

# Are CEO and Firm Characteristics Related to Islamic Debt Financing Before and During the Covid-19 Pandemic? Evidence from Listed Companies in Indonesia

Raihana Haris Nurhafizah  
Institut Teknologi Bandung

Taufik Faturohman\*  
Institut Teknologi Bandung

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## ABSTRACT

This study examines the relationship between CEO characteristics, firm characteristics, and the effect of the COVID-19 pandemic on the adoption of Islamic debt financing, focusing on evidence from listed companies in Indonesia. This study uses a sample of 59 companies — representing all companies that utilize Islamic debt financing — from 2017 through 2021, gathered from an initial 150 samples consisting of all companies that utilize Islamic finance. This number was eventually reduced to 30 companies after variable-based filtration using the access data from 2017 to 2021. Moreover, this study used the panel data regression model to explore the complex associations between variables and compliance levels. Thus, the significant findings indicated that the presence of Muslim CEOs was positively associated with the CEOs' allocation of additional Islamic debt financing to their companies. In addition, firm size and cost-effectiveness had significant negative relationships in Islamic debt financing. The investigation uncovered no significant difference in using Islamic debt financing before and during COVID-19. Therefore, this study may be helpful for financial regulators such as Bank Indonesia and OJK to use these findings to enhance the market share of Islamic finance in Indonesia.

Keywords: Islamic debt financing, CEO characteristics, Firm characteristics, COVID-19.

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## 1. INTRODUCTION

### 1.1. Background

Islamic finance has become one of the financing instruments that has increased a lot in Indonesia. Since establishing Indonesia's first Islamic bank on 1 November 1991, under the name PT Bank Muamalat Indonesia, this trend has continued to expand (OJK). Annually, the Indonesian Islamic banking industry has seen significant improvements in internal operations, security, and public knowledge of Islamic financial services. According to OJK statistics, there is an increase in financing from 2021 to 2022, mainly from Islamic banks and Islamic bank units (OJK, 2022). The increase in Islamic finance also occurs because the government encourages Islamic banks to advance their operations and raise public awareness, particularly among Muslims. Currently, banks in Indonesia carry out Islamic finance, including 169 Islamic People's Finance Banks (BPRS), 13 Islamic Commercial Banks, and 20 Islamic Business Units (OJK, 2023). According to

data from *worldpopulationreview.com*, Indonesia has the largest population of Muslims globally, with a total population of 277,534,122 and an 87.2% Muslim population (World Population Review, 2023). This information validates Indonesia's status as a Muslim nation that should have become familiar with Islamic principles in everyday life.

Islamic law, known as Sharia, has been explained in the Qur'an and Sunnah. Karim (2008), in his book "Bank Islam: Analisis Fiqih dan Keuangan," presents the *ushul fiqh* principle that something necessary to fulfill an obligation becomes obligatory. Karim (2008) asserts that earning a livelihood involving economic activities is an obligation. In the modern era, economic activities cannot be complete without banking institutions, thus making banking institutions a necessary obligation. These address the relationship between Islamic law and banking (Karim, 2008, pp. 14-15). Even though Indonesia has several Islamic banks for a channel of Islamic transactions, the fact shows that only 30.27 million of the 180 million Muslims there have been using Islamic banking services by the year 2020 (CNN Indonesia, 2021). Despite having an enormous Muslim population, Indonesia only had 7.8703% on August 2022 (Toarik, 2022) compared to Malaysia, which did not consist of the most significant number of populations in 2021 based on *worldpopulationreview.com*, had a 37% market share by the end of 2020 (Parker, 2021). According to the Chairman of the Financial Services Authority (OJK) in Indonesia, the low market share of Islamic finance is due to the lack of interest among the public in choosing Islamic-compliant products compared to conventional products, or it could be attributed to the low level of Islamic financial literacy in society (Wareza, 2021).

For this study, Indonesia is an ideal sample because even if Indonesia was the largest Muslim population in the world, the country uses a dual-banking-system daily law to offer options for the Indonesian society instead of only using Islamic banking (OJK). Then, the study will examine the factors affecting the corporate decision to use Islamic debt financing in their business. This study looks at the relationship of using Islamic debt financing in the company, considering factors of CEO characteristics (Muslim CEO, management background, postgraduate background, and cultural background), firm characteristics (firm size, growth, cost-effective, asset structure, risk, and profitability), and effects of COVID-19 pandemic year.

This study is the first to explore the relationship between CEO characteristics, firm characteristics, and the effect of the COVID-19 pandemic on the adoption of Islamic debt financing by listed companies in Indonesia. This study examines various factors to understand how financing decisions are made in Indonesian firms, especially Islamic finance. This study's findings have the potential to offer valuable insights to policymakers, financial institutions, and businesses for giving the implications of Islamic debt financing and the challenging circumstances posed by the COVID-19 pandemic.

## **2. THEORETICAL FOUNDATIONS**

### **2.1. Islamic Debt Financing**

Islamic debt financing refers to the method through which businesses raise capital in compliance with Sharia, or Islamic law (Ross, 2022). Unlike conventional banking, Islamic finance employs three distinct types of financing arrangements, as outlined by CFI (2023), each guided by specific principles which are Mudarabah that entails a partnership arrangement based on profit and loss sharing; Musharakah that refers to a joint enterprise where each partner contributes capital, and the profits and losses are shared

equally; and Ijarah that for financing arrangement, the property is leased to the lessee in exchange for a series of rental and purchase payments, which culminate in the transfer of property ownership to the lessee therefore the lessor, who must be the owner of the property, is responsible for maintaining the lease.

## **2.2. CEO Characteristics**

As the highest authority within a company, the CEO holds significant power and responsibility for ensuring the business's success. Given the critical role of finance in business operations, the CEO also controls the selection of financing decisions for the company (Sam, 2022). Due to the limited availability of previous data on Islamic debt financing for the study, this study will employ conventional debt financing or debt ratio as the dependent variable for each variable discussed in the literature. Therefore, this study will focus on further investigating the relationship between CEO characteristics and Islamic debt financing or debt financing within the context of a financial firm.

### **2.2.1. Muslim CEO**

A Muslim can be defined as a person who follows the religion of Islam (Cambridge Dictionary). At the same time, the CEO holds the top position and oversees making decisions which also has responsibility for making decisions about the company's financing. Several studies have explored the relationship between the CEO's religion and debt financing. Brahmana and You (2021) found that Muslim CEOs allocate more Islamic financing in their debt than non-Muslim CEOs. Ooi and Hooy (2021) suggest that Muslim CEOs are more sensitive to firm performance due to their risk-taking style influenced by religion. However, Hooy and Ali (2017) found that firms with Muslim CEOs exhibit lower performance levels than firms with non-Muslim CEOs. These findings provide insight into the influence of CEO religion on debt financing decisions in companies. Then, we can develop hypotheses exploring the relationship between CEO education management background and financing decisions as follows:

*H<sub>1</sub>: There is a significant relationship between CEO religion (RE) and Islamic debt financing preferences.*

### **2.2.2. Educational Background of CEO**

The relationship between the educational background of CEOs and financing decisions cannot be found for literature review research needs. Then, this study will use firm performance since there is a relationship between financing decisions and firm performance (Doan, 2019). The study conducted by Wafa Ghardallou, Hela Borgi, and Hibah Alkhalifah (2020) concluded that the CEO's educational background does matter in the firm's performance. CEOs with business administration, economics, finance, or accounting degrees perform better. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>2</sub>: There is a significant relationship between the management education (M) background CEO (M) and preferences for Islamic debt financing.*

In another reviewed literature, evidence suggests a relationship between CEO postgraduate education and companies financing decisions. The study by Sitthipongpanich et al. (2012) reveals that CEOs with postgraduate education tend to choose a higher level of financial leverage, indicating that their advanced knowledge and skills contribute to their decision-making process. Additionally, the study by Wafa Ghardallou et al. (2020) suggests that CEOs with postgraduate qualifications positively impact stock performance, indirectly highlighting their potential influence on financing

decisions. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>3</sub>: There is a significant relationship between have a minimum postgraduate background CEO (PG) and preferences for using Islamic debt financing.*

### **2.2.3. Cultural Background of the CEO**

The cultural background of CEOs refers to their cultural identity based on their place of birth and the environment in which they were raised. Chandrasena (2019) states that a significant relationship exists between CEOs' cultural values and the firm's leverage decision. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>4</sub>: There is a significant relationship between the cultural background of the CEO (PM) and preferences for using Islamic debt financing.*

## **2.3. Firm Characteristic**

Following the previous study, firm characteristics are part of a firm's internal environment and can impact corporate financial reporting quality (Egbunike & Okerekeoti, 2018). Kaya and Halil (2011) suggest that a firm's credit rating, size, market-to-book ratio, profitability, degree of leverage, and tangible assets can influence its choice of debt financing. Furthermore, (Okegbe et al., 2019; Eriotis et al., 2007) other studies suggest a significant relationship between firm characteristics and the debt-capital ratio. Therefore, the variables used in this study follow the study conducted by Brahmana & You (2021) as the leading for the relationship between firm characteristics and Islamic debt financing.

### **2.3.1. Firm Size**

Firm size is the critical factor influencing business enterprises' financial decisions and strategies (Dang et al., 2013). The relationship between firm size and debt financing was an exciting topic in previous literature. Hooks (2002) and Ghosh (2007) suggest that small- to medium-sized firms tend to have a high concentration of bank debt when they exhibit low discretionary spending levels. Conversely, Hooks (2002) finds that large firms are more likely to have a high concentration of bank debt when their operations are less observable to external parties. Moreover, the according to Brahmana & You (2021), Sitthipongpanich et al. (2012), Kaya & D (2011), Ghosh (2007), Eriotis et al. (2007), Sheikh & Wang (2011), Ramón et al. (2009), and Legesse & Guo (2020) found there is a significant positive of firm size and debt ratio, while other previous studies show the significant negative of the firm size to debt ratio (Ezeoha, 2008; Ooi, 2000). Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>5</sub>: There is a significant relationship between firm size (TA) and the use of Islamic debt financing.*

### **2.3.2. Growth**

Firm growth is a crucial aspect of firm performance that is often used to measure the financial aspect of a firm. According to Chris Bradley (2022), growth measurements in the corporate world are metrics used to track the company's growth. Based on the previous literature suggests that firm growth is a significant determinant of the debt ratio, with studies indicating a positive impact on the debt ratio (Toy et al., 1974; Ramón et al., 2009) and a negative relationship between firm growth and the debt ratio (Eriotis, et al., 2007). Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>6</sub>: There is a significant relationship between growth (SG) and the use of Islamic debt financing.*

### 2.3.3. Cost-effective Selling

The concept of cost-effectiveness in business, which focuses on maximizing profits while minimizing costs, is closely related to the choice of debt financing. By ensuring the companies spend their budgets wisely and obtain the best value for their money, they can optimize their financial efficiency. A study by Legesse and Guo (2020) found that firms' efficiency is positively related to short-term debt financing but negatively related to long-term debt financing. In contrast, the study by Brahmana & You (2021) shows the negative coefficient of cost-effective and Islamic debt financing. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>7</sub>: There is a significant relationship between cost-effective (CE) and the use of Islamic debt financing.*

### 2.3.4. Risk

Firm risk refers to the potential for a firm to experience events or circumstances that threaten its ability to continue operating (Peterdy, 2022). The literature indicates a significant and positive relationship between firm risk and debt financing, highlighting the role of risk as a determinant of the bank debt ratio (Ooi, 2000), with studies emphasizing the significant impact of risk on debt ratios (Vätavu, 2013; Toy et al., 1974). In addition, the study conducted by Brahmana & You (2021) shows a negative significant risk variable and Islamic debt financing. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>8</sub>: There is a significant relationship between risk (R) and the use of Islamic debt financing.*

### 2.3.5. Asset Structure

Asset structure is the composition and distribution of a company's total assets among the key asset categories, and it offers information about the organization's overall asset base (Business Encyclopedia). Studies indicate that asset tangibility exhibits a negative association with the debt ratio (Sheikh & Wang, 2011; Vätavu, 2013), whereas asset structure can have a positive impact on the debt ratio (Ramón et al., 2009; Legesse & Guo, 2020), emphasizing the role of asset composition in influencing firms' debt financing decisions. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>9</sub>: There is a significant relationship between asset structure (AS) and the use of Islamic debt financing.*

### 2.3.6. Profitability

Profitability, or net profit or net income, is a metric of a business's financial success that represents the difference between total revenue and total costs during a specific period (Datarails). Studies showing that profitability is inversely related to the debt ratio and leverage ratio, emphasizing the importance of solid profitability in managing debt levels (Sheikh & Wang, 2011; Vätavu, 2013; Ramón et al., 2009), show a consistent negative association between profitability and debt financing. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>10</sub>: There is a significant relationship exists between profitability (ROA) and the use of Islamic debt financing.*

## 2.4. Effects of the COVID-19 Pandemic

For added value to this study, the author wants to add the conditions in the past two years: the COVID-19 pandemic. It not just effects the health aspect in the world, but also the

economic aspect. According to Balagopal et al. (2022), a previous study shows that firms with higher COVID-19 exposure are more inclined to seek debt financing. Therefore, to gain more insight into this study, the hypotheses are built as follows:

*H<sub>11</sub>: There is a significant relationship between the COVID-19 pandemic and the use of Islamic debt financing.*

### 3. METHODOLOGY

#### 3.1. Research Variables

The research variable was built up following the previous studies. Considering any diversification between previous researchers, this study will use some variables suitable for Indonesian conditions. A detailed explanation of each variable it was presented in Table 1.

Table 1 Research Variables

Variable name	Labels	Variable description	Expected Results
<b>Dependent variables</b>			
Islamic debt financing ratio	IDF	The total of Islamic debt financing over the total loan (ID)	
<b>Independent variables</b>			
Religion	RE	Dummy variable that equals one if the CEO is a Muslim	(+)
Management Education	M	Dummy variable that equals one if the CEO has a management education background	(+)
Postgraduate Education	PG	Dummy variable that equals one if the CEO has a minimum postgraduate education background	(+)
Cultural background	PM	Percentage of the Muslim population of CEO place of birth based on recent data	(+)
Firm size (Size)	TA	Natural logarithm of total assets of firm <i>i</i> in year <i>t</i> .	(+)/(-)
Growth	SG	The ratio of sales growth of firm <i>i</i> in year <i>t</i> .	(+)/(-)
Cost-effective	CE	Total selling expenses over total sales of firm <i>i</i> in year <i>t</i> .	(-)
Risk	R	The standard deviation of the percentage change in the stock price of firm <i>i</i> in year <i>t</i> .	(-)
Asset Structure	AS	Total current assets over the total assets of firm <i>i</i> in year <i>t</i> .	(+)/(-)
Profitability	ROA	Return on asset ratio in year <i>t</i> .	(-)
COVID-19 pandemic	CVD	Dummy variable that equals one if the year is in the pandemic year	(+)

#### 3.2. Data Collection

The data collection process for this study occurred in mid-2022 and covered the period from 2017 to 2021. Initially, data was obtained from the IDX website, which offers comprehensive information on publicly listed companies in Indonesia. However, the available data was most abundant for 2019, with 612 companies included since the IDX website did not provide updated data for 2020 and 2021. Following the data analysis purposes, this study manually examined the data specifically for 2019 and identified 150

out of the 612 companies involved in Islamic transactions. Further investigation was carried out by manually reviewing each company's website, eliminating companies that did not have available reports from 2017 to 2021. The initial sample found that 55 out of 612 companies utilized Islamic debt financing between 2017 and 2021. Considering that this study focused on CEO characteristics, the availability of background information on CEO profiles must be considered. As a result, this study employed 150 observations using secondary data from the annual reports of these 30 companies that employed Islamic debt financing between 1 January 2017 and December 2021. The list of these listed companies can be found in Appendix A.

All the data was collected using secondary data. The primary advantage of using secondary data is the significant savings in time and cost incurred in data collection (Sekaran & Bougie, 2016). Assuming that the secondary data satisfies the requirements, considerable research expenses can be reduced. Furthermore, the duration required to acquire secondary data is substantially shorter. All the datasets, such as asset structure, debt financing, growth, size, cost-effectiveness, profitability, and risk, are retrieved from the annual report following Brahmana & You (2021). In comparison, the CEO's background information is provided from the data that is provided in social media or news. At the same time, religious data are collected by identifying names or family backgrounds if no profile biodata has stated it that follows Brahmana & You (2021) to determine the religion of the CEO. Meanwhile, COVID-19 refers to the year that had an impact, which is 2020 and 2021.

### **3.3. Data Analysis Technique**

In order to examine the link between the variables, this study takes a quantitative approach. Therefore, since it enables the investigation of several observable variables inside the model, panel data regression analysis is used. The study ensures an unbiased estimate by running several classical assumption tests, such as normality, multicollinearity, heteroscedasticity, and autocorrelation. Then, to utilize statistical tests, this study uses Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test to identify models for panel data selection models.

#### **3.3.1. Descriptive Statistics**

Descriptive statistics serve the purpose of providing a concise summary of key aspects of the data observations. This includes variables, sample size, mean, standard deviation, and minimum and maximum values, offering an overview of the dataset. However, in this study variance inflation factor (VIF) will be utilized for this purpose.

#### **3.3.2. Classical Assumption Test**

In panel data models, it is crucial to conduct classical assumption tests before conducting regressions to ensure the models used in the regression satisfy the classical assumptions. However, it is not necessary to perform all these tests on every linear regression, as indicated by Mardani (2023) and Gujarati & Porter (2009). As this research utilizes panel data models, it can relax the classical assumption tests (Biørn, 2016). Consequently, only the tests for normality, multicollinearity, and heteroscedasticity will be conducted in this study. While multicollinearity and heteroscedasticity tests are considered adequate to fulfill the requirements of the classical assumption test in panel data analysis.

## **4. RESULTS**

#### 4.1 Descriptive Statistic

The descriptive statistical analysis, based on 150 observations for all variables, is presented in Table 3. The average proportion of Islamic debt financing in companies, known as Islamic debt financing, is 7.44%. This value represents the portion of Islamic debt financing compared to the total loan amount. Additionally, the minimum proportion of Islamic debt financing is 0, indicating no utilization of Islamic debt financing. In contrast, the maximum proportion is 43.65%, representing companies' highest ratio of Islamic debt financing.

Table 2 Descriptive Statistics

Variables	Labels	Obs	Mean	Std. dev.	Min	Max
Islamic debt financing	IDF	150	0.0744	0.1030	0.0000	0.4365
Muslim CEO	RE	150	0.4200	0.4952	0.0000	1.0000
Management Background	M	150	0.5800	0.4952	0.0000	1.0000
CEO						
Postgraduate Background	PG	150	0.5467	0.4995	0.0000	1.0000
CEO						
Cultural Background	PM	150	0.8562	0.1692	0.1320	0.9758
CEO						
Firm size	TA	150	30.0463	1.3625	26.9481	32.6561
Growth	SG	150	0.0876	0.3285	-0.6644	1.7491
Cost-effective	CE	150	0.1537	0.1665	0.0003	1.1444
Risk	R	150	0.0392	0.0838	0.0000	0.9690
Asset structure	AS	150	0.4178	0.2059	0.0425	0.9174
Profitability	ROA	150	0.0109	0.1326	-0.8500	0.5690
COVID-19	CVD	150	0.4000	0.4915	0.0000	1.0000

As much as 85.62 percent of CEOs (PM) come from Muslim backgrounds, according to their cultural backgrounds. The values for this variable start from 13.20 percent to 97.58 percent. The average firm size (TA) is 30.05, ranging from 26.95 to 32.66. Average growth is 8.76%, ranging from -66.4% to 174.91 %. On average, cost-effectiveness is 15.37 percent, with lower percentages indicating greater efficiency. This variable goes from a low of 0.03% to a high of 114.44%. The average level of risk is 3.92%, with a range of 0 to 96.90%. The asset structure typically falls within the 41.78% range, with values varying from 4.25% to 91.74%. Last, the average profitability is 1.09%, between -85.00% and 56.90%.

In addition, the study makes use of several dummy variables. A value of 0 for the Muslim CEO variable (RE) indicates that the CEO is not a Muslim, while a value of 1 indicates that the CEO is a Muslim. Among the 150 religious CEOs studied, 42 percent were Muslims. The management education background variable (M) can take on the values 0 and 1, with 0 indicating that the CEO does not have a management education background and one indicating that the CEO does. Fifty-eight percent of CEOs in a sample of 150 have a management education background. Meanwhile, 54.67% of CEOs, on average, have postgraduate education, as indicated by the postgraduate background variable (PG), which ranges from 0 representing a CEO without minimum postgraduate education background to 1 representing a CEO with a minimum postgraduate education background. Finally, the COVID-19 dummy variable ranges from 0, representing the time before the COVID-19 pandemic, to 1, representing the time during the COVID-19 pandemic.



## 4.2 Panel Data Regression Result

The data used in this study is conducted using panel data regression to find the relationship among the variables. Furthermore, this section will explain the classical assumption tests, model selection tests, and the regression result of this study.

### 4.2.1 Classical Assumption Test

Prior to conducting the panel data regression, this research performed various classical assumption tests, including linear testing, normality testing, multicollinearity testing, heteroscedasticity testing, and autocorrelation testing. Given that the panel data consists of a substantial number of observations (100 or more), it is assumed that the data are typically distributed (Altman & Bland, 1995). After ensuring the normality of the data, this study detects the multicollinearity problems between research variables using mean VIF to develop a suitable model. The results of the multicollinearity test of all independent variables is 1.45 which means no multicollinearity issues in the data. Referring to Gujarati & Porter (2009), when the average variance inflation factor (VIF) is below 10 the study implies the absence of multicollinearity. Consequently, based on the conducted classical assumption tests, the VIF results indicate values lower than 10, suggesting no multicollinearity issues in this study. These findings satisfy the requirements of the classical assumption test. The following classical assumption test is the heteroscedasticity test. After conducting the Breusch-Pagan test, the results indicate the presence of heteroscedasticity, with a p-value less than 0.05, suggesting that the null hypothesis is rejected at a 0.05 significance level and data is unsuitable for estimation. Due to heteroscedasticity in the data, one alternative step to address this issue is to employ robust standard errors, which aim to generate more accurate and consistent standard estimates (Zach, 2020). Thus, this study used robust standard error regression to overcome the heteroscedasticity test.

### 4.2.2 Model Selection Test

This study conducts the Chow, LM, and Hausman tests, as shown in Table 4, to choose the estimation model.

Table 3 Model Selection Test Result

Test	p-value	Model selection
Chow test	0.0000	Fixed-effect model
Hausman test	0.8605	Random-effect model
LM test	0.0000	Random-effect model

Based on the model selection results, the three-model selection brought to random-effect test as the preferred model for this study. However, when examining the p-values of the F-statistic these tests, neither the fixed-effect model nor the random-effect model shows a significant relationship between the independent variables and the dependent variable, as the p-values are greater than 0.05, shown in Table 5.

Table 4 F-test Result of 3 Estimation Models

Model	F-test	Result
Common effect model	0.0006	Significant
Fixed effect model	0.7297	Not significant
Random effect model	0.2628	Not significant

Consequently, out of the three regression models considered, only the common effect model exhibits a p-value below the 0.05 significance level. Therefore, since the data show

the presence of heteroskedasticity, the common-effect model with robust standard errors will be utilized for further data analysis.

### 4.3 Regression Result

Common-effect model regression with robust standard errors was conducted to know the relationship between dependent and independent variables. Before doing the regression analysis, the data should pass the classical assumption test, which the researcher conducted (normality, multicollinearity, and heteroskedasticity) in the previous section. Table 6 shows the regression analysis results of the eight independent variables and one dependent variable.

Table 5 Regression Analysis Result

<i>Dependent variable: IDF<sub>i,t</sub></i>			
Variables	Labels	(Robust std. errors)	
		Coefficient	Sig.
<b>Muslim CEO</b>	<b>RE<sub>i,t</sub></b>	<b>0.0344688</b> <b>(0.0190137)</b>	<b>0.072*</b>
Management Background CEO	M <sub>i,t</sub>	-0.0103437 (0.0233344)	0.658
Postgraduate Background CEO	PG <sub>i,t</sub>	-0.012873 (0.022133)	0.562
Cultural Background CEO	PM <sub>i,t</sub>	-0.0169334 (0.0423452)	0.690
<b>Firm size</b>	<b>TA<sub>i,t</sub></b>	<b>-0.0302642</b> <b>(0.0057452)</b>	<b>0.000***</b>
Firm growth	SG <sub>i,t</sub>	-0.013957 (0.0434066)	0.748
<b>Cost-effective</b>	<b>CE<sub>i,t</sub></b>	<b>-0.1219896</b> <b>(0.0592497)</b>	<b>0.041**</b>
Risk	R <sub>i,t</sub>	-0.0258787 (0.0342583)	0.451
Asset structure	AS <sub>i,t</sub>	-0.0200426 (0.042159)	0.635
Profitability	ROA <sub>i,t</sub>	0.089781 (0.0558027)	0.110
COVID-19	CVD <sub>i,t</sub>	0.0237047 (0.0177803)	0.185
Constant		1.013258 (0.1879057)	0.000
N		150	
Probability (F-statistic)		0.0003	
R-squared		0.2038	

*Note:* The table displays coefficient estimates with robust standard errors in parentheses. In order to address heteroscedasticity, robust standard errors were utilized in this study. The rows marked in bold indicate the significance levels at 0.10, 0.05, and 0.01, denoted by \*, \*\*, and \*\*\*, respectively.

Based on the table above, the equation is written as below,

$$IDF_{i,t} = 1.0133 + 0.0345RE_{i,t} - 0.0103M_{i,t} - 0.0129PG_{i,t} - 0.0169PM_{i,t} - 0.0303TA_{i,t} - 0.0140SG_{i,t} - 0.1220CE_{i,t} - 0.0259R_{i,t} - 0.0200AS_{i,t} + 0.0898ROA_{i,t} - 0.0237CVD_{i,t} + \varepsilon_{i,t}$$

From the results shown in Table 6, the probability of the F-statistic is 0.0003, which means that the p-value is below 0.01; thus, the null hypothesis is rejected. Then, the results indicate that the independent variable jointly affects the dependent variable. Based on Table 10, this study reveals that out of the 11 variables examined, only three significantly

influence firms' preference for Islamic debt financing. These variables include having a Muslim CEO, firm size, and cost-effectiveness. Conversely, the remaining eight variables do not significantly impact firms' preference for Islamic debt financing. As a result, this study does not reject eight out of the eleven null hypotheses that were initially proposed.

Muslim CEO, measured by RE, indicates that the variable has a significant positive relationship with the firm's decision-making when using Islamic debt financing even though it shows a low significance because it shows a 0.1 significance level. Thus, the analysis means that the presence of a Muslim CEO in a firm increase the financing using Islamic debt financing.

Hence, among the firm characteristics examined, only two variables, namely firm size (labeled as TA) and cost-effectiveness (labeled as CE), demonstrate a significant impact on the dependent variable. Both variables exhibit a significant negative effect on the dependent variable. However, TA displays a strong significance level at a 0.01 significance level, while CE shows a weaker significance at a 0.1 significance level. The finding related to firm size suggests that larger companies tend to be less inclined to utilize Islamic debt financing. On the other hand, regarding the cost-effective variable, the analysis results indicate that higher cost-effectiveness in a company corresponds to a decreased tendency to employ Islamic debt financing.

The R-squared value of this study is 0.2038, indicating that approximately 20.38% of the variation in Islamic debt financing can be explained by the variables included in the model, namely Muslim CEO (RE), management background of the CEO (M), the postgraduate background of the CEO (PG), cultural background of the CEO (PM), firm size (TA), firm growth (SG), cost-effectiveness (CE), risk (R), asset structure (AS), profitability (ROA), and the impact of the COVID-19 pandemic year. The remaining 79.62% of the variation is attributed to other factors not considered in the research model.

In summarizing the regression analysis results, Table 7 illustrates the association between Islamic debt financing and each independent variable in their significance levels.

Table 6 Regression Result Summary

Variables	Labels	Expected Results	Result	Significance
Muslim CEO	RE <sub>i,t</sub>	(+)	(+)	Reject H <sub>0</sub>
Management Background CEO	M <sub>i,t</sub>	(+)	(-)	Do not reject H <sub>0</sub>
Postgraduate Background CEO	PG <sub>i,t</sub>	(+)	(-)	Do not reject H <sub>0</sub>
Cultural Background CEO	PM <sub>i,t</sub>	(+)	(-)	Do not reject H <sub>0</sub>
Firm size	TA <sub>i,t</sub>	(+)/(-)	(-)	Reject H <sub>0</sub>
Firm growth	SG <sub>i,t</sub>	(+)/(-)	(+)	Do not reject H <sub>0</sub>
Cost-effective	CE <sub>i,t</sub>	(-)	(-)	Reject H <sub>0</sub>
Risk	R <sub>i,t</sub>	(-)	(-)	Do not reject H <sub>0</sub>
Asset structure	AS <sub>i,t</sub>	(+)/(-)	(-)	Do not reject H <sub>0</sub>
Profitability	ROA <sub>i,t</sub>	(-)	(+)	Do not reject H <sub>0</sub>
COVID-19	CVD <sub>i,t</sub>	(+)	(+)	Do not reject H <sub>0</sub>

#### 4.4 Discussion

The regression analysis reveals that out of the eleven variables examined, only three variables, namely Muslim CEO (RE), firm size (TA), and cost-effectiveness (CE), show a significant influence on Islamic debt financing. This result means that most of the alternative hypotheses proposed in this study fail to reject the null hypotheses, indicating no relationship with Islamic debt financing as the dependent variable.

Specifically, the regression results indicate that the presence of a Muslim CEO has a positive impact on Islamic debt financing in their respective companies. This finding aligns with a previous study by Brahmana & You (2021) suggesting that Muslim CEOs allocate more Islamic financing within their companies than non-Muslim CEOs. This phenomenon can be attributed to the fact that Muslim CEOs tend to be more attentive to firm performance due to their risk-taking behavior influenced by religious beliefs (Ooi & Hooy, 2021).

An interesting finding in this study is that larger companies allocate more Islamic finance less frequently than small ones. This finding contradicts a previous study conducted in Malaysia, which found a positive relationship between firm size and Islamic debt financing (Brahmana & You, 2021). This observation could explain why Indonesia has a relatively low market share in Islamic finance, as smaller companies are likelier to adopt Islamic finance within their business.

Furthermore, the analysis demonstrates a negative coefficient between cost-effectiveness and Islamic debt financing. This finding indicates that companies with better cost-effectiveness tend to have more Islamic debt financing. This finding can be attributed to companies with lower cost-effectiveness and higher selling expenses. These results are consistent with the findings of a previous study by Brahmana & You (2021).

Overall, these findings provide insights into the factors that influence the utilization of Islamic debt financing in Indonesian companies, highlighting the significance of a Muslim CEO, firm size, and cost-effectiveness in shaping the adoption of Islamic finance.

## **5. CONCLUSION AND RECOMMENDATION**

### **5.1 Conclusion**

This study examines the relationship between CEO characteristics, firm characteristics, and the impact of the COVID-19 pandemic on the use of Islamic debt financing in publicly listed companies in Indonesia. The key findings are as follows:

1. Among the CEO characteristics, the Muslim CEO variable shows a significant positive association with the CEO's preference for using Islamic debt. This finding suggests that having a Muslim CEO will allocate more Islamic-debt financing than non-Muslim CEO to their company.
2. Regarding firm characteristics variables, two out of six are negatively significant: firm size and the company's cost-effectiveness. This study indicates that the larger firm tends to allocate more Islamic finance less frequently. Moreover, companies with higher cost-effectiveness tend to have less Islamic debt financing in their company.
3. The study did not find any significant impact of the COVID-19 pandemic on the utilization of Islamic debt financing, indicating a consistent pattern before and during the COVID-19 pandemic.

### **5.2 Recommendation Regulation**

Based on the data findings, several recommendations can be directed to regulators such as Bank Indonesia and the Financial Services Authority (OJK):

1. Consider increasing understanding and awareness of Islamic debt financing: Since there is no significant relationship between factors such as CEO management background, CEO postgraduate education, CEO cultural background, firm growth, firm risk, asset structure, profitability, and the COVID-19 pandemic with

- the usage of Islamic debt financing, regulators can strengthen efforts to enhance understanding of Islamic debt financing products and principles among companies and the general public collaborate with Islamic financial institutions.
2. Improve understanding of the benefits of Islamic debt financing: Regulators can promote the advantages and benefits of using Islamic debt financing, such as legal and ethical protections, which can attract companies to adopt this approach. Broader education about the economic benefits, financial stability, and sustainable growth that can be achieved through Islamic debt financing can also be conducted.
  3. Promote greater financial inclusion: Recognizing the significant relationship between Muslim CEOs, firm size, and cost-effectiveness with the usage of Islamic debt financing, regulators can encourage greater financial inclusion by providing stronger support for small and medium-sized enterprises (SMEs), facilitating easier access to Islamic debt financing for resource-constrained companies, and giving incentives for SME development contribute to more inclusive economic growth.

These recommendations aim to stimulate the growth and development of Islamic debt financing in Indonesia by strengthening financial inclusion, enhancing understanding and acceptance of these products, and maintaining integrity and compliance with Sharia principles, which, in turn, will have a positive impact on economic growth and financial inclusivity in the country.

### **5.3 Recommendation for Further Research**

Based on the findings of this study, there are several recommendations for further research that can be conducted:

1. Researchers can consider alternative methodologies that do not exhibit endogeneity in the data, such as the GMM (Generalized Method of Moments) system.
2. Researchers can explore other variables that may influence the use of Islamic debt financing. For example, company liquidity, market growth, or industry characteristics can be chosen for the new variables. By incorporating these additional variables, researchers can gain a more comprehensive understanding of the factors that affect the utilization of Islamic-compliant financing in the context of Indonesian companies.
3. This study's data interval covered the period from 2017 to 2021. However, by extending the data interval, for instance, several years into the future, researchers can observe long-term developments in utilizing Islamic debt financing and its relationship with the examined factors.

These recommendations can assist researchers in gaining a deeper understanding of the factors influencing the utilization of Islamic debt financing and how it can be enhanced in Indonesia. Thus, further research can provide a more comprehensive and relevant insight into the development of Islamic finance in the country.

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#### APPENDIX: List of Companies

ID	Issuer Code	Company Name
1	APLN	PT Agung Podomoro Land Tbk
2	ASSA	PT Adi Sarana Armada Tbk
3	BHIT	PT MNC Asia Holding Tbk
4	BIPP	PT Bhuwanatala Indah Permai Tbk
5	BMSR	PT Bintang Mitra Semestaraya Tbk
6	BMTR	PT Global Mediacom Tbk
7	BNBR	PT Bakrie & Brothers Tbk
8	BUDI	PT Budi Starch & Sweetener Tbk
9	DILD	PT Intiland Development Tbk
10	ELSA	PT Elnusa Tbk
11	ELTY	PT Bakrieland Development Tbk
12	EMDE	PT Megapolitan Developments Tbk
13	GIAA	PT Garuda Indonesia (Persero) Tbk
14	IATA	PT MNC Energy Investments Tbk
15	IBST	PT Inti Bangun Sejahtera Tbk
16	IMAS	PT Indomobil Sukses Internasional Tbk
17	INTA	PT Intraco Penta Tbk

18	KAEF	PT Kimia Farma Tbk
19	MEDC	PT Medco Energi Internasional Tbk
20	MNCN	PT Media Nusantara Citra Tbk
21	PTBA	PT Bukit Asam Tbk
22	PTPP	PT Pembangunan Perumahan (Persero) Tbk
23	SHID	PT Hotel Sahid Jaya International Tbk
24	SRIL	PT Sri Rejeki Isman Tbk
25	SMDR	PT Samudera Indonesia Tbk
26	TINS	PT Timah Tbk
27	TKIM	PT Pabrik Kertas Tjiwi Kimia Tbk
28	TMAS	PT Temas Tbk.
29	WEGE	PT Wijaya Karya Bangunan Gedung Tbk
30	WSKT	PT Waskita Karya (Persero) Tbk

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