
COVID-19 AND THE POTENCY OF DISRUPTION ON THE ISLAMIC BANKING PERFORMANCE (INDONESIA CASES)

Lucky Nugroho ¹, ²Wiwik Utami, ³Harnovinsah, ⁴Caturida Meiwanto Doktoralina

^{1,2,3,4}Faculty of Economics and Business, Universitas Mercu Buana, Jakarta, Indonesia

¹lucky.nugroho@mercubuana.ac.id, ²wiwik.utami@mercubuana.ac.id, ³harnovinsah@mercubuana.ac.id,

⁴caturida_meiwanto_drm@mercubuana.ac.id

Abstract

The indicators commonly used in conducting simulations are economic growth and the US Dollar exchange rate. The purpose of this study is to conduct a stress test on the impact of macroeconomic changes on key financial indicators of the three largest Islamic banks in Indonesia, which are subsidiaries of state-owned banks. The banks are Bank Mandiri Syariah (BSM), BNI Syariah (BNIS), and BRI Syariah (BRIS). The stress test method in this study uses three scenarios, namely: mild, moderate, and worst. Furthermore, the key financial indicators used in this research are assets, net profit, return on assets (ROA), and non-performing financing (NPF). The stress test results state that the mild scenario and moderate scenario of the Islamic banking industry can still endure. However, in the worst-case scenario, NPF of the Islamic banking industry has a significant increase. Also, during the current Covid-19 pandemic, banks must mitigate risk early by strengthening liquidation, restructuring, and changing strategic initiatives. Also, there is an alternative to merge of Islamic Bank that subsidiaries from its state bank. Furthermore, the government and all stakeholders must collaborate to overcome the negative effects of the Covid-19 pandemic outbreak to avoid major losses to both the lives of the people and the nation's economy.

Key words : Covid-19, Macro-Economic, Net-Profit, Return on Asset, Non-Performing Financing, Islamic Bank

INTRODUCTION

Covid-19 epidemic in the world today, was first discovered in China, precisely in the city of Wuhan in late December 2019. Regarding Secon et al., (2020), the chronology of the Covid-19 pandemic until 1st 2020 is as follows :

- On 31 December 2019, Chinese health officials provided information to WHO that 41 people were suffering from mysterious pneumonia. Those who suffer from the disease, mostly interact with the seafood wholesale market in Huanan, China;
- On January 1, 2020, the seafood wholesale market in Huanan, China was closed by the Chinese Government;
- On January 7, 2020, Chinese health officials discovered a new type of coronavirus called the coronavirus novel or nCoV;
- On January 11, 2020, the first death in China;
- On January 13, 2020, the first case outside of China was found in Thailand;
- On January 20, 2020, the first case in the US was reported in a 35-year-old man in Snohomish County, Washington;
- On January 23, 2020, Wuhan, China became a quarantined area, and then Hubei province, China followed in a few days;
- On 30 January 2020, WHO declared a global public health emergency;
- On February 2, 2020, the first death case outside of China was in the Philippines;
- On February 7, 2020, Li Wenlian died, Chinese whistleblower of nCov;
- On 09 February 2020, the death toll in China surpassed the SARS epidemic of 2002-2003, with 811 deaths recorded;
- On 11 February 2020, WHO announced that this new type of coronavirus would be called "Covid-19;"
- On 12 February 2020, coronavirus cases began to surge in South Korea;
- On February 19, 2020, an outbreak of coronavirus in Iran began;
- On February 21, 2020, an outbreak of coronavirus in Italy began;
- On March 2, 2020, a coronavirus outbreak in Indonesia began;
- On March 3, 2020, the coronavirus outbreak in Spain began;
- On March 13, 2020, a US national emergency was declared due to a new coronavirus outbreak;
- On March 19, 2020, China reported that no new infections had spread locally for the first time since the pandemic began;
- On March 23, 2020, New York City confirmed 21,000 cases, making it the largest epicenter in the US;
- On March 26, 2020, the total number of confirmed cases in the US reached 82,404, surpassing the cases in China with 81,782, and Italy with 80,589 cases;
- On March 27, 2020, Italy reported the highest number of deaths in one day of 919 people;
- On 31 March 2020, more than 1/3 of humanity was under lockdown;
- On April 1, globally, the authorities reported 922,000 confirmed Covid-19 cases, with around 656,000 active and ongoing cases, around 193,000 recovery, and 46,000 deaths.

Due to a large number of Covid-19 spreads, which is very fast and also has a significant impact on human deaths, there is a new policy that is now known as "lockdown." Lockdown is an emergency measure or condition

where people are temporarily prevented from entering or leaving restricted areas or homes such as closing schools, closing offices, closing restaurants, etc., as long as there is a danger of danger (Merriam-Webster, 1973). Almost all countries in the world have a lockdown policy to mitigate the spread of the Covid-19. Thus, the impact of the lockdown policy is the limited mobility of the community. Before the implementation of the lockdown policy during the Covid-19 outbreak, the community was also required to implement social distancing, physical distancing, work from home, learning from home, etc., aimed at preventing a surge in the Covid-19 cases in the community.

Limited community mobility contributes to the decline in economic growth in a country. That is because economic activity has slowed down, where the public cannot conduct business transactions as normal conditions as usual. Also, micro and small entrepreneurs engaged in the real sector that relies on physical contact with buyers and partners will be affected by the decline in their business turnover during the current Covid-19 outbreak (Jandoc et al., 2020; Lestari et al., 2015).

The Covid-19 pandemic chain effect also caused Indonesia, one of the developing countries, to be exposed to the rapid spread of a Covid-19. Since being exposed to a Covid-19 from March 02, 2020, until now, the Indonesian stock market has dropped more than 30% (Suryahadi & T.Rahmawati, 2020). The decline in trading in the stock market is due to foreign funds and foreign investors withdrawing their funds back to their country (capital flight). Besides, the exchange rate of the dollar against the rupiah increased to Rp16,800 per 1 USD, which was on March 2, 2020, the exchange rate of Rp14,318 per 1 USD (A. C. Nugroho & Andriani, 2020a, 2020b). Furthermore, referring to the state budget plan (APBN) 2020 prepared based on macroeconomic assumptions (table1.1) as follows :

Table 1.1. Macro Economics Assumptions 2020

Indicator	2020
Economic Growth	5.30%
US Dollar Exchange Rate	Rp14,400
Inflation	3.10%

Source : Finance-Ministry (2020a)

However, the Covid-19 pandemic outbreak had an impact on changing macroeconomic assumptions. In addition, the Covid-19 pandemic that occurred in early 2020, according to Secon et al., (2020), is expected to occur in approximately 18 months. In addition, countries with good economic growth also corrected their growth due to the impact of the spread of the Covid-19 pandemic, such as America and China. The following is an estimate of the corrected economic growth in America, China, Countries in the European and World Zones :

Table 1.2. The Prediction of Economics Growth in Big Economics Countries and Zone

	2020 GDP Growth (%)	Time to Return to Pre-Crisis (Quarter)
China	-2.70%	Q2-2021

USA	-2.70%	Q1-2023
World	-4.70%	Q3-2022
Eurozone	-9.70%	Q3-2023

Source : Oliver (2020)

Referring to table 1.2 above, the countries of America and China corrected their growth to -2.70%, while the Eurozone deeper became -9.70 and the forecast for world economic growth to be -4.70% due to the Covid-19 pandemic. In addition to improving the economy back to normal before the Covid-19 pandemic also takes time. In table 1.2, the Chinese economy is expected to recover in Q2-2021, USA Q1-2023, EuroZone Q3-2023, and the world economy will improve again in Q3-2022. Likewise, in Indonesia, the authorities, namely the finance ministry and the central bank of Indonesia, have carried out macroeconomic estimates due to the occurrence of this Covid-19 pandemic. Indonesian Finance Minister Sri Mulyani and Bank Indonesia Governor Perry Warjiyo provided explanations related to the forecast of Indonesia's economic growth, which would be corrected to 2.3% in moderate scenarios and could even be -0.4% in very severe scenarios (Wildan, 2020).

Consequently, risk mitigation is needed related to the economic slowdown, which will have an impact on losses and even bankruptcy from Islamic banks. At present the market of the Islamic banking industry in Indonesia is dominated by Islamic banks, namely: (i) Bank Mandiri Syariah (BSM); (ii) BNI Syariah (BNIS); (iii) BRI Syariah (BRIS) which is also a subsidiary of a state-owned bank (BUMN) (L. Nugroho & Bararah, 2018; L. Nugroho et al., 2017). Furthermore, in order to mitigate the risk, a forward projection scenario is required related to macro assumptions that will occur in 2020 with a Covid-19 pandemic.

THEORETICAL REVIEW

A literature review of this research represents the impact of a Covid-19 on the economic system of a country, how macroeconomics will impact the Islamic banking industry, and key financial indicators used in measuring the performance of Islamic banks.

The real sector is an activity connected to the business, financial, and economic activities. The activities of the real sector are the activities of production, processing, services, etc. (Leontief, 1970; Yudanto & Santoso, 2003). According to Ozili (2020), There are restrictions on activities in Nigeria in the business sector as a result of Covid-19 as follows (table 2.1) :

Table 2.1. Business Sector Impact During Covid-19 in Nigeria

Business Sector	Impact
Aviation sector	Massive flight cancellations, NCAA suspends all international airport
Education sector	Students were sent back home. Private and public schools and universities were closed
Banking sector	Senior staff work from home. Few branch staff available to attend to depositors

Civil service sector	Suspension from work for 14 days for remote quarantine
Religious sectors	All religious services were banned during the pandemic. A Christian pastor was arrested for holding church service during the ban
All sectors	A 14-days nationwide stay-at-home lockdown was officially enforced beginning from 30 th March 2020
Eleven (11) businesses excluded from the ban	(i) private security companies, (ii) medical establishments, (iii) broadcasters, (iv) food processing and distribution companies, (v) petroleum distribution and retail entities, (vi) power generation, transmission, and distribution companies, (vii) hospitals, (viii) telecommunications workers, (ix) health care manufacturing and distribution companies, (x) print media staff, (xi) electronic media personnel

Source : Ozili (2020)

Whereas in Indonesia, especially Jakarta, as the epicenter of the spread of the Covid-19, the local government has also imposed large-scale social restrictions (PSBB) on the 10th April 2020. In the implementation of PSBB (regional lockdown), all office activities will be abolished, except eight sectors as follows (table 2.2) :

Table 2.2. Unbanned Business Sector During Covid-19 in Indonesia

Unbanned Business Sector	Remark
Health sector and health support sector	Hospital, Health clinic business activities that produce health support such as soap and disinfectant
Food and beverage sector	The food industry, beverage industry, and its derivatives
Energy sector	Water companies, gas companies, electricity companies, and fueling stations
Communication sector, and communication services	Telecommunications companies, internet service providers and similar businesses
Financial sector	Banking, Insurances, Capital market and similar business
Logistics activities sector	Distribution of goods, distribution of food and beverage distribution and similar businesses
Retail sector and daily necessities sector	Retail stores, such as supermarkets, grocery stores, and similar businesses
Strategic industrial sector	Strategic industries that are considered to have a vital role in the economic development of society

Source : Defianti (2020)

Regarding Danielsson & Shin (2003), the crisis in 2008 differed from the current economic crisis caused by the Covid-19 pandemic in terms of the cause. The cause of the crisis in 2008 was caused by endogenous risk, while the crisis caused by the epidemic of Covid-19 was caused by exogenous risk. Endogenous risk is the risk of shocks generated from the system, while exogenous risk, is the risk induced by shocks that come from outside the system (Danielsson & Shin, 2003).

According to Danielsson et al., (2020), states that the Covid-19 pandemic as an exogenous variable is as follows :

- The fact that the Covid-19 shock is exogenous and is not a consequence of inherent system weaknesses, either from the economic system or the financial system;
- The parts of the financial system that are most vulnerable, namely financial institutions such as banks, insurance companies, etc., which at that time caused a systemic crisis in 2008, are currently in better financial condition than in 2008.

The Covid-19 is an exogenous shock to the economy located outside the financial industry, which requires governments to take over policies to limit human mobility. The impact of the policy resulted in a slowdown in the real economy where stores, services, and jobs were closed by state authorities, and the income of the employees involved collapsed. The shock of the Covid-19 pandemic on economic and financial stability can be shown in Figure 2.1 below :

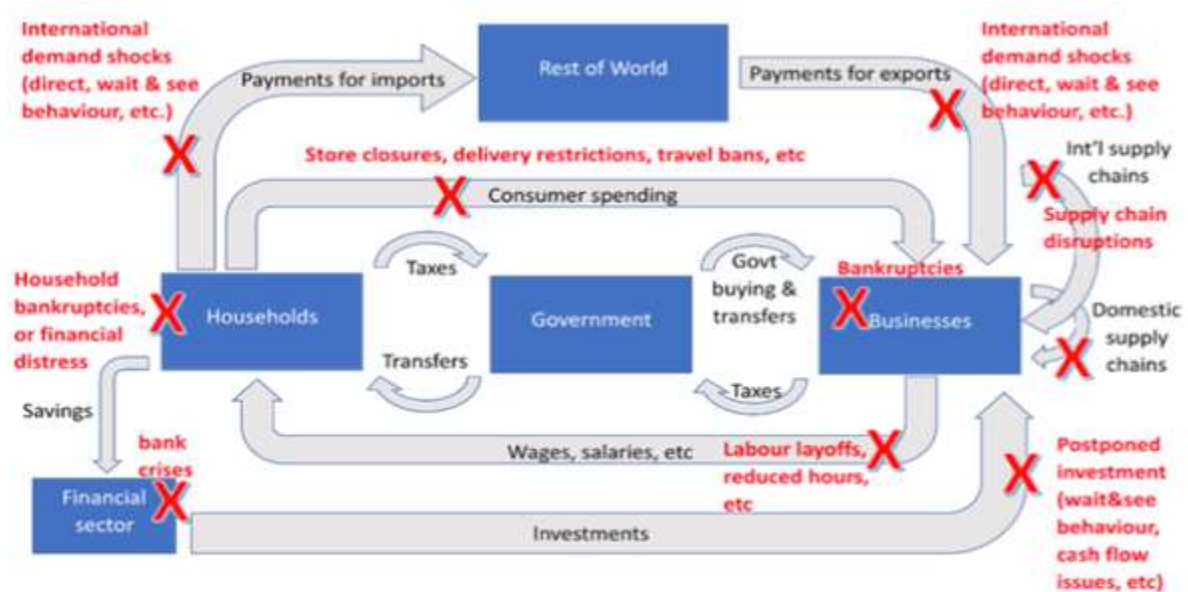


Figure 2.1. Impact of Pandemic Covid-19 on Economic and Financial Stability

Source : Baldwin & Mauro (2020)

According to figure 2.1 above, the economy can be running well when money continues on the diagram. So that if there is interference with the flow of money in circulation anywhere, it will cause a slowdown everywhere. The cash flow diagram here also adds several variables, namely government and foreign investors. Figure 1.1 above also separate consumption expenditure from investment expenditure. Based on figure 1.1 above the slowing down or stopping of cash flow as a dynamo or economic driver will cause shocks to the following issues :

- The red cross shows where there are three types of shocks that can disrupt the flow of money. The three shocks that can disrupt the financial flow include the household sector, business sector, and the financial sector;
- Starting from the far left and moving clockwise closure of business activities and services lead to employee

reductions and even bankruptcy of the business. Households who don't get paid may experience financial distress;

- This condition did not directly suppress domestic demand but reduced foreign income, which resulted in a decline in spending in the country originating from export income. In the 2008-09 Global Crisis, these two strike zones were particularly important, leading to what came to be known as the Great Trade Collapse (Baldwin, 2009; Bems et al., 2013). The drop in demand and/or direct supply shocks can lead to a disruption in international and domestic supply chains ;
- Slumping demand and supply will lead to a reduction in staff, especially in the manufacturing sector. The fall in production was caused by the "wait and see" the behavior of the firm and people in uncertain conditions. Nevertheless, if the uncertainty condition lasts longer, it will have an impact on the bankruptcy of the business (Bénassy-Quéré et al., 2020);
- Company closure will cause a further impact on financial flow disruptions. Nevertheless, the closing of the business results in creditors not being paid, and workers not fully paid can even be a reduction in employees and have implications for increasing the number of unemployed. The bankruptcy of one company is a bad indication for other companies because it can be a chain event. Moreover, the growth of unemployment reduces the purchasing power of the people.
- The condition of the economic crisis due to the pandemic of the Covid-19 outbreak will currently shake the financial sector, including the banking industry.

According to Sapienza & Zingales (2012), public confidence in banks during the global crisis will experience a significant decline. Government intervention is to ensure that people can continue to spend their money and get income in order to maintain the flow of money even though they are not working due to the closure of business activities (Baldwin, 2020).

Predictions are related to the decline in global economic growth during the Covid-19 pandemic, McKibbin & Fernando (2020) has conducted a simulation by dividing the economic conditions in the world into seven scenarios. The scenario is based on epidemiological assumptions that have implications in China. The results of his research stated that Indonesia's economic growth due to the impact of Covid-19 would experience a decline from the baseline. The decline in economic growth based on the scenario made is as follows :

Table 2.3. GDP Loss in 2020 (% Deviation From Baseline)

Country/Region	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
Indonesia	-0.2	-0.2	-0.4	-1.4	-3.1	-5.3	-1.3

Source : McKibbin & Fernando (2020)

Therefore, referring to Table 2.3 above, the slowdown in Indonesia's economic growth when referring to the decline from the baseline can be classified as follows (table 2.4) :

Table 2.4. Assumption of Economic Growth in 2020

Macro-Economic Indicator	Baseline	Mild	Moderate	Worst
Economic Growth	5.30%	3.90%	2.20%	0.00%

Source : Finance-Ministry (2020b), McKibbin & Fernando (2020)

Furthermore, the estimates in table 2.4 are also not much different from the estimates made by the Ministry of Finance of the Republic of Indonesia are as follows :

Table 2.5. Assumption of Macro Economics 2020 Finance Ministry of Republic of Indonesia

Macro-Economic Indicator	Baseline	Mild	Moderate	Worst
Economic Growth	5.30%	4.60%	2.30%	-0.40%
US Dollar Exchange Rate	Rp14,400	Rp15,000	Rp17,500	Rp20,000

Source : Finance-Ministry (2020b)

Based on table 2.4 and table 2.5, changes in macro-economic assumptions will affect the performance of Islamic banking. Thus the achievement targets that have been set previously will be difficult to achieve and require different strategic initiatives.

RESEARCH METHOD

The method used in this study is to use quantitative methods based on secondary data sourced from financial reports from Bank Mandiri Syariah (BSM), BNI Syariah (BNIS), and BRI Syariah (BRIS). The data will be simulated based on mild, moderate, and worst macroeconomic scenarios. Furthermore, the macroeconomic scenario used in this study is as follows:

Table 3.1. Macro-Economics Assumption in This Study

Macro-Economic Indicator	Baseline	Mild	Moderate	Worst
Economic Growth	5.30%	4.60%	2.30%	0.00%
US Dollar Exchange Rate	Rp14,400	Rp16,500	Rp17,500	Rp20,000

Source : Ministry of Finance of The Republic of Indonesia Has Been (Processed)

The determination of macroeconomic variables in this study follows estimates from the Ministry of Finance of the Republic of Indonesia. However, there is an adjustment where the worst-case scenario used in this study is 0% following the assumptions of McKibbin & Fernando (2020). Furthermore, the macroeconomic for the USD exchange rate also follows the reference of the Ministry of Finance of the Republic of Indonesia. However, there is an adjustment in the mild scenario to Rp16,500. The adjustment of the USD exchange rate is due as of April 15, 2020, and the USD exchange rate has reached Rp15,915. The sampling method is a purposive sample with the criteria of an Islamic bank is a subsidiary of a state-owned bank and has a market share of over 20% so that it can represent the Islamic banking industry in Indonesia. Therefore the samples used in this study are BSM, BNIS, and BRIS. The mild criteria are the Covid-19 pandemic outbreak lasts for three months, the moderate criterion is the Covid-19 outbreak pandemic lasts for six months, and the worst criterion is the Covid-19 outbreak pandemic lasting for twelve months.

RESULTS AND DISCUSSIONS

Regarding to the macroeconomic assumptions used in table 3.1, the results of financial simulations for BSM, BNIS, and BRIS are as follows :

Table 4.1. Prediction of The Performance of Bank Mandiri Syariah (BSM) in 2020 With Baseline, Mild, Moderate, and Worst Scenarios

(Rp Million)

Bank Mandiri Syariah (BSM)	2018	2019		2020							
	Realization	Realization	Growth	Baseline	Growth	Mild	Growth	Moderate	Growth	Worst	Growth
Asset	98,341,116	112,297,480	14.19%	128,234,502	14.19%	122,628,848	9.20%	118,754,585	5.75%	112,297,480	0.00%
Net Profit	724,924	1,204,291	66.13%	1,538,814	27.78%	1,234,539	2.51%	1,046,270	-13.12%	691,825	-42.55%
ROA	0.74%	1.07%	45.48%	1.20%	11.90%	1.01%	-6.12%	0.88%	-17.85%	0.62%	-42.55%
NPF Gross	3.28%	2.44%	-25.61%	2.25%	-7.79%	2.80%	14.58%	2.97%	21.53%	3.39%	38.89%

Source : BSM Financial Data That Has Been (Processed)

Table 4.2. Prediction of The Performance of BNI Syariah (BNIS) in 2020 with Baseline, Mild, Moderate, and Worst Scenarios

(Rp Million)

BNI Syariah (BNIS)	2018	2019		2020							
	Realization	Realization	Growth	Baseline	Growth	Mild	Growth	Moderate	Growth	Worst	Growth
Asset	41,048,545	49,980,235	21.76%	55,478,061	11.00%	54,578,417	9.20%	52,854,099	5.75%	49,980,235	0.00%
Net Profit	416,080	603,153	44.96%	887,649	47.17%	737,200	22.22%	613,320	1.69%	206,822	-65.71%
ROA	1.01%	1.21%	19.06%	1.60%	32.58%	1.35%	11.93%	1.16%	-3.84%	0.41%	-65.71%
NPF Gross	2.93%	3.33%	13.65%	3.00%	-9.91%	3.82%	14.58%	4.05%	21.53%	4.63%	38.89%

Source : BNIS Financial Data That Has Been (Processed)

Table 4.3. Prediction of The Performance of BRI Syariah (BRIS) in 2020 With Baseline, Mild, Moderate, and Worst Scenarios

(Rp Million)

BRI Syariah (BRIS)	2018	2019		2020							
	Realization	Realization	Growth	Baseline	Growth	Mild	Growth	Moderate	Growth	Worst	Growth
Asset	37,869,177	43,123,488	13.87%	49,160,776	14.00%	47,090,849	9.20%	45,603,089	5.75%	43,123,488	0.00%
Net Profit	107,114	67,870	-36.64%	98,322	44.87%	82,664	21.80%	43,896	-35.32%	22,005	-67.58%
ROA	0.28%	0.16%	-44.36%	0.20%	27.08%	0.18%	11.54%	0.10%	-38.84%	0.05%	-67.58%
NPF Gross	4.92%	5.22%	6.10%	5.00%	-4.21%	5.98%	14.58%	6.34%	21.53%	7.25%	38.89%

Source : BRIS Financial Data That Has Been (Processed)

Mild Scenario

According to table 4.1 above, the BSM financial simulation results are based on a mild scenario, where the growth rate has decreased from 5.30% to 4.60%, and the US Dollar exchange rate has increased from Rp14,400 to Rp16,500 causing changes to BSM key financial indicators as follows :

- Assets in 2020 will experience growth of 9.20% or become Rp122,628,848 million compared to 2019. This shows a decrease compared to growth based on a baseline of 14.19% or assets to Rp128,234,501 million;
- Net profit in 2020 will grow by 2.51% or become Rp1,234,539 million compared to 2019. This shows a decrease compared to growth based on a baseline of 27.78% or net profit of Rp1,538,814 million;
- Return on assets (ROA) in 2020 will decrease by -6.12% compared to 2019 or ROA to 1.01% when

compared to 2019. This shows a decrease compared to growth based on baselines of 11.90% or ROA of 1.20 %;

- Gross NPF in 2020 will increase by 14.58% or become 2.8%. This shows an increase when compared to the gross NPF based on the baseline of 2.25%.

While the changes in key financial indicators on BNIS based on the mild scenario refer to table 4.2 are as follows :

- Assets in 2020 will grow by 9.20% or become Rp54,578,416 million compared to 2019. This shows a decrease compared to the baseline growth of 11% or assets to Rp55,478,060 million.
- Net profit in 2020 will grow by 22.22% or become Rp737,200 million compared to 2019. This shows a decrease compared to growth based on a baseline of 47.17% or net profit of Rp887,649 million ;
- Return on assets (ROA) in 2020 will increase by 11.93% compared to 2019 or ROA to 1.35% when compared to 2019. This shows a decrease compared to the baseline growth of 32.58% or ROA of 1.60%;
- Gross NPF in 2020 will increase by 14.58% or become 3.82%. This shows an increase when compared to the gross NPF based on the baseline of 3.00%.

Furthermore, changes in key financial indicators in BRIS based on the mild scenario in table 4.3 are as follows :

- Assets in 2020 will grow by 9.20% or become Rp47,090,849 million compared to 2019. This shows a decrease compared to the baseline growth of 14.00% or assets to become Rp49,160,776 million.
- Net profit in 2020 will grow by 21.80% or become Rp82,664 million compared to 2019. This shows a decrease compared to growth based on a baseline of 44.87% or net profit of Rp98,322 million ;
- Return on assets (ROA) in 2020 will increase by 11.54% compared to 2019 or ROA to 0.18%, compared to 2019. This shows a decrease compared to the baseline growth of 27.08% or ROA of 0.20%;
- Gross NPF in 2020 will increase by 14.58% or become 5.98%. This shows an increase when compared to the gross NPF based on the baseline of 5.00%.

Moderate Scenario

According to table 4.1 above, the BSM financial simulation results are based on a moderate scenario, where the growth rate has decreased from 5.30% to 2.30%, and the US Dollar exchange rate has increased from Rp14,400 to Rp17,500 causing changes to BSM key financial indicators as follows :

- Assets in 2020 will grow by 5.75% or become Rp118,754,585 million compared to 2019. This shows a decrease compared to baseline growth of 14.19% or assets to Rp 128,234,501 - million;
- Net profit in 2020 will decrease by -13.12% or become Rp 1,046,270 million compared to 2019. This shows a decrease compared to growth based on a baseline of 27.78% or net profit of Rp1,538,814 million ;
- Return on assets (ROA) in 2020 will decrease by -17.85% compared to 2019 or ROA to 0.88%, compared to 2019. This shows a decrease compared to the baseline growth of 11.90% or ROA of 1.20% ;
- Gross NPF in 2020 will increase by 21.53% or become 2.97%. This shows an increase when compared to the gross NPF based on the baseline of 2.25%.

While the changes in key financial indicators on BNIS based on the moderate scenario refer to table 4.2 are as follows :

- Assets in 2020 will grow by 5.75% or become Rp.52,854,099 million compared to 2019. This shows a decrease compared to 11% growth based on baseline or assets to Rp55,478,060 million.
- Net profit in 2020 will grow by 1.69% or become Rp613,320 million compared to 2019. This shows a decrease compared to growth based on a baseline of 47.17% or net profit of Rp887,649 million ;
- Return on assets (ROA) in 2020 will decrease by -3.84% compared to 2019 or ROA to 1.16% when compared to 2019. This shows a decrease compared to the baseline growth of 32.58% or ROA of 1.60% ;
- Gross NPF in 2020 will increase by 21.53% or become 4.05%. This shows an increase when compared to the gross NPF based on the baseline of 3.00%.

Furthermore, changes in key financial indicators in BRIS based on the moderate scenario in table 4.3 are as follows :

- Assets in 2020 will grow by 5.75% or become Rp45,603,089 million compared to 2019. This shows a decrease compared to growth based on the baseline of 14.00% or assets to Rp49,160,776 million
- Net profit in 2020 will decrease by -35.32% or become Rp43,896 million compared to 2019. This shows a decrease compared to growth based on a baseline of 44.87% or net profit of Rp98,322 million;
- Return on assets (ROA) in 2020 will decrease by -38.84% compared to 2019 or ROA to 0.10%, compared to 2019. This shows a decrease compared to growth based on a baseline of 27.08% or ROA of 0.20% ;
- Gross NPF in 2020 will increase by 21.53% or become 6.34%. This shows an increase when compared to the gross NPF based on the baseline of 5.00%.

Worst Scenario

According to table 4.1 above, the BSM financial simulation results are based on the worst-case scenario, where the growth rate has decreased from 5.30% to 0%, and the US Dollar exchange rate has increased from Rp14,400 to Rp20,000 causing changes in key finance BSM indicators as follows :

- Assets in 2020 will grow by 0% or become Rp112,297,480 million compared to 2019. This shows a decrease compared to the baseline growth of 14.19% or assets to Rp128,234,501 million;
- Net profit in 2020 will decrease by -42.55% or become Rp671,825 million compared to 2019. This shows a decrease compared to growth based on a baseline of 27.78% or net profit of Rp1,538,814 million;
- Return on assets (ROA) in 2020 will decrease by -42.55% compared to 2019 or ROA to 0.62%, compared to 2019. This shows a decrease compared to the baseline growth of 11.90% or ROA of 1.20% ;
- Gross NPF in 2020 will increase by 38.89% or become 3.39%. This shows an increase when compared to the gross NPF based on the baseline of 2.25%.

Whereas the changes in key financial indicators on BNIS based on the worst-case scenario refer to table 4.2 are as follows :

- Assets in 2020 will grow by 0% or become Rp49,980,235 million compared to 2019. This shows a decrease compared to the baseline growth of 11% or assets to become Rp55,478,060 million.

- Net profit in 2020 will decrease by -65.71% or become Rp206,822 million compared to 2019. This shows a decrease compared to growth based on a baseline of 47.17% or net profit of Rp887,649.- million;
- Return on assets (ROA) in 2020 will decrease by -65.71% compared to 2019 or ROA to 0.41% if compared to 2019. This shows a decrease compared to the baseline growth of 32.58% or ROA of 1.60% ;
- Gross NPF in 2020 will increase by 38.89 %% or become 4.63%. This shows an increase when compared to the gross NPF based on the baseline of 3.00%.

Furthermore, changes in key financial indicators in BRIS based on the moderate scenario in table 4.3 are as follows :

- Assets in 2020 will grow by 0% or become Rp43,123,488 million compared to 2019. This shows a decrease compared to the baseline growth of 14.00% or assets to Rp49,160,776 million;
- Net profit in 2020 will decrease by -67.58% or become Rp22,005 million compared to 2019. This shows a decrease compared to growth based on a baseline of 44.87% or net profit of Rp98,322 million;
- Return on assets (ROA) in 2020 will decrease by -67.58% compared to 2019 or ROA to 0.05% when compared to 2019. This shows a decrease compared to the baseline growth of 27.08% or ROA of 0.20% ;
- Gross NPF in 2020 will increase by 38.89% or become 7.25%. This shows an increase when compared to the gross NPF based on the baseline of 5.00%.

Discussions

Mild Scenario

In mild scenarios where economic growth has decreased from 5.30% to 4.60%, and the US Dollar exchange rate has increased against the rupiah from Rp14,400 to Rp16,500, it has not had a significant impact on the decline in key financial indicators in Islamic banks, if compared to growth in 2019. However, in milder scenarios, there is a decrease in ROA in BSM. Furthermore, the focus of attention is NPF Gross Islamic banks have increased above 3%, except NPF gross BSM 2.80%. That is because BNIS and BRI already had Gross NPF above 3% at the close of 2019. Furthermore, BRIS had to pass through risk mitigation strictly with an increase in gross NPF, which was already above 5%. Overall, the Islamic bank business in the mild scenario can still run well. Also, the ability of the people and the flow of money on economic growth 4.60% can still be maintained properly.

Moderate Scenario

The moderate scenario, which is assuming economic growth, has slowed to 2.30% from the baseline, which is 5.30%, and the exchange rate of US Dollar to Rp17,500 shocks to the key financial indicators of profitability of Islamic banks, namely ROA. All Islamic banks in the worst-case scenario experienced negative growth when compared to 2019. This was contributed from the growth of the problem financing ratio (Gross NPF) of 21.53% in all Islamic banks (table 4.1, table 4.2, and table 4.3), so they had to incur costs for the provision of the bad quality financing. In addition, BRIS has a high Gross NPF of 6.34%, so that BRIS management requires a special action plan in handling bad quality financing at the bank.

Worst Scenario

The worst scenario occurs if the Covid-19 pandemic lasts 12 months and causes 0% economic growth and the value of the US Dollar to become Rp20,000. The impact of economic growth of 0% is the cessation of cash flow in the community, so that it has implications for key financial indicators of Islamic banks. The effect is that all key financial indicators at the end of 2020, namely net profit and ROA experienced negative growth compared to achievement in 2019. The high increase in bad quality of financing and the difficulty in channeling financing is one of the causes of the decline in the key financial indicators. Therefore, the condition of Islamic banks is threatened to suffer losses. Thus, if the Covid-19 pandemic lasts longer, it could lead to bankruptcy in the Islamic banking industry.

Risk Mitigation

Furthermore, in conducting its business, Islamic banks must be able to identify the customer sector that is directly exposed to the Covid-19 pandemic, such as the hotel & restaurant sector, tourism & support services, and logistics services. In addition, banks need to consider sectors related to exports and imports such as the oil & gas sector, machinery, and spare parts industry, electronic equipment, textile industry, etc.

As an alternative, Islamic banks should give empathy to existing customers and the public as a competitive advantage that Islamic banks have sharia principles, namely the benefit of the Ummah that is not owned by conventional banks. Thus the Islamic bank has good positioning and image in the community as bank capital to increase loyalty and customers when the Covid-19 outbreak pandemic ends.

CONCLUSION

The Covid-19 epidemic pandemic has implications for all economic activities, including the Islamic banking industry. This is because the Covid-19 pandemic is an exogenous variable that caused the financial crisis. The results of the simulation in this study indicate that Islamic banks still can maintain the sustainability of their business performance in mild and moderate scenarios. However, banks must mitigate declining performance through restructuring, strengthen liquidity, carry out cost efficiency, and change strategic business initiatives in the business sector not exposed to the Covid-19 pandemic outbreak. Nevertheless, there is an alternative to merging the Islamic Bank of subsidiaries of a state-owned bank to reduce competitive cost. Also, the collaboration needs of all stakeholders, especially the government and the community to jointly help through the Covid-19 pandemic so that there will not be much loss of both life and material.

REFERENCES

Baldwin, R. (2009). The great trade collapse: What caused it and what does it mean? | VOX, CEPR Policy Portal. Retrieved April 14, 2020, from <https://voxeu.org/article/great-trade-collapse-what-caused-it-and-what-does-it-mean>

Baldwin, R. (2020). Keeping the lights on: Economic medicine for a medical shock | VOX, CEPR Policy Portal. Retrieved April 13, 2020, from <https://voxeu.org/article/how-should-we-think-about-containing-covid-19-economic-crisis>

Baldwin, R., & Mauro, B. W. di. (2020). Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes. In R. Baldwin & B. W. di Mauro (Eds.), *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes* (p. 219). London: Centre for Economic Policy Research. Retrieved from <https://voxeu.org/content/mitigating-covid-economic-crisis-act-fast-and-do-whatever-it-takes>

Bems, R., Johnson, R. C., & Yi, K.-M. (2013). The Great Trade Collapse. *Annual Review of Economics*, 5(1), 375–400. <https://doi.org/10.1146/annurev-economics-082912-110201>

Bénassy-Quéré, A., Marimon, R., Pisani-Ferry, J., Reichlin, L., Schoenmaker, D., & Mauro, B. W. di. (2020). COVID-19: Europe needs a catastrophe relief plan | VOX, CEPR Policy Portal. Retrieved April 14, 2020, from <https://voxeu.org/article/covid-19-europe-needs-catastrophe-relief-plan>
Central-Bank, B. I. (1999). *Sejarah Bank Indonesia: Perbankan Periode 1997-1999*. Jakarta.

Danielsson, J., & Shin, H. S. (2003). Endogenous risk. In *Modern risk management: A history* (pp. 297–316). Retrieved from <http://www.arup.com/millenniumbridge/challenge/oscillation.html>

Defianti, I. (2020). HEADLINE: Jakarta Terapkan PSBB Corona 10 April, Bagaimana Penerapannya? - News Liputan6.com. Retrieved April 11, 2020, from <https://www.liputan6.com/news/read/4221404/headline-jakarta-terapkan-psbb-corona-10-april-bagaimana-penerapannya>

Estrada, M. A. R. (2020). The Role of National Food Security in a Massive Pandemic: The Case of COVID-19. *SSRN Electronic Journal*, (60), 1–14. <https://doi.org/10.2139/ssrn.3560998>

Festić, M., Kavkler, A., & Repina, S. (2011). The macroeconomic sources of systemic risk in the banking sectors of five new EU member states. *Journal of Banking and Finance*, 35(2), 310–322. <https://doi.org/10.1016/j.jbankfin.2010.08.007>

Finance-Ministry. (2020a). Asumsi Dasar Ekonomi Makro APBN 2020. Retrieved April 6, 2020, from <https://www.kemenkeu.go.id/apbn2020>

Finance-Ministry. (2020b). *Press Conference Langkah Penguatan Perlindungan Sosial dan Stimulus Ekonomi Menghadapi Dampak Covid-19*.

Fungáčová, Z., Kerola, E., & Weill, L. (2020). Experience of banking crises reduces trust in banks | VOX, CEPR Policy Portal. Retrieved April 15, 2020, from <https://voxeu.org/article/experience-banking-crises-reduces-trust-banks>

Leontief, W. (1970). Environmental Repercussions and the Economic Structure: An Input-Output Approach Author. *The Review of Economics and Statistics*, 52(3), 262–271.

McKibbin, W. J., & Fernando, R. (2020). *The Global Macroeconomic Impacts of COVID-19: Seven Scenarios*. CAMA Working Paper 19/2020 February 2020. <https://doi.org/10.2139/ssrn.3547729>

Nichter, S., & Goldmark, L. (2009). Small Firm Growth in Developing Countries. *World Development*, 37(9), 1453–1464. <https://doi.org/10.1016/j.worlddev.2009.01.013>

Nugroho, L., Hidayah, N., Badawi, A., & Mastur, A. A. (2020). The urgency of Leadership in Islamic Banking Industries Performance. In *The 1st Annual Conference Economics, Business, and Social Sciences* (pp. 1–7). <https://doi.org/10.4108/eai.26-3-2019.2290681>

Nugroho, L., Husnadi, T. C., Utami, W., & Hidayah, N. (2017). Masalah and Strategy to Establish A Single State-Owned Islamic Bank in Indonesia. *Tazkia Islamic Finance and Business Review*, 10(1), 17–33. Retrieved from <http://www.tifbr-tazkia.org/index.php/TIFBR/article/view/97/106>

Nugroho, L., & Nezzim Bararah, H. (2018). Pengaruh Good Corporate Governance dan Biaya Operasional dan Pendapatan Operasional (BOPO) terhadap stabilitas keuangan bank umum syariah di Indonesia Tahun 2012-2017. *Jurnal Inovasi Dan Bisnis*, 6(2), 160–169. Retrieved from www.ejournal.polbeng.ac.id/index.php/IBP

Oliver, L. (2020). It could take three years for the US economy to recover from COVID-19. Retrieved April 7, 2020, from <https://www.weforum.org/agenda/2020/03/economic-impact-covid-19/>

Ozili, P. K. (2020). COVID-19 Pandemic and Economic Crisis: The Nigerian Experience and Structural Causes. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3567419>

Quax, R., Kandhai, D., & Sloot, P. M. A. (2013). Information dissipation as an early-warning signal for the Lehman Brothers collapse in financial time series. *Scientific Reports*, 3, 1–8. <https://doi.org/10.1038/srep01898>