.83	6.41	3.32	7.96***	0.67***
ROA (%)	2.18	0.34	1.89	0.18	0.29	0.20	5.95***	0.87***
NPF/NPL (%)	8.45	0.58	7.85	0.45	0.59	0.24	10.18***	0.92***
FDR/LDR (%)	113.39	4.20	78.24	2.51	35.15	4.13	35.06***	0.33
OEOI (%)	88.40	1.71	85.84	1.05	2.56	2.12	4.98***	-0.14
NOM/NIM (%)	1.47	0.05	2.61	0.16	-1.13	0.16	-29.83***	0.20
During								
CAR (%)	23.58	0.94	26.75	3.81	-3.17	4.11	-3.18***	-0.20
ROA (%)	1.93	0.25	2.18	0.34	-0.25	0.33	-3.14***	0.41
NPF/NPL (%)	6.52	0.35	8.45	0.58	-1.92	0.24	-33.05***	0.98***
FDR/LDR (%)	84.53	4.32	113.39	4.20	-28.87	2.31	-51.54***	0.85***
OEOI (%)	85.59	1.10	88.40	1.71	-2.82	2.20	-5.27***	-0.20
NOM/NIM (%)	4.52	0.11	1.47	0.05	3.04	0.13	95.76***	-0.15

Note: * significant 10%, ** significant 5%, and *** significant 1%.

During the pandemic, Islamic banking was increasingly underperforming than conventional banking, both for commercial banks and rural banks. All indicators of Islamic commercial banks are significantly lower than conventional banks. Islamic commercial banks only excel in terms of NPF, which is significantly lower than the LDR of conventional commercial banks. Meanwhile, the majority of Islamic rural bank indicators also underperform conventional rural banks. Islamic rural banks only excel in terms of NPF/NPL and NOM/NIM, while conventional rural banks outperform other indicators.

Impact of the Covid-19 Pandemic on Banking Performance

Table 3 presents a summary of the effects test to determine the best panel regression model. The Chow test is most significant in the regressions in Panel A, both in the Islamic and conventional bank groups. This shows that the common effect model is better than the fixed effect. The same thing applies to the regressions in Panel B and Panel C. Meanwhile, Hausman's test is mostly significant in Panel A and Panel B, but on the contrary, in Panel C. This shows that the fixed effect model is better than the random effect, but on the contrary in Panel C. As for the Lagrange multiplier test, most of it is not significant in the regressions in Panel A, as well as in the regressions in Panel B and Panel C. This shows that the common effect model is better than the random effect model.

Tabel 3. Effect Testing to Determine the Best Panel Regression Model

	CAR		ROA		NPL		FDR/LDR		OEOI		NOM/NIM	
	IB	CB	IB	CB	IB	CB	IB	CB	IB	CB	IB	CB
Panel A. All Bank												
Chow test	4.75**	4.03**	9.42***	93.3***	30.9***	87.6***	2.47*	35.5***	26.3***	9.99***	14.6***	23.1***
Hausman test	1.58	2.12*	12.4***	33.1***	12.3***	.88	56.2***	15.4***	3.52*	5.15**	8.19***	56.1***
Lagrange multi.	.80	1.02	5.82**	10.1***	11.8***	.47	25.2***	8.33***	1.76	12.9***	15.2***	29.7***
Panel B. Commercial Banking												
Chow test	19.1***	7.01***	3.40*	3.64*	6.21**	.75	22.4***	22.4***	24.2***	40.8***	10.9***	18.4***
Hausman test	6.41***	3.01*	1.34	6.54**	11.8***	.23	6.63**	6.63**	7.61***	11.9***	2.27*	11.3***
Lagrange multi.	3.22**	1.28	.63	11.5***	11.6***	.11	3.88**	3.73*	4.02**	12.3***	1.20	12.2***
Panel C. Rural Banking												
Chow test	.08	10.5***	10.2***	13.9***	3.30*	85.1***	9.08***	2.57*	9.53***	19.0***	54.2***	12.4***
Hausman test	.03	3.82*	3.76*	7.25***	1.16	30.0***	2.72*	.85	3.18*	6.10**	18.0***	4.38**
Lagrange multi.	.01	2.70*	1.90	1.06	.52	15.8***	1.44	.44	1.58	12.7***	9.1***	11.3***

Note: * significant 10%, ** significant 5%, and *** significant 1%.

Based on the results of the tests above, it can be said that the common effects model is the better model for our regression. This is due to the low data variance in the independent and control variables, resulting in a low level of significance for fixed and random effects models.

Table 4 presents the regression results. Overall, the Covid-19 pandemic has had a significant impact on banking indicators, both for Islamic and conventional banks (see Table 4, Panel A). However, the impact on the two banks is different, where the impact on conventional banks is more dominant than Islamic banks. Specifically for Islamic banks, the pandemic had a negative impact on liquidity, profitability, and the risk of non-performing financing, but had a positive impact on financing distribution and operating efficiency. Meanwhile, for conventional banks, the pandemic only had a positive impact on operating efficiency but had a negative impact on other indicators, including liquidity, profitability, risk of bad loans, lending, and net interest margin. This finding shows that in general, the resilience of Islamic banks is stronger than conventional banks. However, this is different in each bank group.

The Islamic commercial banks during the COVID-19 pandemic had a positive impact on liquidity, profitability, risk of non-performing financing, increased financing, and net operating margin, but had a negative impact on operating efficiency. Whereas in conventional commercial banks, the pandemic only had a positive impact on liquidity and operating efficiency, while on profitability, the risk of bad loans, lending, and net interest margins was the exact opposite (see Table 4, Panel B).

Table 4. Regressions

	CAR		ROA		NPF/NPL		FDR/LDR		OEOI		NOM/NIM	
	IB	CB	IB	CB	IB	CB	IB	CB	IB	CB	IB	CB
Panel A. All Bank												
Constant	.60	.84	.53***	1.00***	-.70***	-.83***	-1.5***	-.98***	1.2***	.85***	.34***	.80***
Independent												
Covid-19	-.86*	-.99*	-.43**	-1.1***	.22**	1.33***	.15*	-.33***	1.1***	.93***	.05	-.29***
Control Var.												
USD/IDR	.18	.38	.11	-.42***	.28**	.56***	-.08	-.14*	.25**	.22**	.18*	.56***
Eco_growth	-1.2**	-1.4***	-.27**	-.65***	.40***	.96***	-1.2***	-.56***	-.91***	-.27***	-.29***	-.47***
BI_rate	-.29	-1.1***	-.04	-.04	-.05	-.10	-1.2***	-.75***	-.22**	-.17*	-.36***	-.27***
LPS_Rate	-.22	-1.2***	-.58***	-.30***	.24**	.53***	-.76***	-.46***	-.79***	-.22**	-.24**	.34***
Stock_Index	-1.4***	-.10	-.08	-.42***	-.24**	-.16*	-.25**	-.15*	.88***	.23**	.14	.28***
Log_Assets	-2.9***	-3.6***	-.70***	-.76***	-.37***	.20**	-4.6***	-3.1***	1.4***	1.3***	-.17*	.89***
Memo Items												
R	.84	.86	.87	.97	.95	.95	.88	.86	.95	.81	.93	.97
R Square	.70	.75	.75	.95	.90	.90	.77	.73	.90	.66	.86	.93
Adj. R²	.42	.43	.66	.87	.88	.66	.57	.69	.88	.58	.60	.88
F-statistic	4.00**	4.23**	20.8***	52.1***	81.3***	65.1***	107***	27.8***	9.9***	10.2***	12.1***	78.5***
No. of Obs.	200	200	200	200	200	200	200	200	200	200	200	200
Reg. Model	RE	RE	CE	CE	CE	RE	FE	CE	RE	CE	CE	CE
Panel B. Commercial Banking												
Constant	.74***	.98***	1.2***	1.3***	.36***	-.18	-.71***	-.59***	1.23***	1.19***	.71***	1.2***
Independent												
Covid-19	.74***	.53***	.38**	-1.1***	-.71***	.22*	.57***	-1.4***	-.59***	.91***	.27*	-1.1***
Control Var.												
USD/IDR	.46***	.22*	.69***	-.08	.36***	.36	.29***	.23**	.50***	.56***	.37***	.88***
Eco_growth	-.46***	-.34***	.11	-.30***	.41***	.42	-.48***	-.20**	-.27**	-.76***	-.16	-.13
BI_rate	.15	-.17	.46***	.30***	.29***	.18	-.46***	-.44***	.20*	.08	-.16	.07
LPS_Rate	.20*	-.18	-.15	.04	.58***	.48	-.17*	-.11	.23*	.13	-.15	.90***
Stock_Index	-.58***	.17	.17	-.08	.30***	.50	.18*	.18*	.85***	.57***	-.14	.57***
Log_Assets	1.2***	1.1***	2.6***	1.4***	1.5***	1.8***	-.72***	-1.9***	1.6***	2.5***	.62***	2.0***
Memo Items												
R	.74	.32	.72	.62	.71	.16	.57	.99	.64	.91	.27	.95
R Square	.54	.10	.52	.39	.51	.03	.33	.99	.41	.84	.07	.91
Adj. R²	.39	.06	.42	.22	.37	.00	.23	.90	.26	.65	.05	.86
F-statistic	20.2***	5.1**	58.8***	63.0***	18.7***	.30	10.4***	95.1***	14.8***	44.2***	3.65*	208***
No. of Obs.	100	100	100	100	100	100	100	100	100	100	100	100
Reg. Model	CE	RE	RE	CE	CE	RE	CE	CB	CB	CE	RE	CE
Panel C. Rural Banking												
Constant	.53***	.30**	.29***	.71***	-1.0***	-.82***	.23	-.27*	.42***	.51***	-.32***	.46***
Independent												
Covid-19	-.26*	-.85***	-.64***	-.98***	-.04	1.1***	-.30*	.33**	.53***	-.56***	.92***	.33***
Control Var.												
USD/IDR	-.21	-.16	-.22	-.74***	-.16	-.37***	-.30*	-.15	-.20	-.13	-.16*	.22*
Eco_growth	-.35***	-.21	-.28*	-1.1***	-.17	-.22**	-.49***	-.14	-.88***	-.54***	-.65***	-.81***
BI_rate	-.20*	-.60***	-.32**	-.37***	-.17	-.44***	-.43***	-.11	-.04	-.61***	-.68***	-.61***
LPS_Rate	-.25*	-.44***	-.65***	-.85***	-.20*	.01	-.52***	-.11	-.08	-.56***	-.77***	.08
Stock_Index	-.15*	-.23	-.25*	-.70***	-.16	-.33***	-.30*	-.06	.22	-.11	-.19*	-.06
Log_Assets	-.83***	-1.7***	-1.9***	-3.9***	-1.7***	-.20**	-1.9***	-.48**	-.14	-1.3***	-1.3***	-.26**
Memo Items												
R	.37	.35	.38	.99	.25	.83	.37	.19	.36	.56	.93	.46
R Square	.14	.12	.15	.98	.06	.69	.14	.04	.13	.31	.86	.21
Adj. R²	.07	.09	.09	.82	.03	.62	.07	.03	.09	.20	.71	.13
F-statistic	7.41**	6.74**	7.49**	86.2***	6.55**	88.6***	7.90**	4.78*	4.08*	9.47***	61.6***	6.11**
No. of Obs.	100	100	100	100	100	100	100	100	100	100	100	100
Reg. Model	RE	RE	RE	CE	RE	CE	RE	RE	RE	CE	CE	CE

Note: * significant 10%, ** significant 5%, and *** significant 1%, CE is a common effect model, FE is a fixed effect model, and RE is a random effect model.

Meanwhile, for Islamic rural banks, the pandemic had a negative impact on liquidity, profitability, and financing distribution, but had a positive impact on the risk of non-performing

financing, operating efficiency, and net operating margin. Whereas in conventional rural banks, the pandemic only had a positive impact on lending and net interest margins, while on liquidity, profitability, risk of non-performing loans, and operating effectiveness was the opposite (see Table 4, Panel C).

Based on the findings above, it shows that the Covid-19 pandemic has a dominant impact on conventional banking indicators, both for commercial banks and rural banks. Meanwhile, the impact on Islamic banking is relatively smaller. The impact felt by Islamic banking is also relatively smaller than conventional banks. This substance causes the performance of conventional banking to be more underperforming than Islamic banking. Therefore, our findings support the current growing claim, that Islamic banking is superior to its conventional counterparts, as found by Rahim and Zakaria (2013), Rasyid et al. (2017), Imam and Kpaordar (2010), Alaro and Hakeem (2011), Miah and Uddin (2017), and Odeduntan et al. (2016), which contrasts the findings of Hasan and Dridin (2011), Alqahtani and Mayes (2018), Kassim and Majid (2010), and Abdulle and Kasim (2012). Finally, our findings confirm the ambiguity of Islamic banking. So far, Islamic banking is considered superior to conventional banks, especially when certain shocks occur, and this has been proven during the Covid-19 pandemic, especially from an Indonesian perspective.

Conclusion

The results showed that in general banking in Indonesia was quite stable, both before and during the pandemic, both Islamic and conventional banks. All indicators are still in accordance with central bank standards, except for NPF/NPL which are outside the standard. Non-standard NPF/NPL already occurred before the pandemic came, and it got worse when the pandemic hit. When the pandemic hit, banking performance contracted, but that didn't destabilize them. The shock of the Covid-19 pandemic shook the performance indicators of conventional banking the most, but on the contrary with Islamic banking. However, this does not mean that Islamic banking is more durable than its conventional counterparts. All banking performance indicators contracted during the pandemic, both for Islamic and conventional banks. It is just that the impact of the shock was felt by conventional banks more than Islamic banks. This is due to the existence of the same measurement method on the performance indicators of the two types of banks. So far, the performance indicators of Islamic banks are only different "name" from conventional banks, while the measurement model is the same. For example, the bad credit indicator in conventional banks is called "non-performing loans" while in Islamic banks it is called "non-financing loans". Both terms have the same measurement method. The results of the two are not different. This condition shows that the Islamic banking system in Indonesia is not much different from the conventional banking system.

Conceptually, the Islamic banking system is designed as an innovation from the high-risk conventional banking system. The Islamic banking system is designed to reduce the risk of the banking system, but if the two systems tend to be the same, then the risk will be more severe. Therefore, banking authorities in Indonesia need to review the Islamic banking system and its implementation. In this case, whether the Islamic banking system is in accordance with the concept or not, and whether the system implemented is correct or not. This study only focuses on the comparison between the resilience or performance of the two banks but does not focus on specific aspects related to their resilience or performance. Therefore, future research is expected to explore more deeply on why Islamic banks perform better than their conventional counterparts.

Author Contributions

Conceptualization: I Made Dauh Wijana
Data curation: I Wayan Widnyana
Formal analysis: I Wayan Widnyana
Investigation: I Made Dauh Wijana
Methodology: I Wayan Widnyana
Project administration: I Wayan Widnyana

Supervision: I Made Dauh Wijana
Validation: I Made Dauh Wijana
Visualization: I Wayan Widnyana
Writing – original draft: I Made Dauh Wijana
Writing – review & editing: I Wayan Widnyana

References

Abdulle, M. Y., & Kassim, S. H. (2012). Impact of global financial crisis on the performance of Islamic and conventional banks: Empirical evidence from Malaysia. *Journal of Islamic Economics, Banking and Finance*, *8*(4), 9-20. https://platform.almanhal.com/Files/Articles/22674

Alaro, A. R., & Hakeem, M. (2011). Financial engineering and financial stability: The role of Islamic financial system. *Journal of Islamic Economics, Banking and Finance*, *7*(1), 25-38. https://platform.almanhal.com/Files/Articles/22553

Alqahtani, F., & Mayes, D. G. (2018). Financial stability of Islamic banking and the global financial crisis: Evidence from the Gulf Cooperation Council. *Economic Systems*, *42*(2), 346-360. https://doi.org/10.1016/j.ecosys.2017.09.001

Beck, T., Demirguc-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: business model, efficiency, and stability. *Journal of Banking and Finance*, *37*(2), 433-447. https://doi.org/10.1016/j.jbankfin.2012.09.016

Bourkhis, K., & Nabi, M. S. (2013). Islamic and conventional banks soundness during the 2007-2008 financial crisis. *Review of Financial Economics*, *22*(2), 68-77. https://doi.org/10.1016/j.rfe.2013.01.001

Cihak, M., & Hesse, H. (2010). Islamic banks and financial stability: An empirical analysis. *Journal of Financial Services Research, 38*(1), 95-113. https://doi.org/10.1007/s10693-010-0089-0

Chakroun, M. A., & Gallali, M. I. (2015). Islamic banks and financial stability: An empirical analysis of Gulf countries. *International Journal of Business and Commerce*, *5*(3), 64-87. https://ijbcnet.com/5-3/IJBC-15-5212.pdf

Farooq, M., & Zaheer, S. (2015). Are Islamic banks more resilient during financial panics? *Pacific Economic Review*, *20*(1), 101-124. https://doi.org/10.1111/1468-0106.12096

Hasan, M. M., & Dridi, J. (2011). The effects of the global crisis on Islamic and conventional banks: A comparative study. *IMF Working Paper*, No. 10/201. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1750689

Imam, K., & Kpaodar, K. (2010). Islamic banking: How has it diffused?. *IMF Working Paper Series*, *3*. https://www.elibrary.imf.org/view/journals/001/2010/195/article-A001-en.xml

Karim, B. A., Lee, W. S., Karim, Z. A., & Jais, M. (2012). The impact of subprime mortgage crisis on Islamic banking and Islamic stock market. *Procedia – Social and Behavioral Sciences*, *65*, 668-673. https://doi.org/10.1016/j.sbspro.2012.11.182

Kassim, S. H., & Majid, M. S. A. (2010). Impact of financial shocks on Islamic banks: Malaysian evidence during 1997 and 2007 financial crises. *International Journal of Islamic and Middle Eastern Finance and Management*, *3*(4), 291-305. https://doi/10.1108/17538391011093243

Miah, M. D., & Uddin, H. (2017). Efficiency and stability: A comparative study between Islamic and conventional banks in GCC countries. *Future Business Journal*, *3*(2), 172-185. https://doi.org/10.1016/j.fbj.2017.11.001

Nugroho, M. R., Kurnia, A. S., Qoyum, A., & Fardila, F. (2020). The resilience of the Indonesian banking system and macroeconomic fluctuation: Islamic versus conventional banking. *Journal of Islamic Monetary, Economics, anf Finance*, *6*(2), 419-438.

https://doi.org/10.21098/jimf.v6i2.1135

Odeduntan, A. K., Adewale, A. A., & Hamisu, S. (2016). Financial stability of Islamic banks: Empirical evidence. *Journal of Islamic Banking and Finance*, *4*(1), 131-149. https://doi.org/10.15640/jibf.v4n1a5

Rahim, S. R. M., & Zakaria, R. H. (2013). Comparison on stability between Islamic and conventional banks in Malaysia. *Journal of Islamic Economic, Banking and Finance*, *9*(3), 131-149. https://platform.almanhal.com/Files/2/40149

Rajhi, W., & Hassairi, S. A. (2013). Islamic banks and financial stability: A comparative empirical analysis between MENA and Southeast Asian countries. *Region et Development*, *37*(1), 149-177. https://regionetdeveloppement.univ-tln.fr/wp-content/uploads/7_Rajhi.pdf

Rasyid, A., Yousaf, S., & Khaleequzzaman, M. (2017). Does Islamic banking really strengthen financial stability? Empirical evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management*, *10*(2), 130-148. https://doi.org/10.1108/IMEFM-11-2015-0137

Shahid, M. A., & Abbas, Z. (2012). Financial stability of Islamic banking in Pakistan: An empirical study. *African Journal of Business Management*, *6*(10). 3706-3714. https://doi.org/10.5897/AJBM11.1306

Wahid, M. A., & Dar, H. (2016). Stability of Islamic versus conventional banks: A Malaysian case. *Jurnal Ekonomi Malaysia*, *50*(1), 111-132. https://111-132. 10.17576/JEM-2016-5001-09

Appendix

Appendix 1. Research Sample

Islamic Commercial Bank	Conventional Commercial Banking	Islamic Rural Bank	Conventional Rural Bank
1. Bank Syariah Indonesia	1. Bank Rakyat Indonesia	1. BPRS Amanah Rabbaniah	1. BPR BKK Wonogiri
2. Bank BCA Syariah	2. Bank Mandiri	2. BPRS Harta Insan Karimah Parahyangan	2. BPR BKK Demak
3. Bank Muamalat Indonesia	3. Bank Negara Indonesia	3. BPRS Syariah Al-Ihsan	3. BPR BKK Ungaran
4. Bank Jabar Banten Syariah	4. Bank Tabungan Nasional	4. BPRS Amanah Insani	4. BPR BKK Cilacap
5. Bank Panin Syariah	5. Bank Danamon Indonesia	5. BPRS Amanah Ummah	5. BPR BKK Purwodadi
6. Bank Mybank Syariah Indonesia	6. Bank Permata	6. BPRS Syarikat Madani	6. BPR Berkah
7. Bank Syariah Bukopin	7. Bank Central Asia	7. BPRS PNM Binama	7. BPR Bank Daerah Gunungkidul
8. Bank Mega Syariah	8. Bank Mybank Indonesia	8. BPRS Dana Amanah	8. BPR BKK Karangmalang
9. Bank Victoria Syariah	9. PAN Indonesia Bank	9. BPRS Cempaka Al-Amin	9. BPR BKK Kebumen
10. Bank BTPN Syariah	10. Bank CIMB Niaga	10. BPRS Unisia Insan Indonesia	10. BPR BKK Lasem
11. Bank BJB Syariah	11. Bank UOB Indonesia	11. BPRS Lampung Timur	11. BPR BKK Pati
12. Bank BTN Syariah	12. Bank OCBC NISP	12. BPRS Lampung Barat	12. BPR BKK Temanggung
13. Bank Sinarmas Syariah	13. Bank Artha Graha Internasional	13. BPRS Al-Falah	13. BPR Bank Jombang
14. Bank Aceh Syariah	14. Bank Bumi Artha	14. BPRS Bangka Belitung	14. BPR Bank Boyolali
15. Bank Jateng Syariah	15. Bank HSBC Indonesia	15. BPRS Madinah	15. BPR BKK Purwokerto
16. Bank Kaltim Syariah	16. Bank Jtrust Indonesia	16. BPRS Baiturridha Pusaka	16. BPR BKK Taman
17. Bank Bumiputra Syariah	17. Bank Mayapada Internasional	17. BPRS Vitka Central	17. Bank Sleman
18. Bank Aladin Syariah	18. Bank of India Indonesia	18. BPRS Patriot Bekasi	18. BPR BKK Jepara
19. Bank Panin Dubai Syariah	19. Bank Sinarmas Indonesia	19. BPRS Al-Hijrah Amanah	19. BPR BKK Muntilan
20. Bank NTB Syariah	20. Bank QNB Indonesia	20. BPRS Niaga Madani	20. BPR BKK Tasikmadu