

WHAT DETERMINES CORPORATE SUKUK RATINGS IN INDONESIA?

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ABSTRACT - Along with the dynamic development of the Islamic capital market, sukuk is rapidly evolving into an Islamic financial instrument in high demand. However, because every investment involves risks, investors must exercise caution when purchasing sukuk. Sukuk rating is one piece of information that investors can use when purchasing sukuk. However, because there are multiple sukuk rating agencies with different rating methods, investors must understand what factors influence sukuk rating. This study aims to investigate the factors influencing the rating of corporate sukuk in Indonesia. It is specifically intended to answer three research questions regarding the influence of 1) financial performance, 2) sukuk maturity, and 3) sukuk structure on sukuk rating. To achieve the goals, 67 sukuk from 14 different nonfinancial sukuk issuers were chosen from 2014 to 2020. Secondary data from PT PEFINDO on profitability, leverage, liquidity, firm size, sukuk maturity, sukuk structure, and sukuk rating were analyzed using ordinal logistic regression to test six research hypotheses. The findings show that firm size and sukuk maturity have a positive impact on corporate sukuk rating in nonfinancial sukuk issuers in Indonesia. The findings lend support to signaling theory and agency theory.

Keywords: Sukuk rating, financial performance, sukuk maturity, sukuk structure, Islamic finance

ABSTRAK - *Apa Determinan yang Mempengaruhi Peringkat Sukuk di Indonesia? Seiring dengan dinamisnya perkembangan pasar modal syariah, sukuk berkembang pesat menjadi instrumen keuangan syariah yang semakin diminati oleh masyarakat baik di tingkat nasional maupun internasional. Namun demikian, karena setiap investasi mengandung risiko, investor tetap harus berhati-hati dalam membeli sukuk. Salah satu informasi yang bisa menjadi pertimbangan para investor dalam membeli sukuk adalah peringkat sukuk yang dikeluarkan oleh lembaga pemeringkat sukuk. Namun demikian karena lembaga pemeringkat sukuk yang jumlahnya lebih dari satu menggunakan metode yang berbeda-beda dalam melakukan pemeringkatan, investor perlu memahami faktor apa saja yang menjadi determinan dari peringkat sukuk. Penelitian ini ditujukan untuk menganalisis faktor-faktor yang mempengaruhi peringkat sukuk. Secara lebih khusus, penelitian ini didesain untuk menjawab tiga pertanyaan penelitian tentang apakah: 1) kinerja keuangan; 2) maturitas sukuk; dan 3) struktur sukuk berpengaruh terhadap peringkat sukuk. Untuk menjawab rumusan masalah tersebut, penelitian ini menggunakan data sekunder dari 67 sukuk korporasi yang diterbitkan oleh 14 perusahaan non keuangan dari tahun 2014-2020. Data berkaitan dengan profitabilitas, leverage, likuiditas, ukuran perusahaan, maturitas sukuk, struktur sukuk dan peringkat sukuk yang diterbitkan oleh PT PEFINDO dianalisis dengan menggunakan analisis regresi logistik ordinal untuk menguji enam hipotesis penelitian. Hasil analisis menunjukkan bahwa ukuran perusahaan dan maturitas masing-masing memiliki pengaruh positif terhadap peringkat sukuk. Temuan ini mendukung teori sinyal dan teori agensi.*

Kata Kunci: Peringkat sukuk, kinerja keuangan, maturitas, struktur sukuk, keuangan syariah

INTRODUCTION

Islamic finance is currently one of the most rapidly expanding financial sectors. With the expansion of the Islamic economy and finance, Islamic financial products have become increasingly diverse. Sukuk, also known as Islamic bonds, is one of the most in-demand Islamic financial instruments. As Islam prohibits usury, sukuk provides an alternative for bond investors who do not wish to engage in usury.

Sukuk, like bonds, are relatively safe securities for investors. However, there are still some risks involved. The most significant risk associated with corporate sukuk is default risk. This risk is incurred when the sukuk issuer fails to repay the principal of their outstanding sukuk and its promised return. To anticipate default risk, investors must be cautious when selecting sukuk for investment purposes. In this regard, sukuk rating is relevant because it indicates whether a sukuk is investment-grade or not. Sukuk with an investment grade imply that they are feasible for investment.

There are numerous sukuk rating agencies that employ various rating methodologies. To optimize decision-making based on sukuk rating information, investors must comprehend the factors influencing sukuk ratings. By doing so, investors will be able to select sukuk with high ratings, ensuring that their investments are secure and yield high returns. Understanding the determinants of sukuk rating will also assist potential sukuk issuers in managing the company to obtain a high sukuk rating, thereby attracting investors.

Sukuk rating, according to signaling theory, can be related to firm financial information and sukuk characteristics. A company with a healthy level of profitability, leverage, liquidity, and other financial information sends a strong signal that it has the ability to repay the sukuk principle and yield. As a result, rating agencies will assign higher ratings to the company's sukuk. Furthermore, management's choices in designing sukuk characteristics may have an impact on sukuk rating.

Moreover, information regarding the sukuk rating factors can be obtained from various sources. Among the sources are the results of empirical studies, which depict the actual state of sukuk on the capital market. However, previous research on sukuk determination has produced a mixed picture. Some prior studies reported that sukuk rating was determined by profitability (Elhaj,



Muhamed and Ramli, 2015; Astuti, 2017; Pebruari, 2017; Haraqi and Ningsih, 2018; Borhan and Ahmad, 2018; Rofi, 2020, Rukmana and Laila, 2021), but some other studies did not (Sihombing and Rachmawati, 2015; Kustiyaningrum, Nurani and Wijaya, 2017; Utami, Anitasari, Endhiarto, 2017; and Suratmi and Rahmawati, 2020). Similarly, some prior studies, such as Ni'mah *et al.* (2020), Pebruary (2016), Astuti (2017), and Utami *et al.* (2017), found liquidity as a significant determinant of sukuk rating. Still, Elhaj *et al.* (2015) did not find liquidity as a significant variable. In the case of firm size, a mixed finding was also observed in prior studies. Some earlier studies observed that firm size significantly impacted sukuk rating (Ni'mah *et al.*, 2020; Rofi, 2020; Suratmi and Rahmawati, 2020; Sihombing and Rachmawati, 2015). Nevertheless, Borhan and Ahmad (2018) and Utami *et al.* (2017) could not determine the impact of firm size on sukuk rating.

In addition to contradictory results, the data used in previous studies were not the most recent. The most current study by Rukmana and Laila (2021) still utilized data from 2018. Moreover, the data period used in prior studies only ranged from 2 to 5 years. In terms of the sample selection process, previous studies did not report the sample selection process step by step.

Hinge on the current state of research on the determinants of sukuk rating; further research needs to be carried out to obtain an updated and more comprehensive picture. Therefore, this study aims to identify factors influencing sukuk rating in Indonesia, especially corporate sukuk. As stated earlier, understanding the factors that affect sukuk ratings will benefit investors and issuers alike. This research will also be helpful for the development of Islamic finance literature. As a relatively new Islamic financial system, the innovation process in developing sharia securities, including sukuk, continues. Furthermore, research updates on sukuk ratings must always be carried out to highlight the latest findings.

In addition to analyzing the most recent data from seven consecutive years, this study details the sample selection procedure in detail. The evolution of corporate sukuk in Indonesia may be better understood if a longer data collection period and a more methodical sample selection procedure are utilized.

In accordance with signaling theory and the contradictory findings of previous studies, the financial performance of issuer companies and the characteristics



of the sukuk may influence the rating of sukuk. Consequently, the purpose of this study was to answer three research questions with more specific aims. First, does financial performance have an impact on the rating of sukuk? Second, does the maturity of sukuk impact sukuk rating? And finally, does the structure of sukuk influence the rating of sukuk?

Six research hypotheses were developed in parallel with the specific objectives of this study, based on signaling theory and prior study findings. These hypotheses are as follows: 1) Profitability influences sukuk rating positively; 2) Leverage influences sukuk rating negatively; 3) Liquidity influences sukuk rating positively; 4) Firm size influences sukuk rating positively; 5) Sukuk maturity influences sukuk rating positively; and 6) Sukuk structure influences sukuk rating significantly.

LITERATURE REVIEW

Theoretical Review

Capital Market, Sukuk and Sukuk Rating

The capital market is indispensable in the modern financial system to efficiently allocate financial and nonfinancial resources for various purposes (Iqbal and Mirakhor, 2011). It is essential to bring together two different parties in need (Middle & Burn, 1977). The first parties need funds to carry out value-added activities, whereas the second parties need additional income from their excess resources. The capital market allows companies to obtain external funding for their business development. Along with the increasing awareness of Muslims to run the economic transaction under sharia, the need for an Islamic capital market is undeniable. An Islamic capital market provides companies with usury-free funding (McMillen, 2006). In line with that, it also provides opportunities for potential investors to obtain a halal return from their invested funds.

One of the securities in the Islamic capital market that can be used to mobilize financial resources and become a key instrument in developing an Islamic economy is sukuk (Ni'mah, Laila, Rusmita, and Cahyono, 2020; Ibrahim, 2018). The term sukuk comes from the Arabic word *sakk*, which means certificate or proof of ownership (Borhan and Ahmad, 2018). Sukuk are certificates issued to investors/potential investors as proof of ownership of assets, projects, or other assets supporting sukuk. To obtain sukuk, investors



must submit funds/net assets in the amount stated in the certificate. Meanwhile, the sukuk issuer should provide return/yield to sukuk holders through profit-sharing, margin, or fees and repay the principal funds at maturity. For the public, sukuk are often referred to as Islamic bonds or certificates/debt securities free from any elements prohibited by Islam, such as *usury*, *gharar*, *maysir*, and falsehood.

Sukuk can be used as a funding source for the government in carrying out infrastructure development. Additionally, sukuk can also be used by business companies to expand their business as a source of funds. Therefore, sukuk in Indonesia can be divided into two types: state sukuk and corporate sukuk. Apart from being a source of funding, sukuk may enhance investor diversification. Suppose Muslims who were previously obedient to Islamic law were unwilling to invest through the capital market. In that case, the existence of sukuk provides an opportunity for them to invest in the capital market with a peaceful mind.

In contrast to ordinary bonds, which are only in the form of certificates as proof of debt from the bond issuer, sukuk requires an underlying asset as the basis for issuing sukuk (OJK, 2018). OJK Regulation No. 18 of 2015 concerning Issuance of Sukuk states that the underlying assets or assets supporting the issuance of sukuk can be in the form of tangible assets, the value of asset benefits, services, projects or investment activities that have been determined. Underlying assets are needed in the issuance of sukuk because in Islam, all financial transactions must be related to the real sector (Chapra, 2000).

Although sukuk are relatively safe compared to other securities, they still carry risks. The most significant risk that may occur in corporate sukuk is default risk. Sukuk default risk is the risk that arises when the sukuk issuer is unable to pay off the sukuk obligations and the promised sukuk return.

To anticipate default risk, investors can rely on the sukuk issuing company's financial information to assess its accountability in managing funds from investors (Pebruary, 2016). Based on signaling theory, a company with a healthy financial condition indicates that it will be able to carry out its obligations, including the obligation to pay off sukuk. From the agency theory perspective, companies with good governance tend to have good performance and try to maintain investors' trust, including sukuk holders.



In addition to using financial performance information as a basis for investors' consideration in buying sukuk, investors can also use the ratings issued by sukuk rating agency. According to Bapepam (2012), sukuk rating is an opinion on the issuer's ability to pay obligations related to sukuk promptly. Furthermore, Hamida (2017) states that sukuk rating indicates the timeliness of repayment of principal funds and sukuk returns that reflect the risk scale of all traded sukuk. By referring to sukuk rating, investors can measure the level of risk and return on their investment.

There are three international securities rating agencies and two domestic securities rating agencies recognized by the OJK to rate securities in Indonesia, including sukuk. The international institutions are Fitch Rating, Moody's Investor Service, and Standard and Poor's, while the two domestic institutions are PT Fitch Indonesia and PT Pemeringkat Efek Indonesia (PEFINDO). Each of these institutions uses a different method of ranking. However, the ultimate goal of all rating agencies is the same, which is to determine whether the sukuk is at investment grade or non-investment grade. Sukuk at investment grade indicates that investment through the sukuk is feasible because the issuer can pay off its obligations on time. On the other hand, sukuk in non-investment grade is not suitable as an investment option because the issuer of the sukuk may not be able to promptly pay obligations related to sukuk. PT Pefindo is the rating agency of the five institutions that was most often used by previous empirical research on sukuk ratings.

Sukuk and bonds are securities with many similarities, and both market reaction is relatively similar. It is proven by Alam *et al.* (2013), who found that bonds and sukuk experienced similar market reactions during the global financial crisis. In addition, Ayturk, Asutay, and Aksak (2017) also found that the determinants of sukuk and bond ratings can be compared. Therefore, research on sukuk also uses a lot of theory and findings from studies on bonds as a reference.

Signaling Theory and The Determinants of Sukuk Rating

The signaling theory often used for research in the capital market is also applicable for explaining the determinants of sukuk rating. This theory is based on the assumption that information is unavailable for all parties at a similar time, resulting in asymmetric information. Therefore, every company listed in the capital market must publish its annual report to minimize the problem of



asymmetric information. As proxied by a healthy level of profitability, leverage, liquidity, and other financial ratios, sound financial performance can be considered as a signal from the manager to investors that the company is of good quality. Thus, investment in the company could be favorable. In the case of sukuk rating, sound financial performance indicates that the company will fulfill its obligation to distribute sukuk yield and pay off sukuk principal. Thus, a sukuk issued by a healthy company will likely have a better rating.

Determinants of sukuk rating may also be associated with sukuk characteristics such as maturity dan sukuk structure. Based on the signaling theory maturity model proposed by Flannery (1989), managers will choose to issue sukuk with maturity that the market appears to overvalue most. In response, an investor will rely on insider information produced by managers through financial information that signals the firm's quality. Sukuk with longer maturity usually offers a better return for the sukuk holders. Therefore, it may signal good news, increasing the probability of earning a better rating.

Concerning sukuk structure, Ghozali (2020) opined that, with the assumption of asymmetric information existence, a good quality company tends to use its capital structure to differentiate itself from a less quality one. Though the signal may be costly, it may attract investors. Only managers who understand how to prevent financial distress from a risky capital structure will choose this approach. From an investor's perspective, such a manager is worth being supported as they may lead the company into a better-quality company. In terms of sukuk structure, fixed return-based sukuk such as *ijarah*, *murabahah*, or profit-sharing based sukuk such as *mudharabah* or *musyarakah* will influence the sukuk issuer's capital structure. Again, how the manager chooses sukuk structure may signal the company's quality. In turn, it may affect the sukuk rating agencies in rating the sukuk issued by the company.

Empirical Review on the Determinants of Sukuk Rating

In general, prior studies on the determinants of sukuk ratings found that sukuk ratings were influenced by financial and nonfinancial factors. The most frequently found financial factors influencing sukuk ratings are profitability, leverage, liquidity, and firm size.

Elhaj *et al.* (2015), Astuti (2017), Pebruari (2017), Haraqi and Ningsih (2018), Borhan and Ahmad (2018), Rofi (2020) and Rukmana and Laila (2021) reported that profitability has a positive impact on sukuk rating. Only a few



previous studies found that profitability has no effect on sukuk rating such as Sihombing and Rachmawati (2015), Kustiyaningrum, Nurani & Wijaya (2017), and Suratmi & Rahmawati (2020), and (Muarif, Ibrahim, & Amri, 2021).

In addition to profitability, Elhaj *et al.* (2015) also reported that financial leverage negatively impacts sukuk rating. This finding was supported by Ni'mah *et al.* (2020) and Pebruary (2017), confirming that as the financial leverage of sukuk issuer company gets higher, the probability of attaining a high rating decrease.

The following financial performance that was found to impact sukuk rating was liquidity. Ni'mah *et al.* (2020), Pebruary (2016), Astuti (2017) dan found that the current ratio as a proxy of liquidity has a positive impact on sukuk rating. However, Elhaj *et al.* (2015) did not find such a relationship.

With regard to the effect of firm size on sukuk rating, several previous studies report that firm size had a positive impact on sukuk rating (Ni'mah *et al.*, 2020; Rofi, 2020; Suratmi and Rahmawati, 2020; Sihombing and Rachmawati, 2015). However, studies like Borhan and Ahmad (2018) did not find any significant impact of firm size on sukuk rating in Malaysia.

For nonfinancial factors, sukuk ratings' determinants include the maturity and the sukuk's structure. Several prior studies reported that sukuk with long maturity had a higher probability of getting a good rating (Ni'mah *et al.*, 2020; Haraqı & Ningsih, 2017; Ibrahim, 2021).

In relation with sukuk structure, studies on sukuk in Indonesia found that ijarah sukuk has positive impact on sukuk rating (Ni'mah *et al.*, 2020). Earlier studies on sukuk in Malaysia provided more diverse findings on sukuk structure. Sukuk based on *murabahah*, *ijarah*, *mudharabah*, *musyarakah* and *istihmar* contract were found to be positively significant in influencing sukuk rating in Malaysia (Elhaj *et al.*, 2015; Borhan and Ahmad, 2018).

In conclusion, prior research on sukuk rating determinants has already portrayed the actual picture of sukuk rating determination based on empirical data. However, the findings of the preceding studies are still mixed. The mixed findings suggest that further research needs to be conducted to gather more refined and updated results. The more refined and updated findings might be useful for investors and sukuk issuers.



Theoretical Framework and Hypotheses

Based on signaling theory and the results of prior empirical studies as discussed earlier, this study's conceptual framework and hypotheses are illustrated in Figure 1.

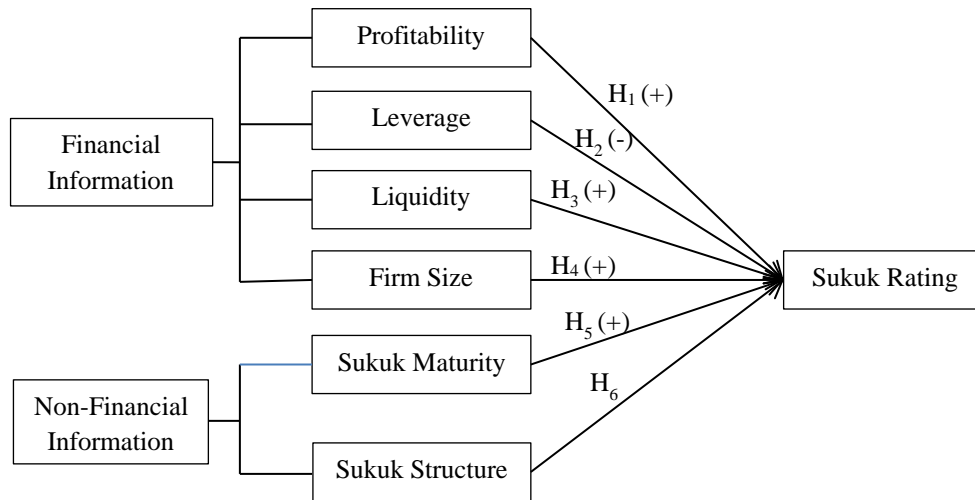


Figure1. Theoretical Framework and Hypotheses

METHODOLOGY

This study was classified as an experimental study through hypotheses testing. It included all outstanding corporate sukuk registered with the Financial Services Authority (*Otoritas Jasa Keuangan/OJK*) as the sample population. OJK publishes the number of accumulated sukuk and outstanding sukuk at the end of every month. Each sukuk-issuing company issued more than one type of sukuk during each period, such as PT. Indosat, which had 12 outstanding types of sukuk by the end of 2020. However, there were also companies with only one or two types of sukuk, such as PT. Tiga Pilar Sejahtera and PT. Elnusa, which had only two and one types of outstanding sukuk at the end of 2020. Due to the fact that some of the data utilized in the study were company-specific, only one type of sukuk was chosen to represent each company. As a result, the sample for this study was chosen using the purposive sampling method using the following criteria: 1) The sukuk had to be registered by OJK; 2). One sukuk represented one company; 3) The issuer company was nonfinancial companies listed on the IDX; and 3) The sukuk was rated by PT. Pefindo. Based on the criteria, the final sample selected for this study was 60 sukuk. The sample selection process is presented in Table 1.



Table 1. Sample Selection Process

| Year | Accumulation of sukuk registered by OJK | Number of Outstanding sukuk at the end of the year | Number of sukuk issuer at the end of the year | Number of sukuk issuer selected |
|--|---|--|---|---------------------------------|
| 2014 | 71 | 35 | 14 | 7 |
| 2015 | 87 | 47 | 16 | 8 |
| 2016 | 100 | 53 | 19 | 8 |
| 2017 | 137 | 79 | 19 | 9 |
| 2018 | 177 | 104 | 19 | 10 |
| 2019 | 232 | 143 | 23 | 11 |
| 2020 | 274 | 162 | 26 | 14 |
| Total sukuk available for selection (6 years) | | | 136 | |
| Total sukuk selected (final sample of the study) | | | | 67 |

Source: OJK (2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021) and Pefindo (2018, 2019, 2020, 2021)

Table 1 shows that at the end of the observation period (2020), 274 sukuk had been registered on OJK in the previous seven years, with 162 still in circulation. The 162 outstanding sukuk were issued by 26 different companies. Because the researcher only took one type of sukuk from each company, the total number of sukuk available for selection as the study sample during the seven-year observation period was 136. Of the 136 sukuk, 69 could not be used as research samples because the sukuk issuers were not listed in the IDX or the sukuk were issued by financial firms. Therefore, since 67 sukuk made up the study's final sample, the number of sukuk satisfied the requirements.

Secondary data on financial performance were documented from the financial statements of each sample company, and data on sukuk information were documented from Pefindo's end-of-year newsletter. The sukuk rating issued by PT PEFINDO is the study's dependent variable. Most previous studies used the sukuk rating issued by this institution, measured on an ordinal scale from zero to seven. The measurement of the sukuk rating variable is shown in Table 2.

Table 2. The Measurement of Sukuk Rating

| Rating Given by PEFINDO | Measurement (Ordinal Scale) | Category |
|-------------------------|-----------------------------|----------------------|
| D | 0 | Non-investment Grade |
| CCC | 1 | Non-investment Grade |
| B | 2 | Non-investment Grade |
| BB | 3 | Non-investment Grade |
| BBB | 4 | Investment Grade |
| A | 5 | Investment Grade |
| AA | 6 | Investment Grade |
| AAA | 7 | Investment Grade |



With regard to the independent variables, there were six variables in this study. Those variables were profitability, leverage, liquidity, firm size, sukuk maturity, and sukuk structure. The measurements of each independent variables are presented in Table 3.

Table 3. The Independent Variables and their Measurement

| No. | Independent Variables | Measurements | Symbol |
|-----|-----------------------|---|--------|
| 1 | Profitability | Return on assets ratio | ROA |
| 2 | Leverage | Debt to equity ratio | DER |
| 3 | Liquidity | Current ratio | CR |
| 4 | Firm Size | Total asset | TA |
| 5 | Sukuk Maturity | Sukuk maturity in years | MAT |
| 6 | Sukuk Structure | Variable one if the sukuk was based on ijarah contract and 0 otherwise. | IJR |

The final sample's data was then analyzed using descriptive statistics and ordinal logistic regression. The researchers used descriptive statistics to provide an overview of the financial performances of the sample companies and the sample sukuk over a seven-year observation period. Ordinal regression was utilized to test the six research hypotheses and ultimately provide answers to the research questions. On the basis of the research hypotheses, an ordinal logistic regression model was developed. The model is presented in the equation below.

$$\text{Logit}(i) = \alpha(i) + \beta_1 ROE + \beta_2 DER + \beta_3 CR + \beta_4 \text{Log}TA + \beta_5 MAT + \beta_6 IJR$$

where:

Logit(*i*): Probability of corporate sukuk for rating *i*

$\alpha(i)$: Constant for rating category *i*

i: rating category AAA, AA, A, BBB, BB, B, CCC, D

β : Coefficient

RESULT AND DISCUSSION

As stated in the introduction, the specific goal of this study was to examine the impact of financial performance as proxied by profitability (ROA), leverage (DER), liquidity (CR), and firm size, as well as sukuk maturity and sukuk structure, on corporate sukuk rating in Indonesia. For data analysis, the current study used descriptive statistics and ordinal logistic regression. The findings of the analysis are presented and discussed below.



Descriptive Statistic Results

Table 4 summarizes the variable descriptive analysis results. It demonstrates that, as measured by ROA, the average ability of sukuk issuing companies to generate profit (profitability) was 16.3%. This figure depicts the sample companies' healthy level of profitability. In 2019, PT. Indosat, the world's first and largest sukuk issuer, achieved the highest ROA (250%). In contrast, PT. Sumberdaya Sewatama had the lowest ROA value in 2018.

Table 4. Descriptive Statistic of the Variables

| Variables | Min | Max | Mean | Strd Dev |
|------------------------|----------|-----------|----------|----------|
| ROA (%) | -10.00 | 250.00 | 16.33 | 45.60 |
| DER (times) | -38.66 | 483.55 | 7.92 | 59.32 |
| CR (times) | -0.65 | 4.72 | 1.17 | 0.89 |
| Size (trillion IDR) | 1,814.00 | 31,608.92 | 1,389.06 | 5,604.43 |
| Maturity (year) | 2 | 12 | 5.27 | 1.96 |
| Rating (ordinal scale) | 0 | 7 | 5.30 | 1.78 |

Source: Secondary data processed (2021)

Furthermore, the average leverage value as measured by DER is 7.92 times. This figure demonstrates an unhealthy level of leverage, as the debt of the sukuk issuing company is nearly eight times its total capital on average. A company is deemed to have a healthy leverage ratio when its DER is less than one. The lower the DER, the better for the company. PT. Sumberdaya Sewatama had the lowest DER (-38.6 times) in 2017 when the company had a capital shortfall of 156,587 billion rupiahs.

The sample companies' average CR value for their ability to meet their short-term obligations (liquidity) as measured by the current ratio was 1.17 times. It showed that, on average, the sample companies had an unhealthy level of liquidity because the value was less than 1.5. The highest CR value was achieved by PT. Tiga Pilar Sejahtera Food in 2017, while the lowest was achieved by PT. Angkasa Pura in 2020.

Table 4 also displays the size of the sukuk issuer based on total assets. The average total asset value is \$1,358 trillion. The company that issued the most sukuk in 2020 was PT. Angkasa Pura I, while the smallest was PT. Sumberdaya Sewatama in 2019.

Regarding the maturity of sukuk, Table 4 shows that the average maturity of sample sukuk was 5.27 years. The maturation period ranged from 2 to 12 years. In addition to Table 4, the descriptive statistic summarized the frequency



distribution of sukuk rating and structure variables. The summary is presented in Table 5.

Table 5 The Frequency of Sukuk Rating and Structure

| Rating | Frequency | Percentage | Structure | Frequency | Percentage |
|--------|-----------|------------|------------|-----------|------------|
| D | 4 | 6.0 | ijarah | 54 | 80.6 |
| BB | 4 | 6.0 | mudharabah | 11 | 16.4 |
| BBB | 4 | 6.0 | wakalah | 2 | 3.0 |
| A | 25 | 37.3 | Total | 67 | 100.0 |
| AA | 8 | 11.9 | | | |
| AAA | 22 | 32.8 | | | |

Source: Secondary data processed (2021)

Table 5 indicates that most of the sample sukuk were structured with *ijarah* contracts (80.6%). There were only two other contracts in the sukuk sample, which were *mudharabah* (16.4%) and *wakalah* (3%). The table also indicates that most of the sample sukuk (88%) were at investment grade with AAA, AA, A, and BBB ratings. There were four companies rated the highest rating (AAA): PT Indosat, PT PLN, PT. Angkasa Pura 1 and PT. Telkom. The remainders (12%) were in non-investment grade, with the rating of BB and D experienced by PT. Sumberdaya Sewatama and PT. Tiga Pilar Sejahtera in 2014 and 2018, respectively. None of the sukuk in this sample earned a CCC rating.

Ordinal Logistic Regression Results

As stated earlier, ordinal logistic regression was used to test the six research hypotheses and, in turn, was used to answer the research questions. However, before discussing the hypotheses testing using Wald test, the researchers conducted a model fitting test, the goodness of fit test, and a pseudo-R-Square test to ensure that the regression model fit for hypotheses testing. Those tests were run using SPSS for Windows version 23. Table 6 summarizes the results of the tests.

Table 6 Model Fitting, Goodness of Fit, and Pseudo R-square

| Model Fitting | -2 Log Likelihood | Chi-square | df | Sig |
|-----------------------|-------------------|------------|-------|-------|
| <i>Intercept Only</i> | 195.571 | | | |
| <i>Final</i> | 140.025 | 55.546 | 6 | 0.000 |
| Goodness of Fit | Chi-Square | df | Sig | |
| <i>Deviance</i> | 140.025 | 314 | 1.000 | |
| Pseudo R-square | | | | |
| <i>Cox and Snell</i> | 0.564 | | | |
| <i>Nagelkerke</i> | 0.595 | | | |

Source: Secondary data processed (2021)



Model Fitting

The model fitting was used to compare the regression model with an intercept only and the regression model with the independent variables by calculating each model's -2 Log Likelihood value. The value of -2 Log Likelihood was used to measure the model fitting. The higher the value of -2 Log Likelihood, the better the model fits a dataset.

Table 6 indicates that the -2 Log Likelihood value of the model with an intercept only was 195.571. However, when the independent variables were put into the model, the -2 Log Likelihood decreased to 140.025. The 55.546 decreasing value was counted as Chi-square. The significance value of the Chi-square reported in Table 6 is 0.000, indicating that the regression model resulted from the analysis was a perfectly fitting model.

The Goodness of Fit Test

The goodness of fit test was conducted to ensure that the model resulted from the data analysis process fit for hypotheses testing. Based on the Deviance method, a model is considered appropriate to use when the significant value of the Chi-square is more than the 5% value of α .

Table 6 reports that the Chi-square value based on the Deviance method was 140.025 with a significance value of 1.000. The result indicated that the model fitted with the empirical/observed data. Thus, the model fitted for the hypotheses testing.

Pseudo R-square

Pseudo R-square in logistic regression is acted like a coefficient determination in ordinary least squares. It reflects the model's predictive power and indicates the amount of variation in the dependent variable as explained by the independent variables. The value of coefficient determination ranges from 0 to approximately 1. As this study utilized ordinal logistic regression, the coefficient determination can be checked on pseudo-R-square represented by the value of Cox and Snell R^2 or Nagelkerke R^2 .

Table 6 shows that the value of the resulting model's Cox and Snell R^2 and Nagelkerke R^2 is 0.564 and 0.595, respectively. According to Nagelkerke, 59.5% variation of the corporate sukuk rating was explained by financial



performance as proxied by ROA, DER, current ratio dan firm size, and sukuk maturity and sukuk structure. The remaining (40.5%) variation was explained by other factors not included as the independent variables. This finding suggests that the model resulting from the analysis had moderately good predictive power.

Wald Test

The model fitting, the goodness of fit, and the pseudo R-square indicated that the model fitted for hypotheses testing and had a moderately good predictive value. The hypotheses testing could be carried out using the Wald test. A hypothesis will be accepted if the significance value of the Wald test is less than the 5% value of α . Table 7 summarizes the results of parameter estimates that was run using SPSS for Windows 23 version.

Table 7 Summary of Parameter Estimates

| Variables | Expected direction | Estimate | Wald | Sig | Decision |
|------------------|---------------------------|-----------------|-------------|------------|-----------------|
| ROA | + | .408 | .517 | .472 | H1 rejected |
| DER | - | -.004 | 1.017 | .313 | H2 rejected |
| CR | + | -.422 | 1.992 | .158 | H3 rejected |
| LogTA | + | 3.795 | 9.543 | .002 | H4 accepted |
| MAT | + | .356 | 5.544 | .019 | H5 accepted |
| IJR | | .482 | 1.917 | .166 | H6 rejected |

Source: Secondary data processed (2021)

Table 7 shows two independent variables with Wald test significance values of less than 5%. These variables are firm size and maturity, with Wald significance values of 0.002 and 0.019, respectively. Both variables had a positive estimated value (B), as predicted by the hypotheses. According to the findings of the analysis, as the size of sukuk issuer companies grows, so does the likelihood of the company receiving a high sukuk rating. Similarly, as sukuk matures, the company's chances of receiving a high sukuk rating improve. As a result, the fourth and fifth hypotheses were supported/accepted.

The Wald test produced a significance value greater than 5% for the remaining variables: ROA, DER, current ratio, and sukuk structure (see Table 7). The findings show that ROA, DER, current ratio, and sukuk structure have no effect on the sukuk rating of companies listed on IDX. As a result, the first, second, third, and sixth research hypotheses were rejected.



Discussion of the Findings

As stated earlier, the current study has three research questions. For ease of reference, the three-research question is presented as follow:

1. Do financial performances affect sukuk rating?
2. Does sukuk maturity affect sukuk rating?
3. Does sukuk structure affect sukuk rating?

In line with the research questions and the results of hypotheses testing, the findings are discussed in the following three sections.

The Effect of Financial Performance on Sukuk Rating

Based on signaling theory as discussed in the literature review, the publication of corporate's financial information sends a signal from corporate's managers to investors to reduce the asymmetric information between both parties. Good financial performance sends good news that the company is in good shape. Therefore, the company's probability of earning a high sukuk rating is increasing. As financial performances in this study were proxied using profitability, leverage, liquidity, and firm size, the effect of financial performance on sukuk rating is discussed based on the hypotheses testing for each proxy.

The first hypothesis stating that profitability positively affects sukuk ratings could not be accepted as the significance value of the Wald test of ROA variable is more than 5% (0.472). It means that an increase or decrease in profitability as measured by ROA ratio will not affect the company's probability of getting a high sukuk rating. This finding does not support signaling theory in explaining the effect of profitability on sukuk rating as supported by Elhaj *et al.* (2015), Astuti (2017), Pebruari (2017), Haraqy & Ningsih (2018), Borhan and Ahmad (2018), and Rofi (2020). Theoretically, higher profitability indicates the company's good performance in earning profit; thus, the company's probability of getting a higher sukuk rating is increasing. Though this study did not manage to support signaling theory from the perspective of profitability, several prior studies found similar findings. Among those studies were Sihombing and Rachmawati (2015), Kustiyaningrum, Nurani & Wijaya (2017), and Suratmi & Rahmawati (2020).

Similar to the first hypothesis, the second hypothesis stating that leverage negatively impacts sukuk rating was not supported either. Although the estimated value had a negative direction, as expected in the third hypothesis,



the significance value of the Wald test showed a value of more than 5% (0.313). It means that leverage measured by debt to equity ratio (DER) did not affect the sukuk rating during the observation period. The signaling theory supported by Elhaj *et al.* (2015), February (2017), and Ni'mah (2020) in explaining the impact of leverage on sukuk rating was not supported by the finding of this current research. Theoretically, a highly leveraged company shows that it uses more debt than equity to undertake its investment/project. This condition indicates that the company faces a high-risk situation that does not send a good signal. Therefore, the probability of a highly leveraged company getting a better sukuk rating is lower.

A similar decision was also made for the third hypothesis of this study. The hypothesis stating that liquidity positively impacts sukuk rating was not accepted either. The significance value of the Wald test for the variable current ratio, which is a proxy for liquidity, is 0.158, indicating that liquidity does not affect the sukuk rating. Again, the signaling theory that was supported by Ni'mah *et al.* (2020), Pebruary (2016), and Astuti (2017) in confirming the positive impact of liquidity on sukuk rating was not supported in this study. The company's liquidity may affect the company's ability to make large-scale, low-cost asset trade without causing significant price changes. Theoretically, this situation will signal good news. Thus, the company's probability of earning a high sukuk rating may increase. The rejection of the third hypothesis was similar to the finding of Elhaj *et al.* (2015) in investigating the determinants of sukuk rating in Malaysia.

In contrast to the first to third hypotheses, which were not supported, the fourth hypothesis stating that firm size positively affects sukuk ratings was supported. The significance value of the Wald test was 0.002 with a positive direction of the estimates. It indicates that company size has a positive effect on sukuk ratings. Suppose the company's size as measured by the number of assets increases, the probability of sukuk issuer company getting a better sukuk rating would also increase. According to signaling theory, the greater the total assets of the sukuk issuing company indicates that the company has considerable resources to manage its operations and fulfill obligations to its stakeholders.

Furthermore, the default risk of sukuk issued by the company with large assets will decrease. Then, the reduced default risk of the sukuk will increase the sukuk rating. From the agency theory perspective, large companies tend to have sound corporate governance systems. With GCG, companies will be able to increase efficiency in their company's operations and reduce the risk of default.



It will improve the sukuk rating. The results of this analysis strengthen the findings of previous research conducted by Ni'mah *et al.* (2020), Rofi (2020), Suratmi and Rahmawati (2020), Pramesti (2017), Azizah (2018), and Yandi (2019).

The Effect of Sukuk Maturity on Sukuk Rating

The fifth hypothesis, which states that maturity positively affects sukuk rating, was also accepted. The results of the Wald test showed a significant p-value of 0.019, with the estimated value being positive. It means maturity positively affects the sukuk rating at the 5% level. The longer sukuk maturity, the higher the probability of the sukuk earning a good rating.

Sukuk with longer maturity usually promises a high return rate in the form of margin, fees, or profit-sharing. Therefore, it may raise the rating of the sukuk. The acceptance of the fifth hypothesis supports the signaling theory maturity model as proposed by Flannery (1989) and the results of prior studies reported by Ni'mah *et al.* (2020) as well as Haraqy and Ningsih (2017).

The Effect of Sukuk Structure on Sukuk Rating

Finally, the sixth hypothesis, which states that the sukuk structure influences the sukuk rating, is rejected. The rejection is due to the Wald test's significance value of 0.166. Corporate sukuk dominated by ijarah sukuk had no significant impact on sukuk rating in Indonesia.

The last finding was contrary to signaling theory. Theoretically, how the manager chooses sukuk structure may signal the company's quality. In turn, it may affect the sukuk rating agencies. The statement was supported by prior research, including Elhaj *et al.* (2015), Borhan and Ahmad (2018), and Ni'mah *et al.* (2020). However, this current study failed to support this statement.

CONCLUSIONS

This study is one of a few ordinal logistic regression-based studies on sukuk rating determination that have been carried out in Indonesia. It initially proposed a model of six independent variables that influence corporate sukuk rating. However, only two variables were identified as determinants of sukuk rating in Indonesia in this study: firm size and sukuk maturity. Sukuk rating is influenced by firm size and maturity. According to signaling theory and agency



theory, a larger company is more likely to earn good sukuk ratings. Furthermore, sukuk with longer maturities have a higher chance of receiving a good sukuk rating than sukuk with shorter maturities. Therefore, this study supported the signaling theory maturity model proposed by Frannery (1986). The resulting model met the goodness of fit and model fitting criteria in terms of model appropriateness. It was also moderately predictive.

These findings have several potential implications for sukuk issuers, investors, and policymakers. The positive effect of firm size on sukuk rating suggests that sukuk issuers should consistently maintain a high total asset level to ensure that sukuk rating agencies highly rate them. They must also provide sukuk with a long maturity. Although long maturity may necessitate a high return for investors, it may increase the company's chances of earning a high sukuk rating.

Investors should consider purchasing sukuk from large corporations and selecting sukuk with a longer maturity, as these options appear to be more advantageous. Regardless, investors must consider their risk tolerance; whether they are risk averse or risk takers. Finally, policymakers such as OJK should require that all sukuk issuers have their sukuk rated. Additionally, they should require sukuk rating agencies to publish their rating methodologies.

This study was meticulously carried out in accordance with scientific procedures. However, there are some potential improvements for future studies. Because this study only included nonfinancial sukuk issuer companies, future researchers should include this type of company in future investigations to provide more comprehensive results. Furthermore, the current study's model moderately fit the data. Although the pseudo-R square showed that the resulting model could explain nearly 60% of the sukuk rating variation, some other variables must still be considered. As a result, future researchers must consider other variables such as corporate governance and macroeconomic variables.

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