

---

**RESEARCH ARTICLE**

## Measuring Financial Health Analysis Using Risk-Based Bank Rating (RBBR) Ratios: Evidence from Syariah Bank Listed on Indonesia Stock Exchange (IDX) For Periods Of 2018-2020.

Agung Wirayogi<sup>1</sup> ✉ Oktofa Yudha Sudrajad<sup>2</sup> and Wiwiek Mardawiyah Daryanto<sup>3</sup>

<sup>1</sup>*School of Business Management Institut Teknologi Bandung, Bandung, West Java, Indonesia.*

<sup>3</sup>*Sekolah Tinggi Manajemen IPMI, Jakarta, Indonesia.*

**Corresponding Author:** Agung Wirayogi, **E-mail:** [agung.wirayogi@sbm-itb.ac.id](mailto:agung.wirayogi@sbm-itb.ac.id)

---

### ABSTRACT

This study provides an assessment of the healthiness of the Sharia Bank in Indonesia and analyse the results. We used three of four of the Sharia Banks listed on the Indonesia Stock Exchange (IDX) as a sample and used the risk-based bank rating (RBBR) methodology by measuring the risk profile condition, profitability (earnings), capital, and good corporate governance (GCG). Data were collected quarterly from the 3rd quarter of 2018 until the 4th quarter of 2020 of PT Bank BRI Syariah Tbk (BRIS), which has been merged into PT Bank Syariah Indonesia, PT Bank Tabungan Pensiunan Nasional Syariah Tbk (BTPS), and PT Bank Panin Dubai Syariah Tbk (PNBS). The result shows that non-performing loan (NPL) is healthy, while the loan to debt ratio (LDR) is quite healthy. The GCG result indicates that the companies achieved well. While the profitability and capital that were measured through return on asset (ROA), net interest margin (NIM), cost of operating income (BOPO), and capital adequacy ratio (CAR) are in very healthy condition. This study provides useful insight into measuring Sharia Banks in Indonesia by using the risk-based bank rating (RBBR) methodology.

### KEYWORDS

Risk-Based Bank Rating (RBBR), Sharia Bank, Financial Health, Managerial Implication, Recommendation to Sharia Bank

### ARTICLE INFORMATION

**RECEIVED:** 19 January 2023

**PUBLISHED:** 27 January 2023

**DOI:** 10.32996/jbms.2023.5.1.9

---

### 1. Introduction

The bank's purpose is to increase the development of a nation's economy. Banks need to harmonize and unify the country's financial institutions within the economic system's framework. The country will have a strong economy and military defense when supported by a solid national financial system handled by a robust banking system (Sutiawan, 2021). The bank is permitted to accumulate the fund directly from the customers or institution and process the funds back to them. Because of the crucial role of the banks, banks need protection from the country through laws and regulations handled by the stakeholders such as Financial Services Authority (OJK).

Based on the business activities and system type, banks can be distinguished from conventional and Sharia Banks (Utama, 2020). Conventional banks use convention systems that are used by the majority of the banks in the world. In contrast, Sharia Banks use Islamic law or finance teaching principles to do their business activities. According to Sunardi (2018), many conventional banks in Indonesia started to convert their service to a Sharia Bank to increase Muslim customers. In Indonesia, the regulation of Sharia Banking is covered in Regulation 21 of 2008 About the Sharia Banking. Sharia Banks are heavily monitored and regulated by the Bank of Indonesia (BI) and OJK to ensure the safety of the banks and their customers.

The global demand for the halal industry has been experiencing significant development (Hamid et al., 2019). The cause of that is from escalating social awareness of people about the high quality and standards of halal products (Gillani et al., 2018) and the general knowledge of the halal product itself, increasing the growth of the halal industry (Hamdan et al., 2013). The accommodation of the halal industry is related to the high-level interaction between Islamic financial institutions and the halal industry (Tan et al., 2012). Therefore, it is needed the integration partnership between the halal industry and Islamic financial institutions (Ishak & Man, 2011). The government fully supports the growth of the halal industry in Indonesia. Hence, the role of Sharia Banking as a financial institution that can fund the Halal Industry is crucial.

Indonesia is one of the countries that has the largest Muslim population in the world, which is 237,53 million or 86.9% of its total population on 31 December 2021 (Ministry of Home Affairs, 2022). As a country with a Muslim majority, the people of Indonesia prefer to use Islamic finance following the teaching of the religion. According to BNY Mello 2021, Global Islamic Finance assets have constantly been increasing since 2014, with \$2.88 Trillion in 2019 and projected to increase to \$3.69 Trillion in 2024. The highest share is from GCC countries, with 45.4%, while Southeast Asia holds a 23.5% share of the Islamic finance asset of the world. According to the Cambridge Islamic Finance Report (GIFR) 2021, Indonesia is in the number one position in the Islamic Finance Country Index (IFCI) with an 83.35 score, followed by Saudi Arabia and Malaysia with scores respective fly 80.67 and 80.01. In addition, Indonesia holds 2.1% of the Sharia Banking share worldwide in the Q3 year 2020.

Measurement of banking health is very important for all bank stakeholders; therefore, the OJK has issued regulations regarding the measurement of banking health in Indonesia, including Sharia Banks. OJK uses risk-based bank rating (RBRR) as the measurement of banking health in Indonesia. RBRR assessments consist of risk profiles, good corporate governance (GCG), profitability (earnings), and capital. Previous studies on how to measure the soundness of banking using RBRR have been carried out by Sunardi (2018 and 2020), Arrifa'l (2018), Wijaya (2018), Ulfha (2018), Ediyen (2020), Sari & Tasman (2020), Dani & Wiarta (2022).

According to OJK (2022), there are 15 Sharia Banks in Indonesia which have 499 branches, 1.345 subbranch, and 192 cash offices. There are four banks listed on Indonesia Stock Exchange (IDX) which are PT Bank Syariah Indonesia Tbk (BSI), PT Bank Tabungan Pensiunan Nasional Syariah Tbk (BTPS), PT Bank Panin Dubai Syariah Tbk (PNBS), and PT Bank Aladin Syariah Tbk (BANK). BSI was created from the merging of PT Bank BRI Syariah Tbk (BRIS), PT Bank Mandiri Syariah, and PT Bank BNI Syariah in February 2021. For this study, we used quarterly data from three banks available for the period of 2018-2020 that are BRIS (before merging), BTPS, and PNBS. This study explains and compares the financial healthiness of the Sharia Bank listed on IDX from Q3 2018 until Q4 2020 in a quantitative approach. This study also provides a general recommendation to increase financial healthiness for all the Sharia Banks in Indonesia.

## **2. Literature Review**

### **2.1. Financial Statement and Annual Report**

According to Anthony, Hawkins, and Merchant (2011), a financial statement is a collection of reports that result from the financial accounting process. The reports include a balance sheet, income statement, and cash-flow statement based on generally accepted accounting principles (GAAP). A company's liabilities and assets are reported on the balance sheet, while its activities are detailed in the income and cash flow statements. The organization must produce an annual report to complete Accounting Period from the 11 fundamental accounting concepts. According to Hayes (2020), the business must submit an annual report to shareholders. This report will cover the company's financial and operational state.

Financial statements provide general information about a company's financial situation that can be interpreted as financial performance (Mesak, D. 2019). On the other hand, the financial ratio is a financial statement action involving multiplying one figure by another. According to Daryanto, W. M., Iffah, & Mahardhika (2021), financial statement analysis is necessary to gather the final data required to assess the organization's financial health. The company can also use the information from its annual financial reports to assess differences and performance. Making the comparisons necessary for the business to assess the plan and policies it implements to improve its financial performance further.

### **2.2. Risk-Based Bank Rating (RBRR)**

According to the regulations created by Bank Indonesia based on Number 13/1/PBI/2011 about the guideline to determine the financial healthiness of the banks. A bank's financial health level is from evaluating the bank's condition from the bank's risk and performance. The banks must maintain and increase their financial healthiness by implementing precautionary principles and risk management in doing their business. In addition, to measure financial health, the bank must use a Risk-Based Bank Rating (RBRR). Bank Indonesia SE Number 13/24/DPNP explain that RBRR assessments consist of risk profile, good corporate governance (GCG), profitability (earnings), and capital which the detail can be explained more as follows:

### 2.2.1. Risk Profile

Risk profile assessment determines the substance and inherent risk when applying risk management within the bank. The risk that needs to be measured is credit risk, liquidity risk, market risk, operating risk, compliance risk, reputation risk, strategic risk, and legal risk. In this study, the risk profile that will be calculated is credit risk and liquidity risk. Credit risk can be measured from the financial ratio Non-Performing Loan (NPL), while liquidity risk can be analyzed from the Financing to Deposit Ratio (FDR).

- Non-Performing Loan (NPL)

NPL is the percentage of funds banks lend to the creditor who failed to pay back the funds on time as agreed compared to the total amount of bank funds lent to the creditor. The purpose of NPL is to determine the credit risk in the bank. In Sharia Banks, NPL changes to Non-Performance Financing (NPF) because a loan is not implemented. According to Bank Indonesia SE Number 13/30/DPNP/2011, NPL is categorized into NPL gross and NPL net. The difference between NPL is in the variable of allowance for impairment losses (CKPN) inside the calculation. In this study, the author used NPL gross, that is, calculated NPL, before deducting with CKPN. OJK as a regulator of the banks, require the banks in Indonesia to have an NPL of 5% or less. The lower the NPL, the better the performance of the bank.

$$\text{Non Performing Loan (NPL)} = \frac{\text{Total Troubled Credit}}{\text{Total Loan}}$$

**Figure II.3** Formula of NPL according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.1** Criteria of NPL

Rank	Criteria	Definition
1	NPL < 2%	Very Healthy
2	2% ≤ NPL < 5%	Healthy
3	5% ≤ NPL < 8%	Quite Healthy
4	8% ≤ NPL < 11%	Less Healthy
5	NPL > 11%	Unhealthy

**Source:** Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

- Loan to Deposit Ratio (LDR)

LDR determines a bank's liquidity risk by measuring the percentage of credit divided by the funds from third parties. The higher the value, the more likely the banks need more liquidity to handle any unexpected loss. According to Bank Indonesia SE Number 13/30/DPNP/2011, the component that should be calculated is the Loan to Deposit Ratio (LDR). Sharia Banks have different values from conventional banks in terms of loans. Sharia Banks change the name to Financing to Deposit Ratio (FDR).

$$\text{Loan to Deposit Ratio (LDR)} = \frac{\text{Total Credit}}{\text{Total Third Party Funds}}$$

**Figure II.4** Formula of LDR according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.2** Criteria of LDR

Rank	Criteria	Definition
1	50% < LDR ≤ 75%	Very Healthy
2	75% < LDR ≤ 85%	Healthy
3	85% < LDR ≤ 100%	Quite Healthy
4	100% < LDR ≤ 120%	Less Healthy
5	LDR > 120%	Unhealthy

**Source:** Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

### 2.2.2. Good Corporate Governance (GCG)

Assessment through the GCG factor is a valuation based on the grade of implementation of the GCG principle within the organization. GCG principles are based on the regulation of Bank Indonesia about the exercise of GCG. The GCG principles are based on the five basic principles: transparency, accountability, responsibility, independency, and fairness. According to SE BI Number 15/15/DPNP/2013, the bank needs to self-assess the GCG value. The GCG value assesses the governance system that consists of governance structure, governance process, and governance outcome.

**Table II.3** Criteria of GCG

Rank	Criteria	Definition
1	Composite value ≤ 1,5	Very Good
2	1,5 < Composite Value ≤ 2,5	Good
3	2,5 < Composite Value ≤ 3,5	Quite Good
4	3,5 < Composite Value ≤ 4,5	Less Good
5	Composite value > 4,5	Not Good

**Source:** Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

### 2.2.3. Profitability (Earnings)

Assessment through the profitability or earning factor covers the valuation of profit performance, the source of the income, the sustainability of the earnings, and earning management. According to SE BI Number 6/23/DPNP/2004

- Return on Assets (ROA)

ROA is used to determine the profitability within the company by comparing the amount of profit generated with the total asset. The higher the value, the more asset utilize to generate a higher profit in the company.

$$\text{Return on Assets (ROA)} = \frac{\text{Profit before Tax}}{\text{Average of Total Asset}}$$

**Figure II.5** Formula of ROA according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.4** Criteria of ROA

Rank	Criteria	Definition
1	2% < ROA	Very Healthy
2	1,25% < ROA ≤ 2%	Healthy
3	0,5% < ROA ≤ 1,25%	Quite Healthy
4	0% < ROA ≤ 0,5%	Less Healthy
5	ROA ≤ 0%	Unhealthy

**Source:** Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

- Net Interest Margin (NIM)

NIM calculates the bank's ability to manage productive assets to gain net interest income. This ratio is used to measure profitability in the long term to help investors determine whether to invest or not. The higher the value, the more the bank utilizes the productive asset to gain higher interest income. Because interest is not implemented in Sharia Banks, it changes the name into net imbalan (NI) or net remuneration. However, the calculation similar to NIM.

$$\text{Net Interest Margin (NIM)} = \frac{\text{Net Interest Income}}{\text{Average of Productive Asset}}$$

**Figure II.6** Formula of NIM according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.5** Criteria of NIM

Rank	Criteria	Definition
1	3% < NIM	Very Healthy
2	2% < NIM ≤ 3%	Healthy
3	1,5% < NIM ≤ 2%	Quite Healthy
4	1 % < NIM ≤ 1,5%	Less Healthy
5	NIM ≤ 1%	Unhealthy

**Source:** Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

- Cost of Operating (BOPO)

BOPO is used to analyze the bank's efficiency in terms of operating cost efficiency compared to the operating income generated. The lower BOPO value indicates that the bank operation is more efficient from the reduced operating costs or the increased operating income.

$$\text{Cost of Operating (BOPO)} = \frac{\text{Total Operating Cost}}{\text{Total Operating Income}} \times 100\%$$

**Figure II.7** Formula of BOPO according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.6** Criteria of BOPO

Rank	Criteria	Definition
1	BOPO ≤ 94%	Very Healthy
2	94% < BOPO ≤ 95%	Healthy
3	95% < BOPO ≤ 96%	Quite Healthy
4	96% < BOPO ≤ 97%	Less Healthy
5	BOPO > 97%	Unhealthy

Source: Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

**2.2.4. Capital**

Assessment through the capital factor is to measure the bank's capital adequacy and its management of it. The bank is required to do the evaluation based on the regulation of Bank Indonesia about the minimum capital requirement for the banks. In this research, the capital assessment is measured by calculating the capital adequacy ratio (CAR) to determine the bank's capital adequacy. According to SE BI Number 13/30/DPNP/2011, the measurement of CAR is the same as calculating minimum capital requirement (KPMM), which is the percentage comparison of capital with weighted assets according to risks (ATMR) for risk profile, risk operation, and risk market. The higher the CAR value, the more likely the bank can protect its deposit or capital from any unexpected loss or cost.

$$\text{Capital Adequacy Ratio (CAR)} = \frac{\text{Capital}}{\text{ATMR}}$$

**Figure II.8** Formula of CAR according to Bank Indonesia SE 13/24/DPNP/2011

**Table II.7** Criteria of NIM

Rank	Criteria	Definition
1	12% < CAR	Very Healthy
2	9% < CAR ≤ 12%	Healthy
3	8% < CAR ≤ 9%	Quite Healthy
4	6% < CAR ≤ 8%	Less Healthy
5	CAR ≤ 6%	Unhealthy

Source: Circular Letter of Bank Indonesia Number 6/23/DPNP/2004

**3. Research Methodology**

**3.1. Problem Exploration**

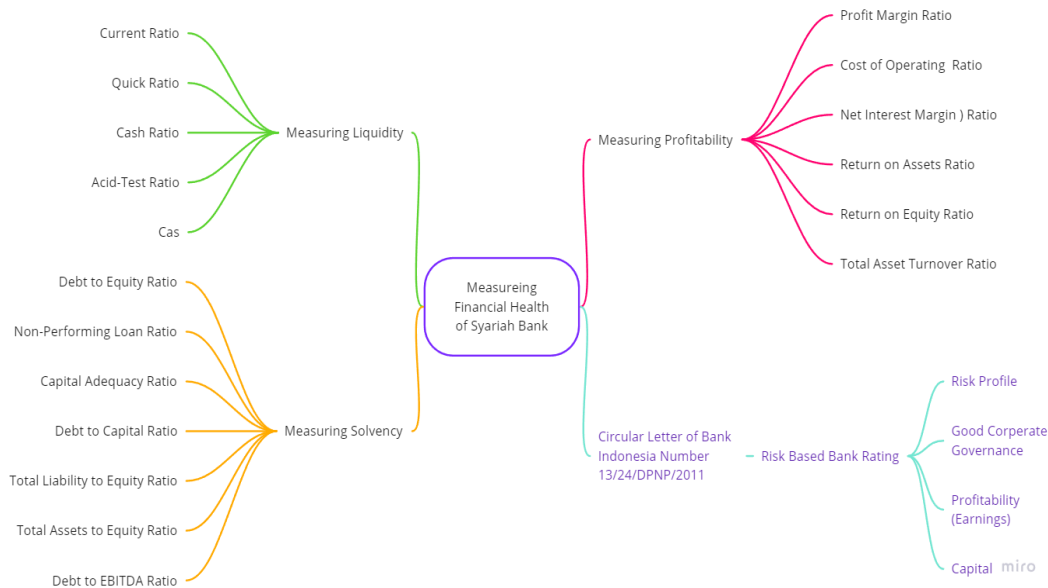
The business issue in this study is how to measure the financial healthiness of the Sharia Banks in Indonesia. This study focused on improvement-oriented problem solving to find financial healthiness and create a recommendation for improvement. The business environment that was analyzed is only the internal perspective, especially within the financial aspect. It is crucial to find the proper perspective to solve the business issue in this study. In that case, we need to know the stakeholders involved in the business issue primarily related to the Sharia Banks.



**Figure II.1** Stakeholder Analysis

Based on the stakeholder analysis in Figure II.1, we can see that the essential stakeholder that affects the go-public Sharia Banks is the Bank of Indonesia, OJK, IDX, and the shareholder's owner. Especially the Bank of Indonesia and OJK as a regulator related to the banking system in Indonesia. This study needs to follow the regulation created about financial healthiness in Sharia Banking to find the solution to financial healthiness.

On the other hand, we need to make a mind map to know which method to measure banks' financial health level. The mind map will able us to identify, in general, how to measure financial health.



**Figure II.2** Mind Map of Measuring Financial Health of Sharia Bank

According to Figure II.2, the most common way to determine a company's financial health is to determine profitability, solvency, and liquidity by calculating the financial ratio. However, in Indonesia, the measurement of the level of financial health in Indonesia regulated in the Circular Letter of Bank Indonesia Number 13/24/DPNP/2011. The bank must do a risk-based bank rating (RBBR) to measure their financial healthiness in the letter. In conclusion, this research will use RBBR methodology to calculate the financial healthiness of the Sharia Bank listed in IDX.

**3.2. Conceptual Framework**

Research frameworks show the plan to conduct research from the beginning until the end. The study focused mainly on calculating the secondary data from the financial report of the companies. The secondary data should be validated because the data is public data shared by the company. After processing the data, the author will analyze the data based on the methodologies used to conclude the research. The result from this research will be in the form of a conclusion from the analysis conducted. Also, the author will recommend the factors that must be paid attention based on the result.

**3.3. Data Collection**

The data used in this study is secondary data. As a go-public Sharia Bank listed in IDX, the three Sharia Banks are responsible for publishing their financial report. The data obtained from this study are from their respective websites, <https://ir.bankbsi.co.id/>, <https://www.btpnSharia.com/>, and <http://www.paninbankSharia.co.id/>. The data collected quarterly started from the third quarter of 2018 until the fourth quarter of 2020. In addition, the annual reports for 2018, 2019, and 2020 are also collected to measure the good corporate governance (GCG) analysis then the data are converted quarterly to match the collection format. The population sample was chosen using purposive sampling with the result of 75% of the population with the criteria below:

1. Commercial Sharia Bank (BUS) was listed in IDX before June 2018.
2. The Sharia Bank has a quarterly financial report from Q3 2018 until Q4 2020. In addition, The Sharia Bank reported self-assessment GCG yearly from 2018 to 2020.

**Table III.1** Research Population

No.	IDX Code	Syariah Bank Name
1	BRIS	PT Bank BRISyairah Tbk
2	BTPS	PT Bank Tabungan Pensiunan Nasional Syariah Tbk
3	PNBS	PT Bank Panin Dubai Syariah Tbk

In this study, the methodology used is a quantitative approach. The quantitative method used in this research analyzes the Sharia Banks' risk-based bank rating (RBBR) sample. According to the regulation of Bank Indonesia Number 13/1/PBI/2011, which discusses the rate of financial healthiness of the bank, RBBR will be measured in risk profile, good corporate governance (GCG), profitability (Earnings), and capital. The risk profile calculates from two financial ratios: non-performing loan (NPL) and financing-to-deposit ratio (FDR). GCG will be measured through the self-assessment of its management annually. Profitability will be analyzed from 4 financial ratios, which are return on asset (ROA), net interest margin (NIM), and cost of operating income (BOPO). Capital will be calculated from the capital adequacy ratio (CAR).

**4. Results and Discussion**

**4.1. Risk Profile Analysis**

The risk profile analysis is based on calculating two financial ratios, non-performing loan (NPL) and loan deposit ratio (LDR). Those two ratios can also be used to calculate the liquidity of the Sharia Bank.

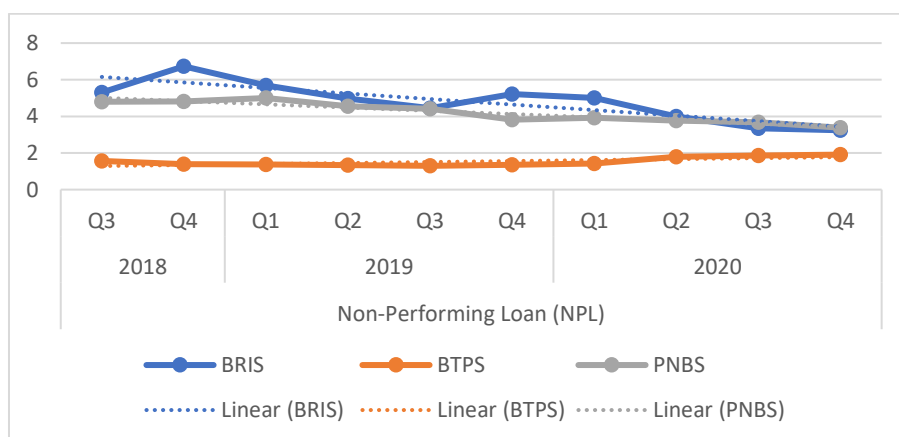
**4.1.1. Non-Performing Loan (NPL) Analysis**

The following result consists of a table that explains the analysis of the NPL value of three Sharia Banks as well the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value changes over time in the ratio.

**Table IV.1** Sharia Bank Financial Healthiness based on NPL Analysis

No	IDX Company Code	Non-Performing Loan (NPL)										Average	Definition	Rating
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	5,3	6,73	5,68	4,98	4,45	5,22	5	3,99	3,35	3,24	4,79	Healthy	2
2	BTPS	1,56	1,39	1,38	1,34	1,3	1,36	1,43	1,79	1,87	1,91	1,53	Very Healthy	1
3	PNBS	4,79	4,81	5	4,56	4,41	3,81	3,93	3,77	3,68	3,38	4,21	Healthy	2
<b>Average</b>		<b>3,88</b>	<b>4,31</b>	<b>4,02</b>	<b>3,63</b>	<b>3,39</b>	<b>3,46</b>	<b>3,45</b>	<b>3,18</b>	<b>2,97</b>	<b>2,84</b>	<b>3,51</b>	<b>Healthy</b>	<b>2</b>

Source: Processed data



**Figure IV.1** NPL Graph. Source: Processed Data

According to Table IV.1, the average NPL score is 3,51%, indicating that the Go Public Sharia Banks are in a Healthy position. The company with the best NPL score is BTPS, with a score of 1,53%, which indicates that the bank is Very Healthy from the shallow

credit problem in the BTPS. In addition, the Sharia Bank with the worst score is BRIS, with a value of 4,79%, which indicates the bank is Healthy. That means BRIS only has a low credit problem. Figure IV.1 explains that the trend of NPL value of the BRIS and PNBS are going down, which means the credit problem is getting better. On the other hand, the NPL score of BTPS remained stable over time but increased in 2020, indicating that the BTPS credit problem increased.

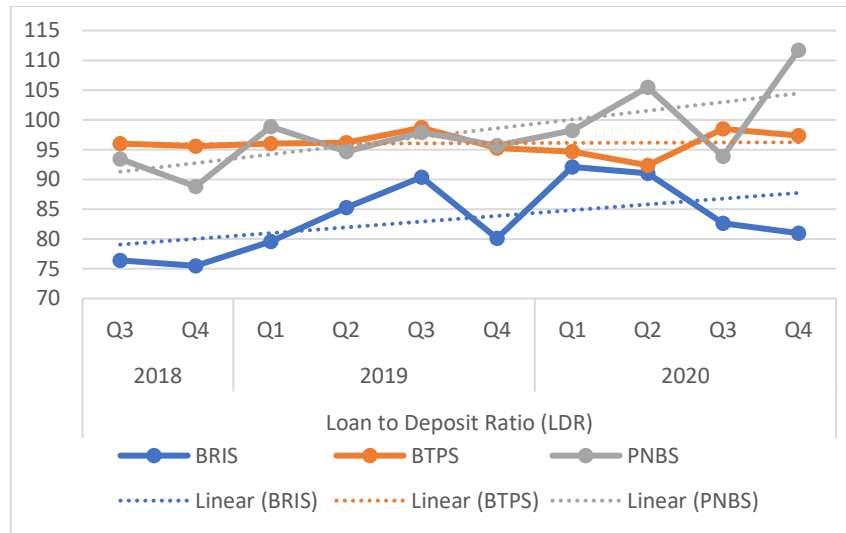
**4.1.2. Loan to Deposit Ratio (LDR) Analysis**

The following result consists of a table that explains the analysis of the LDR value of go-public Sharia Banks as well the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value changes over time in the ratio.

**Table IV.2** Sharia Bank Financial Healthiness based on LDR Analysis

No	IDX Company Code	Loan to Deposit Ratio (LDR)										Average	Definition	Rating
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	76,4	75,5	79,6	85,3	90,4	80,1	92,1	91	82,7	81	83,40	Healthy	2
2	BTPS	96	95,6	96	96,2	98,7	95,3	94,7	92,4	98,5	97,4	96,07	Quite Healthy	3
3	PNBS	93,4	88,8	98,9	94,7	97,9	95,7	98,2	105	93,9	112	97,87	Quite Healthy	3
<b>Average</b>		<b>88,62</b>	<b>86,64</b>	<b>91,48</b>	<b>92,03</b>	<b>95,65</b>	<b>90,37</b>	<b>95,00</b>	<b>96,28</b>	<b>91,67</b>	<b>96,69</b>	<b>92,44</b>	<b>Quite Healthy</b>	<b>3</b>

Source: Processed data



**Figure IV.2** LDR Graph. Source: Processed Data

Table IV.2 explains that the average score of LDR is 92,44%; the meaning of that score is the financial healthiness of LDR in Quite Healthy. The best value of LDR goes to BRIS with 83,40%, which explains that the Sharia Bank is healthy. The meaning of that is BRIS has the right amount of liquidity to earn more revenue and cover any unforeseen loss. Meanwhile, the worst score of LDR is 97,87% which is the PNBS score. The score explains that the PNBS condition is Quite Healthy, meaning the liquidity is in a moderate situation. According to Figure IV.2, all the Sharia Bank's trends are increasing even though the value has fluctuations over time. The trend means the Sharia Bank will have low liquidity and be vulnerable if there is a loss or unforeseen fund.

**4.2. Good Corporate Governance (GCG) Analysis**

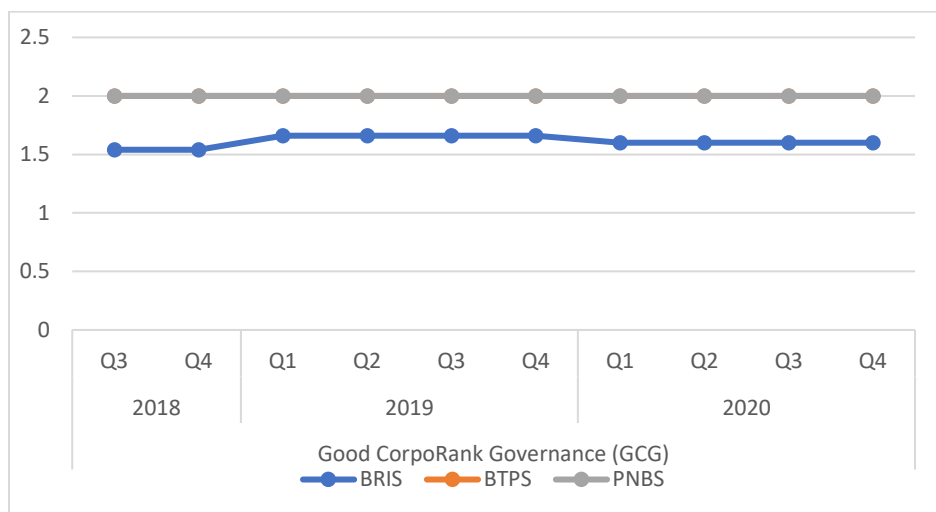
The GCG Analysis has been done by calculating the GCG rating from each Sharia Bank's self-assessment. This analysis explains the GCG value of Sharia Banks as well as the average, the definition of the achievement, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value change over time in the ratio.



**Table IV.3** Sharia Bank Financial Healthiness based on GCG Analysis

No	IDX Company Code	Good CorpoRank Governance (GCG)										Average	Definition	Rank
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	1,54	1,54	1,66	1,66	1,66	1,66	1,6	1,6	1,6	1,6	1,61	Good	2
2	BTPS	2	2	2	2	2	2	2	2	2	2	2,00	Good	2
3	PNBS	2	2	2	2	2	2	2	2	2	2	2,00	Good	2
<b>Average</b>		<b>1,85</b>	<b>1,85</b>	<b>1,89</b>	<b>1,89</b>	<b>1,89</b>	<b>1,89</b>	<b>1,87</b>	<b>1,87</b>	<b>1,87</b>	<b>1,87</b>	<b>1,87</b>	<b>Good</b>	<b>2</b>

Source: Processed data



**Figure IV.3** GCG Graph. Source: Processed Data

According to Table IV.3, the average result of the GCG rating is 1,87 from Q3 2018 until Q4 2020. The score indicates that the Sharia Bank obtains Good achievement. BTPS and PNBS gain the worst score by getting a 2 GCG score, which means both Sharia Banks achieve Good in GCG. Meanwhile, the best score was achieved by BRIS. BRIS obtained an average 1,61 GCG score that is still in the excellent achievement category. As a result, Sharia Bank has implemented GCG generally and follows the applicable regulations. However, there is still a small amount of weakness in the GCG system that the management needs to improve. In Figure IV.3, we can see that all the GCG scores remained stable. The trend indicates that there the go-public Sharia Banks GCG will keep the quality of the implementation of GCG.

**4.3. Profitability Analysis**

The analysis of this research is based on the measuring of return on asset (ROA), net interest margin (NIM), and cost of operating income (BOPO) that are used to measure the financial healthiness of the Sharia Banks. In this research, the result of the analysis is shown below:

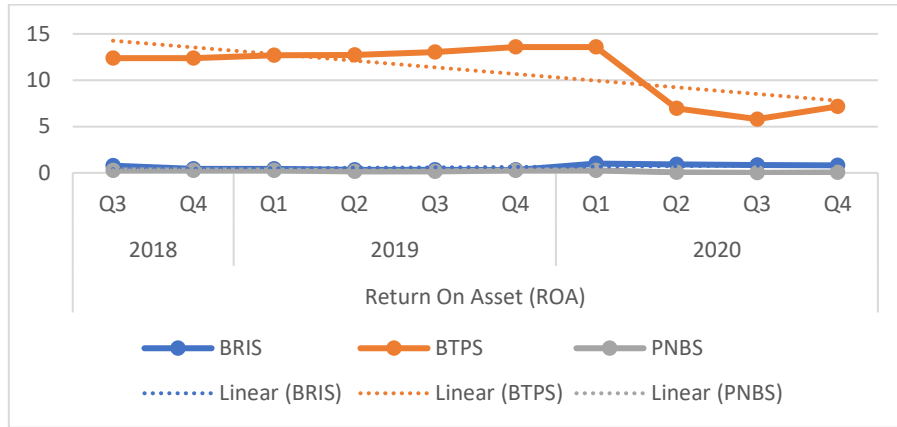
**4.3.1. Return on Asset (ROA) Analysis**

The following result explains the analysis of the ROA value of Sharia Banks as well the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know quarterly value changes over time in the ratio.

**Table IV.4** Sharia Bank Financial Healthiness based on ROA Analysis

No	IDX Company Code	Return On Asset (ROA)										Average	Definition	Rank
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	0,77	0,43	0,43	0,32	0,32	0,31	1	0,9	0,84	0,81	0,61	Quite Healthy	3
2	BTPS	12,4	12,4	12,7	12,7	13,1	13,6	13,6	6,96	5,8	7,16	11,03	Very Healthy	1
3	PNBS	0,25	0,26	0,24	0,15	0,16	0,25	0,26	0,04	0,004	0,06	0,17	Less Healthy	4
<b>Average</b>		<b>4,47</b>	<b>4,35</b>	<b>4,45</b>	<b>4,40</b>	<b>4,51</b>	<b>4,71</b>	<b>4,95</b>	<b>2,63</b>	<b>2,21</b>	<b>2,68</b>	<b>3,94</b>	<b>Very Healthy</b>	<b>1</b>

Source: Processed data



**Figure IV.4** ROA Graph. Source: Processed Data

Table IV.4 shows that the average value of ROA in the go-public Sharia Bank is 3.94%, indicating that the financial healthiness is in Very Healthy condition. The primary cause of the result is boosted by the highest BTPS Score. The score is 11,03%, which determines the Very Healthy definition. BTPS have exceeded the maximum criteria of the definition by a significant amount which means BTPS has done an excellent job in utilizing its asset to gain significant revenue among the Sharia Banks. Meanwhile, BRIS and PNBS score is far off compared to BTPS by 0,61% and 0,17%, respectively. PNBS, based on the score, got Less Healthy, meaning that the bank does not utilize its asset effectively to gain high revenue. According to figure IV.4, BRIS and PNBS trends remain stable. Meanwhile, BTPS trends are declining significantly. Especially during Q1 and Q2 in 2020. This result shows that BTPS's financial health will decrease, while BRIS and PNBS will show stable results.

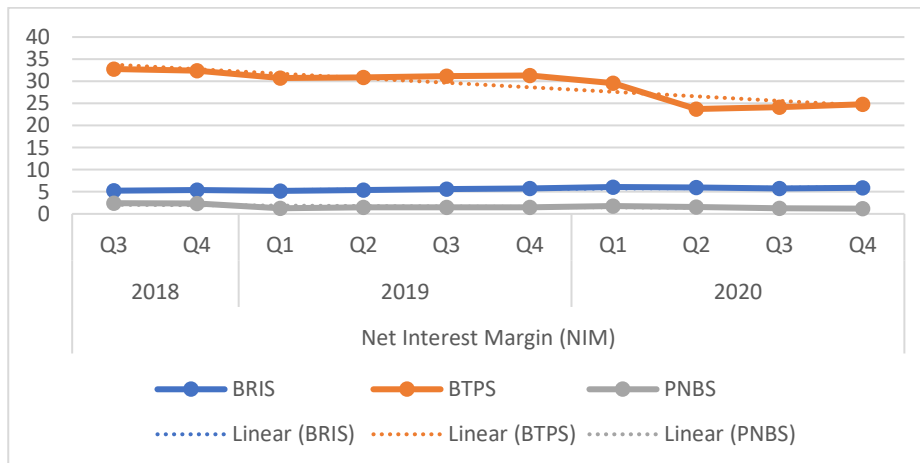
**4.3.2. Net Interest Margin (NIM) Analysis**

The following result consists of a table that explains the analysis of the NIM value of go-public Sharia Banks as well the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value change over time in the ratio.

**Table IV.5** Sharia Bank Financial Healthiness based on NIM Analysis

No	IDX Company Code	Net Interest Margin (NIM)										Average	Definition	Rank
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	5,28	5,36	5,2	5,37	5,58	5,72	6,08	5,96	5,73	5,89	5,62	Very Healthy	1
2	BTPS	32,8	32,4	30,8	30,9	31,2	31,3	29,6	23,7	24,1	24,8	29,15	Very Healthy	1
3	PNBS	2,42	2,36	1,25	1,46	1,5	1,46	1,79	1,54	1,3	1,19	1,63	Quite Healthy	3
<b>Average</b>		<b>13,49</b>	<b>13,38</b>	<b>12,40</b>	<b>12,57</b>	<b>12,75</b>	<b>12,84</b>	<b>12,49</b>	<b>10,41</b>	<b>10,39</b>	<b>10,61</b>	<b>12,13</b>	<b>Very Healthy</b>	<b>1</b>

**Source:** Processed data



**Figure IV.5** NIM Graph. Source: Processed Data

Based on Table IV.5, we can see that the average score of the NIM ratio in the three Sharia Banks is 12,13% which means that the financial healthiness is in Very Healthy condition. This result is mainly because of the effect of the BTPS NIM score that is outstandingly above the definition chart maximum value. BTPS NIM value is 29,15%, meaning the definition is Very Healthy. BTPS can gain an enormous net profit margin compared to the total asset's value. However, PNBS shows the lowest result by a score of 1,63%, with the definition Quite Healthy. The result means the net profit margin is moderate compared with the total asset value. The gap between BTPS and the other two Sharia Banks is significant. According to Figure IV.5, we can see that both BRIS and PNBS show stable values over time. Meanwhile, the BTPS trend is decreasing, especially during Q1 and Q2 in 2020. Based on the information above, the BTPS NIM ratio will decrease while BRIS and PNBS remain stable.

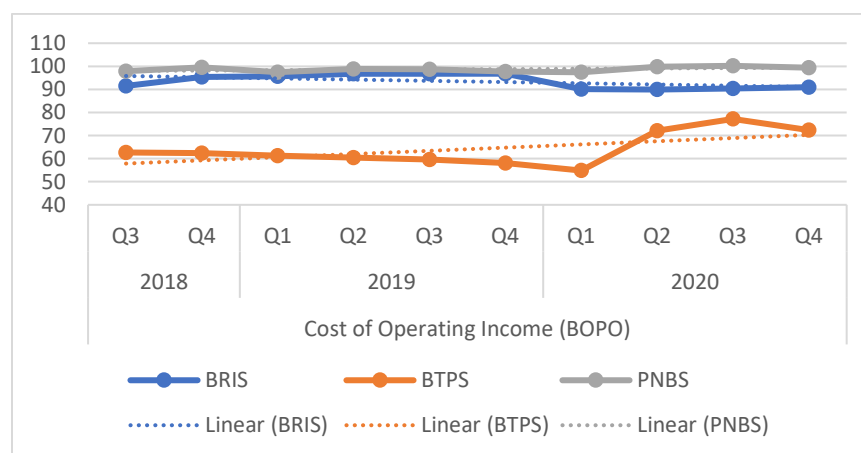
**4.3.3. Cost of Operating Income (BOPO) Analysis**

The following result consists of a table that explains the analysis of the BOPO value of three Sharia Banks as well the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value change over time in the ratio.

**Table IV.6** Sharia Bank Financial Healthiness based on BOPO Analysis

No	IDX Company Code	Cost of Operating Income (BOPO)										Average	Definition	Rank
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	91,5	95,3	95,7	96,7	96,8	96,8	90,2	89,9	90,4	91	93,43	Very Healthy	1
2	BTPS	62,6	62,4	61,3	60,4	59,6	58,1	54,9	72,1	77,2	72,4	64,09	Very Healthy	1
3	PNBS	97,9	99,6	97,5	98,8	98,7	97,7	97,4	99,9	100	99,4	98,70	Unhealthy	5
<b>Average</b>		<b>83,98</b>	<b>85,75</b>	<b>84,80</b>	<b>85,33</b>	<b>85,02</b>	<b>84,20</b>	<b>80,81</b>	<b>87,29</b>	<b>89,26</b>	<b>87,62</b>	<b>85,41</b>	<b>Very Healthy</b>	<b>1</b>

Source: Processed data



**Figure IV.6** GCG Graph. Source: Processed Data

Table IV.6 shows that BOPO average value is 85,41% with the definition of Very Healthy. There is a significant BOPO score gap between BTPS compared with BRIS and PNBS. This gap escalates the average value of BOPO. The BOPO score of BTPS is the best score with 64,09%, which means that the financial healthiness is in Very Healthy condition. The BOPO score shows that BTPS can have very low operating costs compared to the Sharia Banks. At the same time, the highest score, which indicates the worst result, is from PNBS, with 98,70%. This score defines that PNBS is in an Unhealthy condition, which means the operating cost is enormous and almost depleted the operating revenue. According to Figure IV.6, PNBS show an increasing trend, especially in Q1 and Q2 2020, which means that the operating cost will be higher or decrease in operating revenue. In addition, BRIS trends show a slight decrease, which means it will increase the BOPO score. PNBS trends show stability over time.

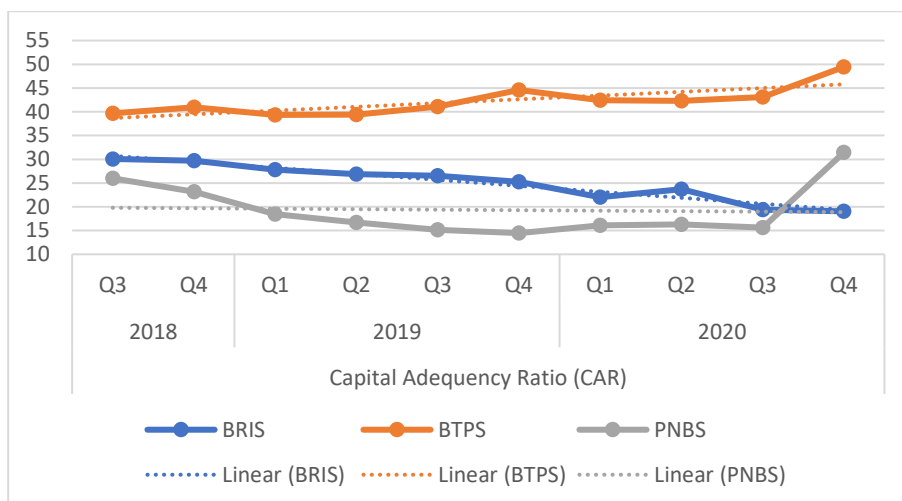
**4.4. Capital Analysis**

Calculating the Capital Adequacy Ratio (CAR) is the capital analysis result. This analysis explains the CAR value of the three Sharia Banks, the average, the definition of financial healthiness, and the rank of the data. In addition, the analysis adds a line graph to know the quarterly value change over time in the ratio.

**Table IV.7** Sharia Bank Financial Healthiness based on CAR Analysis

No	IDX Company Code	Capital Adequency Ratio (CAR)										Average	Definition	Rank
		2018		2019				2020						
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	BRIS	30,1	29,7	27,8	26,9	26,6	25,3	22	23,7	19,4	19	25,05	Very Healthy	1
2	BTPS	39,7	40,9	39,3	39,4	41,1	44,6	42,4	42,3	43,1	49,4	42,23	Very Healthy	1
3	PNBS	26	23,2	18,5	16,7	15,2	14,5	16,1	16,3	15,6	31,4	19,34	Very Healthy	1
<b>Average</b>		<b>31,91</b>	<b>31,27</b>	<b>28,54</b>	<b>27,66</b>	<b>27,61</b>	<b>28,10</b>	<b>26,84</b>	<b>27,43</b>	<b>26,04</b>	<b>33,30</b>	<b>28,87</b>	<b>Very Healthy</b>	<b>1</b>

Source: Processed data



**Figure IV.7** CAR Graph. Source: Processed Data

Table IV.7 shows that the average value of CAR in go-public Sharia Banks is 28,87%. The result means that the financial healthiness is in a Very Healthy position. There is a massive gap between BTPS CAR values compared to BRIS and PNBS. However, all the Sharia Banks are far above the criteria of the maximum value of the Very Healthy definition. The Very Health definition in CAR value means that the banks have plenty of Capital to absorb losses and satisfy the minimum capital requirement for banks. The highest CAR value is from BTPS, with 42,23%. In addition, BRIS and PNPB by values were 25,05% and 19,34%, respectively. Based on Figure IV.7, the trend of BTPS is increasing steadily, which indicates a capital increase. Meanwhile, BRIS trends are decreasing slowly, indicating the Capital is decreasing. Furthermore, the latest trends from PNBS show stable results over time. However, the CAR value increases significantly during Q3 and Q4 of 2020.

**4.5. Risk-Based Bank Rating (RBBR) Analysis**

The result of the RBBR Analysis will be a collection of seven Analyses to know the risk profile, implementation of GCG, the profitability or earnings of the banks, and the capital capability of the banks. The analysis consists of NPL, LDR, GCG, ROA, NIM, BOPO, and CAR. The analysis will be the input to process the average value of each analysis. Then from the result, we will determine each and overall industry financial healthiness definition and rank.

**Table IV.8** Financial Healthiness with RBBR methodology based on Sharia Bank listed on IDX

No	Financial Ratios	2018		2019				2020				Average	Definition	Rating
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	NPL	3,88	4,31	4,02	3,63	3,39	3,46	3,45	3,18	2,97	2,84	<b>3,51</b>	<b>Healthy</b>	<b>2</b>
2	LDR	88,62	86,64	91,48	92,03	95,65	90,37	95,00	96,28	91,67	96,69	<b>92,44</b>	<b>Quite Healthy</b>	<b>3</b>
3	GCG	1,85	1,85	1,89	1,89	1,89	1,89	1,87	1,87	1,87	1,87	<b>1,87</b>	<b>Good</b>	<b>2</b>
4	ROA	4,47	4,35	4,45	4,40	4,51	4,71	4,95	2,63	2,21	2,68	<b>3,94</b>	<b>Very Healthy</b>	<b>1</b>
5	NIM	13,49	13,38	12,40	12,57	12,75	12,84	12,49	10,41	10,39	10,61	<b>12,13</b>	<b>Very Healthy</b>	<b>1</b>
6	BOPO	83,98	85,75	84,80	85,33	85,02	84,20	80,81	87,29	89,26	87,62	<b>85,41</b>	<b>Very Healthy</b>	<b>1</b>
7	CAR	31,91	31,27	28,54	27,66	27,61	28,10	26,84	27,43	26,04	33,30	<b>28,87</b>	<b>Very Healthy</b>	<b>1</b>
<b>Listed Sharia Banks Financial Healthiness Score</b>													<b>Healthy</b>	<b>1,57</b>

Source: Processed data

According to Table IV.8, based on the RBBR analysis, we can conclude that the go public Sharia Bank financial healthiness from Q3 2018 until Q4 2020 is Healthy with a value of 1,57. The liquidity of the three Sharia Banks is Quite Healthy, with a score of 2.5. The implementation of GCG in the Sharia Banks is considered Good. In addition, profitability and capital capability are in Very Healthy condition with value 1.

## 5. Conclusion and Recommendation

According to the financial healthiness analysis of the three go-public Sharia Banks using RBBR methodology that calculates seven financial ratios: NPL, LDR, GCG implementation from self-assessment, ROA, NIM, BOPO, and CAR. We can conclude the results as below:

1. The risk profile analysis to determine the financial healthiness of the three Sharia Banks listed at IDX can be seen from the NPL and liquidity risk from LDR. The NPL value of the Sharia Banks is 3,51% which means that it is in Healthy condition. In that case, the Sharia Banks only have a low amount of credit problem. The Sharia Banks with the best financial healthiness are BTPS with a Very Healthy definition. The other two banks, BRIS and PNBS, are in Healthy condition. Meanwhile, the trends of NPL value show a decrease in the value, which means that the Sharia Banks will have lesser credit problems. The LDR score of the go-public Sharia Banks is 92,44, indicating relatively healthy conditions. That means the Sharia Banks only have a moderate amount of liquidity and can survive if there are any unplanned funds or losses. The best LDR score is BRIS, with a healthy definition, while the other two Sharia Banks are in a Quite Healthy definition. The LDR values trends have increased so that the liquidity condition will worsen.
2. The analysis to determine the financial healthiness of the three Sharia Banks listed at IDX can be found by calculating the implementation of GCG in the company from the self-assessment of each Sharia Bank. The GCG rating of the Sharia Banks is 1,87, which means they achieved Good implementation. It means that the Sharia Banks have already implemented a good governance structure, governance process, and governance outcome in the organization. BRIS obtained the highest score with a 1,61 rating with Good definition. The Good exact definition also applies to BTPS and PNBS. The trends from Q3 2018 until Q4 2020 show a stable rating of GCG, which indicates that the Sharia Banks will maintain their implementation of GCG in their respective organization.
3. The profitability (earnings) analysis to determine the financial healthiness of the three Sharia Banks listed at IDX can be measured by finding ROA, NIM, and BOPO. The ROA value of the Sharia Banks is 3,94%, which is in Very Healthy condition. The result means that the Sharia Banks have successfully utilized its asset to gain enormous profits. However, the average result was mainly because of the BTPS score that boosted the Sharia Banks' average BTPS score. We can see that only BTPS has achieved a Very Healthy definition while BRIS and PNBS financial healthiness are respectively Quite Healthy and Less Healthy. The NIM value of the Sharia Banks is 12,13%, which is in the Very Healthy definition. The result shows that the Sharia Banks have a large profit margin compared to the total asset value. However, BTPS is the biggest contributor to getting that result from the big gap compared to other banks. BRIS and BTPS have a Very Healthy definition, while PNBS are in Quite Healthy condition. The BOPO average score of the Sharia Banks is 85,41, which is a Very Healthy definition. It shows that the Sharia Banks have very low operating costs. However, the result is boosted by BTPS's high performance from a low value of BOPO. BRIS and BTPS are in Very Healthy condition, while PNBS are in Unhealthy condition. The trends of the ROA, NIM, and BOPO values are experiencing a decrease in growth, especially during 2020. The result means that the Sharia companies will have less profitability in the future.
4. The capital analysis to measure the financial healthiness of the three Sharia Banks listed at IDX can be measured by calculating the CAR. The CAR average value is 28,87%, which is included in the Very Healthy definition. The result indicates that the Sharia Banks have a large amount of Capital to absorb some losses and meet the minimum capital requirement for banks. The highest CAR value is from BTPS, which has a considerable value gap compared to BRIS and PNBS. In addition, all three Sharia Banks' financial healthiness is Very Healthy. CAR's value during Q3 2018 and Q4 2020 fluctuated while the trends showed stability. The result means that the three Sharia Banks' Capital will fluctuate but remain stable.
5. The result of RBBR analysis to measure the financial healthiness of the three Sharia Banks listed at IDX is rank 1,57, which indicates included in the Healthy definition. According to the regulation of Bank Indonesia Number 13/1/PBI/2011, the RBBR result is categorized in Composite Rating 2 (PK-2). PK-2 rating determined that the three Sharia Banks generally are in a Healthy condition. The result means that it can deal with the negative influence of the change within the industry and other external factors.

### 5.1 Recommendation

Based on the analysis, we can see that the financial healthiness within Sharia Banks listed in IDX is in the Healthy definition. The Healthy definition means that the Sharia Bank has a good financial performance that puts the Sharia Banks in a healthy condition financially. However, there are still a few problems that need to be improved by the management. This research proposes 4 recommendations that are related to the research topic:

1. The three Sharia Banks must maintain and improve their performance in managing the risk profile aspects. Even though the result is quite good, there is some problem that needs to be improved, especially the liquidity of the bank. BTPS and PNBS liquidity from the LDR value is only showing intermediate results. They need to improve their liquidity by increasing the cash or capital or giving the public less credit. Meanwhile, BRIS has done more job compared to them, which is why BRIS needs to maintain its performance and, if possible, increase the liquidity to have perfect conditions. The three Sharia Banks have done a decent job managing the credit loan. Especially BTPS, which has outdone the performance of BRIS and PNBS. BTPS only needs to maintain its performance in managing the loan, while BRIS and PNBS should also maintain the performance, but improvement can still be made.
2. Overall, the three Sharia Banks have already implemented Good Corporate Governance (GCG) in governance structure, governance process, and governance outcome within their respective bank. However, there is some area in which that is possible to improve the implementation of GCG.
3. In terms of profitability, BTPS outperforms BRIS and PNBS by a vast gap. BTPS has already done a decent job managing the profitability aspect and only needs to maintain it. Meanwhile, PNBS has the worst profitability among the go-public Sharia Banks. PNBS urgently needs to have efficiency in its operation of the enormous operating cost. In addition, PNBS needs to increase its revenue, whether it is from profit-sharing or utilizing the company's assets to improve its profit. On the other hand, BRIS already have achieved low-cost operating cost and have a high margin from profit sharing. However, BRIS need to utilize its asset more to gain more profit.
4. In terms of capital perspective, all three Sharia Banks have a colossal amount of capital, so they can survive the reasonable number of losses that can make them insolvent and lose public funds. BRIS, BTPS, and PNBS managements have done an excellent job and need to keep the performance in the capital aspect.

**Funding:** This research received no external funding

**Conflicts of Interest:** The authors declare no conflict of interest

**ORCID iD** <https://orcid.org/0000-0003-0663-3530>

**Publisher's Note:** All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

## References

- [1] Anthony, R. N., Hawkins, D. F., & Merchant, K. A. (2011). *Accounting: Text and cases*. New York: McGraw-Hill/Irwin
- [2] Bank Indonesia. (2004). Surat Edaran Bank Indonesia No. 6/23/DPNP tanggal 31 Mei 2004 tentang Matriks Perhitungan/Analisis Komponen Faktor.
- [3] Bank Indonesia. (2008). Undang-Undang Republika Indonesia Nomor 21 Tahun 2008 Tentang Perbankan Syariah.
- [4] Bank Indonesia. (2011). Peraturan Bank Indonesia Nomor: 13/1/PBI/2011 Tentang Penilaian Tingkat Kesehatan Bank Umum.
- [5] Bank Indonesia. (2011). Surat Edaran Bank Indonesia No. 13/24/DPNP Tentang penilaian Tingkat Kesehatan Bank Umum.
- [6] Bank Indonesia. (2011). Surat Edaran Bank Indonesia No. 13/30/DPNP Tentang Laporan Keuangan Publikasi Triwulan dan Bulanan Bank Umum serta Laporan Tertentu yang Disampaikan kepada Bank Indonesia.
- [7] Bank Indonesia. (2013). Surat Edaran Bank Indonesia No. 15/15/DPNP Tentang Pelaksanaan Good Corporate Governance bagi Bank Umum.
- [8] BNY Mellon. (2021). The Growing Global Appeal of Islamic Finance. BNY Mellon. Retrieved 29 September 2022, from <https://www.bnymellon.com/us/en/insights/all-insights/the-growing-global-appeal-of-islamic-finance.html>
- [9] Daryanto, W. M., Iffah, M., & Mahardhika, R. (2021). Financial Performance Analysis of Construction Company Before and During Covid-19 Pandemic in Indonesia. *International Journal of Business, Economics and Law*, 24(4), 99–108.
- [10] Dani, R., & Wiarta, I. (2022). Analisis Tingkat Kesehatan Bank dengan Menggunakan Metode Risk-Based Bank Rating (RBBR) pada PT. Bank Mega Syariah Periode Tahun 2017-2021. *Mamen: Jurnal Manajemen*, 1(3), 349-360.
- [11] Gillani, SHB, Ijaz, F. and Khan, M.M.S. (2016), Role of Islamic financial institutions in promotion of Pakistan halal food industry, *Islamic Banking and Finance Review*, 3 1, 29-49.
- [12] Hamid, A., Said, M., & Meiria, E. (2019). Potency and Prospect of Halal Market in Global Industry: An Empirical Analysis of Indonesia and United Kingdom. *Business and Management Studies*, 5(2), 54–63. <https://doi.org/10.11114/bms.v5i2.4167>
- [13] Hamdan, H., Issa, Z.M., Abu, N. and Jusoff, K. (2013), Purchasing decisions among Muslim consumers of processed halal food products, *Journal of Food Products Marketing*, (December), pp. 37-41, doi:10.1080/10454446.2013.724365.
- [14] Hayes, A. (2020, 8 November). Annual reports: What you need to know. Investopedia. Retrieved 3 November 2021, from <https://www.investopedia.com/terms/a/annualreport.asp>.
- [15] Ishak, F.I. and Man, Y.C. (2011), Halal economy: proof from Al-Quran and as-Sunnahand demands to utilize it in parallel, in International Islamic Banking, Finance and Investment Conference. Kuala Lumpur, Malaysia.
- [16] Mesak, D. (2019). Financial Ratio Analysis in Predicting Financial Conditions Distress in Indonesia Stock Exchange. *Russian Journal of Agricultural and Socio-Economic Sciences*, 86(2), 155–165. <https://doi.org/10.18551/rjoas.2019-02.18>
- [17] Otoritas J K. (2017). Surat Edaran Otoritas Jasa Keuangan No. 14/SEOJK.03 Tentang Penilaian Tingkat Kesehatan Bank Umum.
- [18] Sutiawan, H. A., Mulyati, E., Hasan, D., & Murwadj, T. (2021). A NEW PARADIGM OF BANK FUNCTIONS IN THE NATIONAL FINANCIAL SYSTEM: EVIDENCE FROM INDONESIA.

- [19] Shandy U, A. (2020). Good Corporate Governance Principles in Indonesian Syariah Banking. *International Journal of Law and Public Policy*, 2(1), 8–13. <https://doi.org/10.36079/lamintang.ijlapp-0201.86>
- [20] Sari, P. D., & Tasman, A. (2020). Analisis Tingkat Kesehatan Perbankan dengan Pendekatan Risk-Based Bank Rating (RBBR) Pada Perbankan yang Terdaftar di Bursa Efek Indonesia Tahun 2014-2018. *Jurnal Ecogen*, 3(3), 375-384.
- [21] Sunardi, N. (2018). Analisis Risk-Based Bank Rating (RBBR) Untuk Mengukur Tingkat Kesehatan Bank Syariah Di Indonesia. *JIMF (Jurnal Ilmiah Manajemen Forkamma)*, 1(2).
- [22] Sunardi, N. (2020). Kesehatan Bank Umum Syariah yang terdaftar di Otoritas Jasa Keuangan dengan metode Risk-Based Bank Rating (RBBR) *ARTICLES INFORMATION ABSTRACT JURNAL SEKURITAS*. 3(2).
- [23] Tan, M.I.I., Razali, RN and Desa, MI (2012), Factors influencing ICT adoption in halal transportations: a case study of Malaysian halal logistics service providers, *International Journal of Computer Science Issues*, 9 1, 62-71.
- [24] Ulfha, S. M. (2018). Analisis Tingkat Kesehatan Bank Dengan Menggunakan Metode RBBR (Risk-Based Bank Rating)(Risk Profile, Good Corporate Governance, Earnings, Capital). *Jurnal Cano Ekonomos*, 7(2), 9-26.
- [25] Wijaya, B. (2018). Analisis Tingkat Kesehatan Bank Dengan Menggunakan Metode Risk-Based Bank Rating (RBBR) (Studi Pada Bank yang Termasuk Saham LQ45 Sub Sektor Perbankan Tahun 2010â€”2016). *Jurnal Akuntansi*, 10(1). <https://doi.org/10.28932/jam.v10i1.931>