

INVESTIGATING THE ROLE OF ISSUING CORPORATE ISLAMIC BOND AND SELECTED DETERMINANTS ON FIRM'S PROFITABILITY

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Abstract

Purpose of the study: The purpose of this study is to investigate the effect of corporate Islamic bond issuance, internal and macroeconomic factors on firm's profitability. The internal factors involved potentially as determinants of profitability are leverage and firm size. Meanwhile, the macroeconomic factors are economic growth and the inflation rate.

Methodology: The sample is taken from companies listed at Indonesia Stock Exchange (IDX) and selected from 24 companies. The sample is 21 companies whose data completely and issued the Islamic bond during the period 2012 until 2018. Moreover, the panel data regression was employed as an analytical tool to test the data.

Main Findings: The results suggest that Islamic bond issuance and financial leverage have a negative influence on profitability, firm size has no significant influence on profitability, and economic growth and inflation rate have a positive influence on profitability.

Applications of this study: A firm, as well as an investor, must consider the lower Islamic bond issuance and debt proportion. Besides, they should anticipate decreased economic growth and the inflation rate.

Novelty/Originality of this study: This study observes evidence from Indonesia Stock Exchange (IDX) that develops the previous studies and adds references for further studies about Islamic bond issuance. Also, it combines Islamic fund source and firm-specific internal as well as macroeconomic factors (economic growth and inflation rate) macroeconomics factors insert what are the macroeconomic factor which affects the profitability of the business to give a clear picture of how the effect of all factors on profitability.

Keywords: *Islamic Bond, Profitability, Leverage, Firm Size, Economic Growth, Inflation Rate.*

INTRODUCTION

To compete on the market, the firms attempt to maximize their profitability which is the firm's capability to generate profit by utilizing their resources to fund the daily operations and grow the business. Profitability is important for a firm to be successful in business and remain attractive to investors and analysts. One way to maximize the profitability of a firm is to determine sources of funds. There are two sources of funds for a firm to fulfill its operational activity which are internal and external financing sources.

The firm could not only rely on internal sources of financing, but it also should manage the external sources of financing to keep-stay in a competitive environment. The sources of external financing could be obtained by issuing corporate bonds which one of the types is Islamic bonds. Therefore, Islamic bond is an alternative financing instrument that is based on the laws of sharia besides conventional bond counterpart. According to [Said \(2011\)](#), an Islamic bond is a certificate that represents the value of an asset. It is one of the Islamic financial instruments that is a wholesale asset-based capital market security.

Since 2002 Islamic bond (Sukuk) has grown rapidly in Indonesia, although the number of issuances was still less than the conventional bond. Based on the Indonesia Bond Pricing Agency (IBPA), at the end of 2018, there are IDR 113,641 billion of corporate bonds issued. It indicates that the problem is market participants are more confident to invest their funds in conventional bonds rather than Sukuk. This phenomenon is similar to research from [Hanifa et al. \(2015\)](#) who inform that there are only 80 Sukuk from 200 bonds issued by firms in Malaysia from 2000 to 2012.

Several theories are arguing on the capital structure of firms, among others pecking order theory, trade-off theory, market timing theory, and signaling theory. Pecking order theory explains about the capital structure and financing decision theory introduced by Donaldson in 1961 and modified by [Myers and Majluf \(1984\)](#). This theory suggests that the firms prioritize the source of financing, which is from internal financing (earnings retained) rather than external funding. In case when the firm needs some external funding, they would prefer debt over equity, and equity is placed as a last resort ([Jibrán et al., 2012](#)).

The trade-off theory was proposed by [Kraus and Litzenberger \(1973\)](#) and popularized by [Myers and Majluf \(1984\)](#) that emphasizes optimal capital structure. It is based on the idea about the firms using a debt or equity as the financial sources by balancing between the benefits and the cost. The firms should make the best decision regarding the target debt ratio, which the effect of tax shield is maximized, and the bankruptcy costs associated with the debt are minimized ([Çerkezi, 2013](#)). The purpose of optimizing the best target debt ratio is to gain the benefits from tax shields because the

interest on the debt is deductible before paying taxes ([Modigliani & Miller, 1963](#)). However, the bankruptcy risk might rise if the firms increase their debt level when the firms want to maximize the benefits of the tax shield. According to this theory, the firms must choose the optimal debt ratio to maximize their value and have an incentive to turn to debt as the creation of annual profits by providing benefit from the debt tax shield ([Serrasqueiro & Caetano, 2014](#)).

The market timing theory shows that the implication of choosing financing sources, whether by using debt or equity at several points of time is more important than determining the optimum leverage. Four arguments were delivered by [Baker and Wurgler \(2002\)](#) on the effectiveness of the market timing theory. Firstly, when the stock price is higher than the book value, and the market value was already higher, a firm tends to issue stock as a substitution for debt. In contrast, when the market value declines, the firm tends to buy back the stock. Secondly, when investors are highly optimistic and enthusiastic, the firm is likely to issue the stock by using estimation analysis on prospective earnings and the actual stock prices. Thirdly, when the firm experiences financial distress, the priority of financing comes from debt because the firm will be more disciplined and responsible under the debt contract. Fourthly, when the firm experiences in higher growth within its product life cycle, the market timing theory could be applied because it may attract the market sentiment. The main idea of market timing theory is the firms are likely to finance their project using debt when the stock price is undervalued. Contrarily, the firms would issue equity when the stock prices are overvalued ([Setyawan, 2011](#)).

The signaling theory was developed to explain the problems of asymmetrical information. The basic idea of this theory is that the top executive manager of a firm who has much more internal information has a motivation to increase the stock price when the information is transferred to external investors ([Markopoulou & Papadopoulos, 2009](#)). In this situation, the manager is likely to increase the leverage of the firm rather than spread the good news. It is because other firms could do the same action to spread news without being valid. The firms sending a signal that their businesses have a good prospect tend to increase their leverage. Also, [Leland and Pyle \(1977\)](#) state that the increased debt by the manager is a positive sign that the firm has confidence in its future earnings.

The agency theory discusses problems occurred in most firms caused by the separation of owners and managers and emphasizes the reduction of the problems ([Panda & Leepsa, 2017](#)). According to [Jensen and Meckling \(1976\)](#), this theory proposes that optimal capital structure is determined by agency cost, which is the result of the conflicts of interest among all different stakeholders. There are two main conflicts in a firm, including the conflict between managers and shareholders as well as the conflict between the shareholders and creditors. This theory states that the managers do not always act in the best interest of the shareholders as the firm owners. The normative agency theory has an objective to issue optimal agreements between both parties and to explain their behaviour to maximize the firm's value and profitability. The maximization only could be achieved by creating great teamwork and proper coordination among the parties involved in the firm.

According to Accounting and Auditing Organization for Islamic Finance Institutions (AAOIFI), Sukuk is a certificate of equal value represents undivided shares in the ownership of tangible assets, usufructs, and services or (in the ownership of) the assets of particular projects special investment activities. Sukuk is an Islamic bond that is structured to give a return to investors without using elements or factors prohibited in sharia. Islamic bond is an instrument that can be liquidated easily and tradable in the secondary market. It has regular periodic income streams during the investment period with an easy and efficient settlement. The benefits obtained by issuing Islamic bonds are as a source of funding for the firm operational activity and generally as a tool of stimulating for development of the Islamic capital market and as an alternative policy for a country to develop the economic infrastructures.

Similar to conventional bonds, the Islamic bond has a date of maturity and provides income flows over the life with a payment at maturity to the holders. According to [Afshar \(2013\)](#) the differences between Islamic bonds and conventional bonds are: a). Islamic bond claims on ownership of an asset as opposed to a conventional bond that claims on debt instrument; b). There is a possibility of capital appreciation in the Islamic bond, so the investors could get more returns, while the returns of the conventional bond are fixed and could not vary; c). The contract in Islamic bond is based on the seller-buyer relationship that is different from the conventional bond in which the contract is based on the borrower-lender relationship; d). Return on invested capital of the Islamic bond for investors is not guaranteed as opposed to the conventional bond that the issuer is obligated to pay at maturity.

The causality relationship from Islamic bond issuance to a firm's profitability has been analyzed in several studies. For example, [Hasni et al. \(2017\)](#) analyze the effect of the amount of Sukuk issued on the profitability of firms in Malaysia. They find that an increase of 1 percent in the amount of issuance will decrease 0,33 percent in return on assets. Another research investigated by [Mimouni et al. \(2019\)](#) has a similar result which concludes that Sukuk development reduces the Islamic bank's profitability.

The logical connection underlying a negative causality from Islamic bond issuance to profitability is related to agency cost. For example, [Godlewski et al. \(2013\)](#) argue that Islamic bond issuance may increase the firm agency cost. They obtain evidence that the stock market reacts negatively to the announcement of Islamic bond issuance. The firms that have weak financial performance and unable to issue conventional bonds might still have access to get financing through Islamic bond issuance. Since market participants anticipate this condition, they send a negative reaction to the issuance.

The negative reaction of the market could lead to an increase in agency costs resulted from the conflict of interest between shareholders and debt-holders ([Jensen & Meckling, 1976](#)).

Besides, [Jabbary et al. \(2013\)](#) analyze the influence of agency cost on the firm performances using three criteria, including operating expense, asset turnover to sales, and sales ratio. They find that the two criteria of agency cost harm the return on assets. Their findings could be formulated in simple words that Islamic bond issuance could increase the agency cost, and hence the agency cost could decrease the profitability. It means increased Islamic bond issuance might lead to a decrease in profitability issuing firms.

Financial leverage is the ability of a firm to fulfill its obligation both principal and its interest using sources of capital owned. As a proxy for financial leverage, the debt-equity ratio provides the level of corporate debt compared by its equity which shows the extent to which the firm is financed by a certain composition of debt and equity. In this study, the debt-equity ratio will be used to represent the value of leverage. The debt-equity ratio is one of the financial leverage ratios that measures the use of total debt compared to the shareholder's equity of a firm.

A firm with larger debt tends to have a greater cost of debt that could be a problem for the firm because it may reduce the confidence level of investors. They tend to avoid the stock of the firm that has a higher debt-equity ratio ([Atidhira & Yustina, 2017](#)). Moreover, creditors would generally prefer this ratio at the lower level. The higher the value of the debt-equity ratio means the firm has been aggressive in financing its growth with debt where its business could face higher risk, and its value of stock prices could decrease.

Argumentation from [Abdul-Rahman \(2017\)](#) states that there is a decrease in the performance of a firm if the value of the debt-equity ratio is too high. The reason is that a higher level of debt means the firm's interest expense will be greater and may lead to a decreasing number of its profits. In other words, when there is an increase in the debt-equity ratio, the financing cost will increase so that the profitability will decrease.

[Kazmierska-Jozwiak et al. \(2015\)](#) state that firms representing higher profitability carry lower debt. More specifically, the debt level has a negative influence on return on the asset, which is consistent with pecking order theory because the firm utilizes financial surplus to avoid incurring debt. Another research conducted by [Ulzanah and Murtaqi \(2015\)](#) reports that the debt-equity ratio harms return on assets. The same finding was suggested by [Meero \(2015\)](#).

According to [Pervan and Višić \(2012\)](#), the relationship between firm size and its profitability could refer to the traditional neoclassical view of firm and economies of scale concept. There are various reasons behind the economies of scale, such as financial, organizational, and technical reasons. The financial reason is related to the larger firms that could get a better discount rate and interest rate. The organizational reason is related to the specialization and the division of labor, and the technical reason is related to the division of higher fixed cost across a large number of units.

The traditional neoclassical and the economies of scale framework assume that the larger firms have more opportunities to generate more profits because of their larger market share, wide networking, and long sustainability. For example, the larger firms usually obtain a better discount rate and interest rate due to the number of the quantity they purchase. Therefore, the larger the firm, the easier for them to provide higher profits so that the investors would be more interested in allocating their funds ([Kartikasari & Merianti, 2016](#)).

Moreover, [Isik et al. \(2017\)](#) analyze the effect of firm size on profitability observing 112 publicly listed firms in the manufacturing sector. They find that firm size measured by total assets, net sales, and a number of employees has a positive impact on a firm's profitability measured by return on assets. Their finding is in line with the conclusion from [Doğan \(2013\)](#) and [Pervan and Višić \(2012\)](#).

According to [Maudos and Fernández de Guevara \(2004\)](#), well economic prosperity tends to enhance good management practices reducing firm cost and lowering default risk. Reduced firm cost means enhanced firm earnings which are synchronous with [Mimouni et al. \(2019\)](#), who state that higher economic growth could increase the financial activity of a firm and its profitability. Also, [Dewi et al. \(2019\)](#) analyze the impact of macroeconomic factors on firms' profitability in Indonesia and find that gross domestic product has a positive effect on the return on assets of a firm. Their result is in line with [Bhutta and Hasan \(2013\)](#) and [Gul et al. \(2011\)](#).

While the micro-economic factors (i.e. manufacturing, leadership, and organizational culture) could be controlled by the management, the macroeconomic factors such as economic growth are beyond the control of the management. Gross domestic product is the standard indicator that represents the value of final goods and services produced by a country during a period. According to the previous research, gross domestic product is expected to give a stimulant for a firm to increase its return on assets.

Inflation is regarded as a monetary phenomenon due to the impairment of the monetary calculation unit to a commodity. A higher value of the inflation rate could affect individuals' wealth, the competitiveness of the national product, and business activities. For people who have a fixed income, an increase in inflation might reduce the real income. For the same amount of money, the number of goods or services that could be bought might be different. A higher inflation rate has an impact on purchasing power because the value of money is lower. A higher inflation rate also could affect the competitiveness of national products because it might increase the production cost for a firm, so that could decrease the

ability of the national products to compete at the market.

Higher anticipated inflation determines the increase in an interest rate of the bank's loans ([Demirgüç-Kunt & Huizinga, 1998](#)). The increase in an interest rate is not a good condition for a firm borrowing loan from the bank because it will increase an expense for the firm to pay the interest rate and may lead to a decrease in its income. When the increase in the inflation rate is unanticipated, it may lead to a greater cost of capital and hence lower earnings ([Mimouni et al., 2019](#)). Moreover, [Mirzaei et al. \(2013\)](#) report that inflation harms profitability. This finding is similar to research from [Aviliani et al. \(2015\)](#). Similar research with a broader scope at the sector level has been investigated by [Chaudhry et al. \(2013\)](#) who analyze the impact of inflation rate on sector growth. They conclude that the inflation rate harms on the growth of manufacturing firms.

There is a controversial finding on the effect of issuing an Islamic bond towards the firm's profitability or financial performance. For example, [Mimouni et al. \(2019\)](#) analyze the impact of Islamic bonds on the performance of conventional and Islamic banks. They found that Islamic bond adversely affects the performance of Islamic Banks. The same result was provided by [Hasni et al. \(2017\)](#) who investigate the effect of total Sukuk issuance on return on assets and report that the total amount of Sukuk issuance would decrease return on assets. It is related to increased agency cost, and hence it could decrease the profitability. Meanwhile, [Said \(2011\)](#) investigates whether the use of Islamic bonds by Islamic banks influences financial performance. Using financial ratios as performance measurement, he suggests that Islamic bond has no impact on the performance of the Islamic bank. He presents that the financial performance, such as the profitability of the Islamic banks during the period 2007 to 2009 decreases because of the global financial crisis. Therefore, increasing funds by issuing Sukuk measured by total Sukuk per total assets in such conditions has no impact on the financial performance.

To maintain profitability in stable and growth conditions, a firm could control its financial leverage which is one of the internal factors. According to [Weygandt et al. \(2014, p. 855\)](#), the leverage refers to a firm's capability to use the assets or funds that have a fixed burden such as debt or equity to maximize firm value and shareholders' wealth. Based on the trade-off theory, by issuing debt, a firm could maximize the effect of tax shield and generate more profits. The firm could gain benefit from its tax shield because the interest of debt is deductible before paying taxes ([Modigliani & Miller, 1963](#)). Research by [Hovakimian et al. \(2001\)](#) concludes that more profitable firms are more likely to issue debt over equity. On the other hand, [Ulzanah and Murtaqi \(2015\)](#) and [Meero \(2015\)](#) find that leverage has a negative impact on a firm's profitability. The evidence of prior studies present that the impact of the debt-equity ratio to profitability is unclear.

Another factor that could influence on firm's profitability is the size of the firm. The traditional neoclassical view of the firm and the concept known as economies of scale assumes that the larger firms have more opportunities to generate more profits because of their larger market share, wide networking, and long sustainability. For example, the larger firms usually obtain a better discount rate due to the number of the quantity they purchase. Therefore, the larger the firm, the easier for them to provide higher profits so that the investors would be more interested in allocating their funds to the firms ([Kartikasari & Merianti, 2016](#)). Their statement is similar to results of [Doğan \(2013\)](#); [Pervan and Višić \(2012\)](#) and [Isk et al. \(2017\)](#) suggesting that firm size has a positive effect on the firm's profitability. In contrast, [John and Adebayo \(2013\)](#) and [Oyelade \(2019\)](#) find evidence that firm size has no significant effect on the firm's profitability.

Several factors may not be controlled by the firm, i.e. macroeconomic factors, although the phenomenon still could be anticipated. Two macroeconomic factors that may influence the profitability are economic growth and inflation rate. According to [Mimouni et al. \(2019\)](#), a higher economic growth leads to a higher demand for financial services that could increase the financial activity and give a stimulant for a firm to increase its profitability. Moreover, the inflation rate could affect on the price of raw materials, so when the increase in the inflation rate is unanticipated, it may lead to a greater cost of financing and might reduce its profitability. However, [Naceur \(2003\)](#) reports that macroeconomic indicators such as economic growth and inflation rates do not affect on profitability.

According to the descriptions above, we are interested in conducting a study to give a clear picture of how the effect of Islamic bond issuance, internal (leverage and firm size), and external (economic growth and inflation rate) factors on profitability internal and external factors on profitability. This study aims to develop the previous researches and add references for further researches about Islamic bond issuance, leverage, firm size, economic growth, inflation rate, and how they affect on the profitability of firms issuing Islamic bonds. This study has benefited as consideration for management to decide whether the firm should issue an Islamic bond. It has also benefited as consideration for management to understand the effect of the leverage ratio, firm size, economic growth, and inflation rate to increase its profitability. Besides, the result of this study can be used for investors as a basic consideration to begin their investing in Islamic financial products. Therefore, we state five hypotheses as follow:

H_{a1}: Islamic bond issuance harms profitability.

H_{a2}: Leverage harms profitability.

H_{a3}: Firm size has a positive effect on profitability.

H_{a4}: Economic growth has a positive effect on profitability.

H₅: The inflation rate harms profitability.

METHODOLOGY

The populations of this study were all firms issuing Islamic bond and were listed at Indonesian Stock Exchange which consists of 24 firms. This study applies judgment sampling with some criterion as follows: the firms have issued the Islamic bond at least once during the period 2012 until 2018 and have published the annual report completely. The data of Islamic bond issuance, firm size, and debt-equity ratio are collected directly from www.ojk.go.id, www.idx.co.id, and each firm's website. Meanwhile, the data on gross domestic product and inflation rate are obtained from www.worldbank.org and www.tradingeconomics.com.

This research includes a quantitative type employing data in numerical form and uses causality approaches to determine the association among variables. Besides, the objects of analysis observed are profitability which is measured by return on assets (ROA); Islamic bond issuance (IBI) which is measured by the total outstanding share of Islamic bond; leverage which is measured by the debt-equity ratio (DER); the size of the firm (FSZ) which is measured by the natural logarithm of total assets; economic growth rate (EGR) which is measured by the difference in gross domestic product cross-period, and inflation rates (INR) which is measured by the difference in the consumer of price index cross-period.

Profitability is the capability of a firm to create higher earnings by utilizing existing economic resources. The firm's profitability indicates how efficient a firm maximizes its earnings by using its assets and capital. Return on assets (ROA) is one of the profitability indicator ratios that indicate how effective a firm generates earnings by using its assets (Weygandt et al., 2014, p. 854). The ratio of ROA contains the number of profits generated relative to the level of investment in total assets. The lower value of ROA indicates that the firm could not maximize its asset on generating more profits which means the higher the value of ROA, the better its financial performance. The ROA ratio is used in this study to represent the firm's profitability and expressed as in Eq. (1).

$$\text{ROA} = (\text{Net Income} / \text{Total Assets}) \times 100\% \quad (1)$$

The number of total outstanding Islamic bond is used in this study to represent the Islamic bond issuance. It was measured by the total amount of Islamic bond that has been issued by a firm for a certain period which represented by the number of total outstanding Islamic bonds. According to Hasni et al. (2017), the Islamic bond issuance can be measured by calculating the total amount of Islamic bond issued by each sample firm within the research period. This variable is analyzed in the natural logarithm form of the number of outstanding Islamic bonds for each firm and expressed as in Eq. (2).

$$\text{IBI} = \text{Ln} (\text{Total Outstanding Islamic Bond}) \quad (2)$$

Financial leverage indicates the extent to which the firm has borrowed money to finance its business which represents the policy of capital structure made by the management (Ahmad et al., 2015). The leverage ratio measures the ability of a firm to repay its obligations. The proxy for financial leverage generally is the debt to equity ratio or the debt to total assets ratio. The debt to equity ratio refers to the financial leverage ratio that describes the proportion between total debt and total equity. The increase in its value means the firm is being financed by creditors rather than using its equity source. It is important to pay more attention to the debt-equity ratio when examining the health of a firm. Furthermore, the debt-equity ratio (DER) is used in this study as a proxy of financial leverage. This ratio captures the percentage of the debt provided by creditors and equity by shareholders (Weygandt et al., 2014, p. 859). The formula used to calculate the value of DER is expressed as in Eq. (3).

$$\text{DER} = (\text{Total Debt} / \text{Total Equity}) \times 100\% \quad (3)$$

According to the size, firms could be classified into three categories, namely small, medium, and large. Firm size is an indicator classifying the firms according to their characteristics of scale. Moreover, it is the scale representing how big a firm is by utilizing its total assets, total sales, market capitalization, or a number of workers (Isik et al., 2017). The firm size of this study simply is a classification of the firms based on total assets by the end of the year. The formula to measure the firm size (FSZ) used in this study is the natural logarithm of total assets as expressed in Eq. (4).

$$\text{FSZ} = \text{Ln} (\text{Total Assets}) \quad (4)$$

Economic growth could be measured by the development of the gross domestic product (GDP), which is one of the key factors that could pose a positive or negative threat to the financial performance of a firm. The GDP measures the total goods and services that were produced in a country in a certain period. The GDP is the most commonly used as a macroeconomic indicator for measuring total economic activity within a country, and its growth rate reflects the state of the economic cycle. It was used throughout the world as the main measure of output and economic activity (Egbunike&Okerekeoti, 2018). Besides, Mahmood (2012) states that GDP is the broadest quantitative measure of a nation's total economic activity or economic growth rate. As adopted from Muharam et al. (2019), values of economic growth (EGR) are taken from differences in the gross domestic product (GDP) in which the formula is expressed as in Eq. (5).

$$\text{EGR}_t = ((\text{GDP}_t - \text{GDP}_{t-1}) / \text{GDP}_{t-1}) \times 100\% \quad (5)$$

Inflation refers to an increase generally in price level for commodities and services over a certain period. It was an indicator that measures how much more expensive a set of goods and services has become. Moreover, [Öner \(2018\)](#) states that inflation is a rate of increase in prices over a given period in percentage units. Inflation measures the overall increase in prices or an increase in the cost of living in a country. The value of the inflation rate (INR) could be calculated from the consumer price index (CPI) data, and the formula is expressed as in Eq. (6).

$$INR_t = ((CPI_t - CPI_{t-1})/CPI_{t-1}) \times 100\% \quad (6)$$

The panel data regression model is used to analyze the data and to provide information about the association among variables. To test the hypotheses, it is employed specifically using the individual parameter significance test (t-test) and coefficient of determination (R^2) test. By applying the panel data analysis, the characteristics of all variables for a certain period could be observed simultaneously so that the result of the analysis will be more comprehensive.

Panel data regression has been widely employed in prior studies, [Najmudin et al. \(2017\)](#) and [Muharam et al. \(2018\)](#), among others. This approach consists of common, fixed, and random effect models. Therefore, this study describes shortly on the characteristics and advantages of the models. The following is a general estimation equation of the panel data model implemented in this study, as expressed in Eq.(7).

$$ROA_{it} = \alpha + \beta_1 IBI_{it} + \beta_2 DER_{it} + \beta_3 FSZ_{it} + \beta_4 EGR_{it} + \beta_5 INR_{it} + \varepsilon_{it} \quad (7)$$

Where α is constant; β_i is regression coefficients; ROA_{it} is the return on assets of firm i at year t ; IBI_{it} is Islamic bond issuance of firm i at year t ; DER_{it} is debt to equity ratio of firm i at year t ; FSZ_{it} is the size of firm i at year t ; EGR_{it} is economic growth at year t ; INR_{it} is inflation rate at year t ; ε_{it} is the error term.

RESULTS

To determine which model of panel data will be used to analyze and interpret the data of this study, there are three tests should be followed including the Chow, the Hausman, and Lagrange Multiplier (LM) tests. Chow test is used to choose one of the common-effect models or fixed-effect models. The assumption is if the probability of chi-square is less than 0.05, then the selected model is the fixed model. The result of the Chow test shows that the value of the chi-square probability is 0.00, which is lower than 0.05 so that the fixed model is chosen. Moreover, the Hausman test is used to choose one of the fixed models or random models. If the probability of chi-square is higher than 0.05, then the suitable model is a random effect. The result of the Hausman test shows that the value of the chi-square probability is 0.89, which is higher than 0.05 so that the random effect is a more suitable model.

Table 1: Estimation of Panel Data

Variables	Common Effect		Fixed Effect		Random Effect	
	Coefficients	Prob. Value	Coefficients	Prob. Value	Coefficients	Prob. Value
C	0.0399	0.4251	0.0609	0.6728	0.0349	0.5738
IBI	-0.0152	0.0001	-0.0109	0.0736	-0.0132	0.0063
DER	-0.0045	0.0005	-0.0074	0.0118	-0.0049	0.0077
FSZ	-0.0009	0.7304	-0.0049	0.6216	-0.0016	0.7191
EGR	0.0168	0.0357	0.0177	0.0231	0.0173	0.0079
INR	0.0048	0.0137	0.0045	0.0156	0.0044	0.0067
Adj. R^2	0.3349		0.6707		0.2049	

Source: Data processed employing 24 Islamic bond issuing firms during 2012 - 2018.

Because the result shows that the random effect model is chosen, then the LM test is employed to choose the more suitable model between random effect and common effect models. The assumption is if the Breusch-Pagan value is less than 0.05, then the random effect model is more suitable. The result of the LM test shows that the Breusch-Pagan value is lower than 0.05, which means the random effect model is more suitable. Therefore, the random effect model is chosen for the panel data model in this study. According to the classical assumption tests, the model has passed all of the requirements, namely normality, autocorrelation, multicollinearity, and heteroskedasticity tests. Therefore, the estimation result of the model is consistent and has no bias.

The panel data regression used in this study is purposed to provide information and to draw inference from the influence of Islamic bond issuance, leverage, firm size, economic growth, and inflation rate on the profitability of Islamic bond issuing firms during the period from 2012 until 2018. The examination of panel data regression using the random effect model generates equation estimation as expressed in Eq. (8).

$$ROA_{it} = 0.0349 - ***0.0132 IBI_{it} - ***0.0049 DER_{it} - 0.0016 FSZ_{it} + ***0.0173 EGR_{it} + ***0.0044 INR_{it} \quad (8)$$

The result of the random effect model, as presented in Table 1 and Eq. (8) suggests that IBI, DER, EGR, and INR significantly affect the ROA at the probability value of 0.0063; 0.0077; 0.0079; and 0.0067 respectively. The asterisk (***) in Eq. (8) denotes that the corresponding coefficient is significant at the 1% level. On the other hand, the

probability value of FSZ is 0.7191, which means the FSZ does not significantly affect the ROA.

The coefficient direction of IBI shows negative at the point of -0.0132 , which means the Islamic bond issuance harms a firm's profitability. The coefficient direction of DER shows negative at the point of -0.0049 , which means financial leverage harms a firm's profitability. Moreover, Table 1 presents the coefficient value and direction of EGR, which shows a positive direction at the point of 0.0173 . It means economic growth has a positive impact on a firm's profitability. A similar direction was found at a coefficient of INR at the point of 0.0044 , which means inflation partially has a positive impact on a firm's profitability. In contrast, Table 1 also informs that firm size partially has no significant impact on a firm's profitability.

DISCUSSION

The result of panel data analysis shows that the Islamic bond issued at the market harms the profitability of the issuers. In other words, when the number of total Islamic bonds issued at the market increase, the profitability of the issuers tends to decrease. This result is in line with the findings of [Hasni et al. \(2017\)](#) and [Mimouni et al. \(2019\)](#), but on the outs with the finding of [Said \(2011\)](#). According to [Hasni et al. \(2017\)](#), the less demand by investors on a number of Islamic bonds in the market was caused by the lack of investor's confidence invested in this product. The negative reaction by investors in the market could be resulted by the excess number of Islamic bond supply from many Islamic financial institutions.

A similar finding by [Godlewski et al. \(2013\)](#) states that Islamic bond issuance would increase the risk of agency cost. When there is an announcement of an Islamic bond issued by a firm, the stock market participants are likely to react negatively toward the issuance. Stock market participants assume that the poor firms that could not issue conventional bonds are likely to issue the Islamic bond because it is a highly demanded product. The negative reaction from the stock market would lead to an increase in the conflict between the stockholders and the management. It means increased agency costs that might lead to a decrease in the firm's profitability.

An additional result from the panel data analysis explains neither Islamic bond issuance nor the leverage has an impact on a firm's profitability negatively. This result supports the findings of [Ulzanah and Murtaqi \(2015\)](#) and [Meero \(2015\)](#) but contradicts with the finding of [Hovakimian et al. \(2001\)](#). For the impact of leverage, when the debt level of a firm is higher, the firm's interest expense would be greater than normal periods. The greater interest expense would decrease earnings after taxes of the firm. A similar result was reported by [Abdul-Rahman \(2017\)](#) that an increased number of firm's debt would decrease the number of profitability because of the higher firm's debt cost.

Since there are several firms that rely on higher debt, the firms to consider its negative impact when the value of debt is greater than its performance, especially its earnings. The higher debt level means the firms highly depend on debt as their source of financing, which leads to a higher risk of bankruptcy. Another explanation was suggested by [Kazmierska-Jozwiak et al. \(2015\)](#) who argue that the negative effect of debt level on return on asset is confirmed by pecking order theory. According to this theory, the firms should prioritize their internal source of financing rather than debt.

The third result suggests that firm size has no significant impact on a firm's profitability which supports the finding of [John and Adebayo \(2013\)](#). This result, however, contradicts with the finding of [Isik et al. \(2017\)](#) where the difference might arise because of the measurement on firm size, sample characteristics, and observation periods. The previous studies examined the firm size using measurements of total assets, net sales, and a number of employees. Furthermore, the previous studies examined firm size observing firms in the manufacturing sector as the samples. Whilst this study uses only total assets as a measurement tool for the firm size and observes firms from various sectors as the samples.

Panel data analysis generates the fourth result suggesting that economic growth has a positive impact on a firm's profitability. It means an increased gross domestic product in a country indicating a better economic condition tends to increase the profitability of a firm. The better economic condition in a country means the better wealth of the citizens that would stimulate higher demand for goods and services so that might develop a firm's productivity. This result supports the findings of [Dewi et al. \(2019\)](#); [Gul et al. \(2011\)](#) and [Bhutta and Hasan \(2013\)](#). Besides, [Maudos and Fernández de Guevara \(2004\)](#) state that well economic prosperity tends to enhance good management practices which could reduce firms' cost and default risk. When the growth of gross domestic products is strong, most firms would hire more workers and could afford to pay higher salaries and wages. This situation creates many peoples that have purchasing power as the consumers who more spend their money on goods and services. Moreover, it drives the firms to have higher confidence to invest more in many projects as a foundation for the future higher profitability.

The fifth result of this study suggests that the inflation rate has a positive impact on profitability. According to [Tan and Floros \(2012\)](#), it was concluded a higher inflation rate tends to increase the profitability of firms, particularly firms in the financial sector. This evidence supports the findings of [Sufian \(2009\)](#) and [García-Herrero et al. \(2009\)](#) but contradicts with the findings of [Mirzaei et al. \(2013\)](#) and [Aviliani et al. \(2015\)](#) concluding that the higher inflation could decline firm's profitability. The inflation was noted that it influences the cost of borrowing for a firm. When higher inflation has occurred, the value of money at present periods would be less valuable than the value of money at previous periods. Because of this situation, the monetary policy that the central bank take is to increase the interest rate. Therefore, the inflation allows for debtors to pay the lenders back with money that is lower worth than it was when they originally

borrowed.

CONCLUSION

From examination and interpretation in previous parts, we formulate the first conclusion that issuing more corporate Islamic bonds would decrease the issuer's profitability. The negative impact of Islamic bond issuance on profitability could be reflected in the number of total Islamic bond issued by the firms. In Indonesia, the number of total Islamic bond issued is relatively low rather than conventional bond. The issuance of Islamic bonds might have a negative reaction from stock market participants. It might lead to a lower value of profitability because of the agency cost risk.

The subsequent result from the analysis informs that financial leverage harms profitability. The higher number of debt is associated with a higher number of interest expenses which would reduce a firm's earnings. In other words, the increased number of debt for Islamic bond issuing firms would decrease their profitability because of increased interest expense. Another result suggests that the profitability of Islamic bond issuing firms does not depend on their sizes. The bigger firms could have higher earnings, but on the other side, their profitability could be lower than the smaller firm's profitability because the bigger firms allocate a higher investment in assets.

This study also provides a piece of evidence that both macroeconomic factors, i.e. economic growth and inflation rate positively affect on the profitability of Islamic bond issuers. The well economic condition becomes as a stimulant for the firms to increase their profitability. Higher economic growth in a country would generate a greater purchasing power from the consumers and a higher demand for several goods and services. The inflation rate is related to the currency value, which has direction inversely. The higher inflation means the value of a currency becomes weaker. The negative direction of the inflation rate on currency value gives a positive impact on a firm because of a lower borrowing cost of the firm. When inflation is higher, the currency value is lower so that the value of borrowing costs will decrease. The inflation makes the firms as debtors pay lenders back with money that is worth less than it was when they originally borrowed.

As an implication, the firms should spend more attention on their number of Islamic bonds when they would issue because of the contrarily impact on their profitability. Since Islamic bond is considered as the external source of financing, it is better for the issuing firms to assess the most effective and efficient proportion of Islamic bond issued to maximize their profitability. Besides, since financial leverage has a negative influence on profitability, the firms should manage their capital structure by minimizing the proportion of debt and more focus on generating internal financing sources.

SUGGESTION

Because of the positive impact of economic growth on a firm's profitability, the firms have a wide opportunity to increase their performance and spread their business when an economic condition experiences in higher growth. Furthermore, they should exploit the opportunity of higher inflation to increase their profitability because inflation has a positive impact on a firm's profitability. Therefore, they should anticipate a more accurate prediction on the economic growth and the inflation rate for future periods. The surplus of profitability could be allocated on some projects or assets to expand their business. Moreover, it could be utilized to cover up the firm's debt to avoid financial distress.

LIMITATION AND STUDY FORWARD

Related to the other factors influencing the profitability, the next studies could involve such as interest rate, money supply, foreign exchange rate, and the other firm-specific characteristics. The range of periods observed in this study is relatively short, so the next studies should extend the range. Besides, since a number of firms issuing Islamic bonds in Indonesia is still limited, it has the opportunity for further studies to include many issuers from some countries as the research samples.

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AUTHORS CONTRIBUTION

Author 1 arranges conceptualization, framework, introduction, and methodology; Author 2 writes literature review and discussion; Author 3 writes hypothesis formulation and results, assists in the data processing and editing draft.

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