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The Impact of Financing in Islamic Banking on Indonesian Economic Growth

Abstract. Introduction. Islamic finance can play an important role in encouraging economic growth in Indonesia, namely by financing the real sectors. The role of Islamic banking in providing capital assistance for real sectors is one of the locomotives of economic growth in Indonesia. This research will focus on financing strategic sectors to support the development of a higher and more competitive economy. So that it is known which sectors have played a major role in boosting Indonesia's economic growth. The sectors to be studied are agriculture, mining, construction, industry, electricity, gas and water in Islamic banking. This study uses descriptive and quantitative analysis using Eviews 9 to simplify data calculations and estimation and using time series data with Ordinary Least Square Approach.

Purpose. This research is conducted to investigate the impact of Islamic bank financing on agriculture sector, mining, industry, electricity, gas and water supply and Construction sector to Indonesia economic growth over the period 2011Q1 -2019Q4.

Results. Based on the results of data processing, it is known that Islamic banking financing in the agricultural sector, mining, electricity, gas and water and construction sector has a positive effect on economic growth. Meanwhile industrial sector in Islamic banking does not have a significant effect on economic growth. An increase in industrial sector financing by 1 percent is able to reduce GDP by 0.46940 percent.

Conclusion: This estimation shows R-Square value is 98 percent influenced by variable financing in the agricultural sector, mining sector, industrial sector, electricity sector, gas and water and the construction sector, while the remaining 2 percent is influenced by other variables outside the model. The agriculture, mining, electricity, gas & water and construction sectors have a positive influence on economic growth. Meanwhile, the industrial sector has a negative influence on economic growth.

Keywords: economic growth; Islamic banking; sectoral financing; Ordinary Least Square.

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Вплив фінансування ісламського банкінгу на економічне зростання Індонезії

Анотація. Ісламські фінанси можуть зіграти важливу роль у стимулюванні економічного зростання в Індонезії, у т.ч. завдяки фінансуванню реального сектору. Роль ісламського банкінгу у наданні капітальної допомоги реальному сектору є важливою складовою економічного зростання в Індонезії. Це дослідження спрямоване на оцінку фінансуванні стратегічних секторів для підтримки розвитку конкурентоспроможної економіки. Виокремлено галузі, які відіграли важливу роль у стимулюванні економічного зростання Індонезії, серед яких сільське господарство, гірничодобувна промисловість, будівництво, промисловість, електроенергетика, газ та вода. У цьому дослідженні використовується описовий та кількісний аналіз з використанням Eviews 9 для спрощення обчислення та оцінки даних

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та використання даних часових рядів із використанням звичайного методу найменших квадратів. Дослідження проводилося для оцінки впливу фінансування ісламських банків на сільськогосподарський сектор, гірничодобувну промисловість, електроенергію, газо- та водопостачання та будівельний сектор, на економічне зростання Індонезії. За результатами обробки даних з'ясовано, що фінансування ісламських банків у сільськогосподарському секторі, гірничодобувній промисловості, електроенергетиці, газі та воді та будівництві позитивно впливає на економічне зростання. Тим часом промисловий сектор в ісламських банківських справах не здійснює істотного впливу на економічне зростання. Збільшення фінансування промислового сектору на 1 відсоток може зменшити ВВП на 0,46940 відсотка. Ця оцінка показує, що на величину R-квадрата 98 відсотків впливає змінне фінансування в аграрному секторі, гірничодобувному секторі, промисловому секторі, електроенергетиці, газі та воді та будівництві, тоді як на решту 2 відсотки впливають інші змінні моделі. Сільське господарство, гірничодобувна промисловість, електроенергетика, газ та вода та будівництво мають позитивний вплив на економічне зростання. Тим часом промисловий сектор негативно впливає на економічне зростання.

Ключові слова: економічне зростання; ісламський банкінг; галузеве фінансування; звичайна найменша площа.

Formulation of the problem. The Islamic finance industry globally has experienced asset growth from year to year. Islamic financial assets grew 3.5 percent year on year or around US \$ 2.52 billion in 2018 with asset distribution dominated by Islamic Banking at 70 percent, Islamic sukuk 19 percent by 7 percent and Islamic Funds by 4 percent. Indonesia is included in the top 10 countries with the category that has the most Islamic financial assets, which is ranked 7th worldwide with total assets of US \$ 86 billion in 2018. (Standard, 2019)

In national Islamic banking statistics as of January 2019, there were 14 Islamic Commercial Banks (BUS) and 20 Islamic Business Units (UUS) with a total of 2,229 Islamic banking offices in 2018, an increase from 2,169 offices in 2017 and assets increasing from Rp. 424,181 billion in 2017 to Rp. 477,327 billion 2018.

Islamic banking that adheres to the principles of Islamic has developed over the past few decades and has shown its existence and feasibility to be aligned with the existing conventional banking system. Although Islamic banking functions as a bank that aims to maximize profits, Islamic banking is also limited by laws based on Al Quran and Sunnah. Just like Conventional Banks, Islamic banks function as intermediaries for channeling and there is a deficit saving sector to encourage activities in the economic sector. The difference is that the financial instrument is interest-free and runs according to Islamic law (Mohd. Yusof & Bahlous, 2013)

Islamic finance can play an important role in encouraging economic growth in Indonesia, namely by financing the real sectors. The role of Islamic banking in providing capital assistance for real sectors is one of the locomotives of economic growth in Indonesia.

The development of the banking sector in which banks have the main function of being agents of development and financial intermediary is one way to support the development of a country. The real sector relationship is inseparable from the banking world. To develop the real sector, banking support is needed so that the national real sector is able to compete not only in the regional market but also in the international market. If the national real sector is stretched, it will increase national income for Indonesia's economic development.

Research on the relationship between Islamic banking and economic growth has been widely carried out. Abduh found a positive relationship that occurred in Bangladesh

between Islamic banking and economic growth. Besides that, Mc. Kinnon and Shaw say that an organized financial structure can accelerate economic growth.

The relationship between financial sector development and economic growth is first presented in the work of Schumpeter. He emphasized that the services provided by financial institutions can encourage technological innovation and economic growth by financing in productive investment.

This research will focus on financing strategic sectors to support the development of a higher and more competitive economy. So that it is known which sectors have played a major role in boosting Indonesia's economic growth. The sectors to be studied are agriculture, mining, construction, industry, electricity, gas and water in Islamic banking.

Analysis of recent research and publication. Mankiw N. describes the theories about the economic growth. Based on the classical economic growth theory pioneered by Adam Smith, economic development is strongly influenced by the stock of capital. Fast or slow development of a country depends on the stock of capital or the amount of available funds for development. The level of output as a result of production also has a close influence on the amount of capital stock.

Meanwhile, Harrod-Domar argues that the formation of capital (investment) is very necessary as a condition for achieving strong economic growth (Steady growth). If the formation of capital has been carried out, the economy will be able to produce goods and services in greater quantities. Harrod-Domar's theory views that there is an economic relationship between the size of the capital stock (K) and the level of output (Y) or better known as the capital-output ratio (Capital output ratio = COR).

Schumpeter argues that economic growth is largely determined by entrepreneurial abilities (entrepreneurship) because entrepreneurs are able to innovate in production activities. The existence of a stock of new relevant ideas and a source of capital from financial institutions for entrepreneurs to innovate so that a breakthrough can be created is very important in driving economic growth.

The Solow-Swan theory explains how the level of saving and investment, population growth and technological progress affect the level of economic output and growth over time (Mankiw N, 2006). This classical

growth theory can also be presented in the form of the Cobb-Douglas production function where output is a function of labor and capital. Meanwhile, technological progress is an exogenous variable. The Cobb-Douglas function can be written as follows:

$$Q_y = T_y \cdot K_y^a \cdot L_y^b \quad (1)$$

Q_y : Production rate year y

T_y : Technology Level year y

K_y : Total stock of capital goods in year y

L_y : Number of workers in year y

a : Addition of goods and services due to the addition of one capital unit

b : The addition of goods and services due to the addition of one unit of labor

Previous researchers have conducted various studies in the field of finance, including those conducted by Siphutar, Boukhatem & Ben Moussa, Suna, their research showed that bank credit and economic growth have positive and significant relationship.

In other studies about Islamic banking financing Terminanto & Rama, Ayyubi, Anggraeni, & Mahiswari, Setiawan, Indrawan & Rahman state that Islamic financing

has positive and significant impact on economic growth. Meanwhile Gaffar & Osman, Baehaqy & Cahyono show that Islamic banking financing has a negative and significant relationship to GDP. (Afandi & Amin, 2019) state that working capital financing, investment financing and consumer financing have no significant effect on economic growth. Working capital financing and consumer financing have a positive effect on economic growth. Meanwhile, investment financing has a negative effect on economic growth.

Research about sectoral banking financing is shown by Oni, Akinlo & Oladepo, they state that bank credit has a significant effect on the growth of industrial products in both the short and long term. Meanwhile, the agricultural sector does not have a significant relationship both in the short and long term and (Ananzeh, 2016) if industrial credit increases 1 percent, Jordan's GRDP increases 0.0812 percent in the short run. When agricultural credit increases by 0.01, GDP increases by 0.0193 percent.

Based on the description above and based on the Cobb-Douglas production function added by the Solow framework (1956), the conceptual framework of this study is as follows:

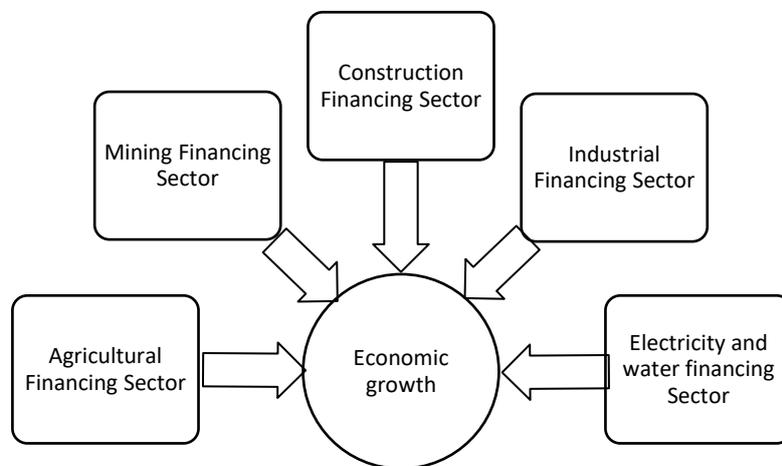


Figure 1 The Conceptual Framework

Source: built by the authors according to the theory

Formulation of research goals. The purpose of this research is to investigate how much the financing of the agricultural, mining, industrial, electricity, gas and water sectors and construction of Islamic banking influence on Indonesia's economic growth in 2011 to 2019.

Description of the main research material This study uses GDP data from business fields in trillion at constant prices in 2010 and data on Islamic banking financing using data on financing in the agriculture, mining, industry, electricity, gas & water sectors and construction in trillion. The type of data used in this study is secondary data in the form of quarterly time series data from 2011 to 2019. Islamic banking financing in the agricultural, industrial, mining, construction, electricity and water sectors is taken from the Indonesian Banking Statistics (SPI) which published by the Financial Services Authority (OJK) and

GDP is obtained through the GDP realization report published by the Central Statistics Agency (BPS).

The model used in this study is based on the Cobb-Douglas production function augmented by Solow's (1956) framework. By adopting the theory and equation model above, the results of the equation model specifications used in this study are:

$$GDP = \beta_0 + \beta_1 F_{Agr} + \beta_2 F_{Mn} + \beta_3 F_{Ind} + F_{Egw} + \beta_4 F_{Con} + e_i \quad (2)$$

GDP : Economic growth (GDP)

F_{Agr} : Agricultural Sector Islamic Bank Financing

F_{Mn} : Mining Sector Islamic Banking Financing

F_{Ind} : Industrial Sector Islamic Banking Financing

F_{Egw} : Electricity, Gas and Water Sector Islamic Banking Financing

Fcon : Construction sector Islamic Banking Financing
 This study uses descriptive and quantitative analysis using Eviews 9 to simplify data calculations and estimation. The analysis was carried out using Islamic bank sectoral financing variables which are thought to affect Indonesia's economic growth partially or completely by using the Ordinary Least Square (OLS) method. Results and Discussions.

Based on the results of the Unit Root Test with the Phillips Pheron method at the level, it shows that the PP Fisher Chi Square Probability value is $0.000 < \alpha = 0.05$, which means that all variables are stationary at the level.

Cointegraty Test

Based on the regression results using the Johansen cointegration test method, it is known that the trace statistic value of 169.99 is greater than the critical value of 117.708, which means that all variables are co-integrated in the long run.

Classic Assumption Test Residual Normality Test, based on the results of the normality test, the probability

value of JB is $0.489 > \alpha = 0.05$, which means that the equation model is normally distributed.

Heteroscedasticity problem-free model, because the value of Prob. Chi-Square = $0.844 > 0.05$, meaning that Ho is accepted, or homoscedasticity.

The model no longer experiences autocorrelation problems, because the value of DW = 1.827 is in the range of Rule of Thumb values and there is no autocorrelation. Evidenced by the LM test, where the probability of the LM test is $0.5802 > 0.05$, which means that ho is accepted and is free of autocorrelation.

Based on the estimation results, the VIF value > 10 indicates that there is multicollonierity (the relationship between independent variables). To ensure perfect multicollinearity between independent variables, according to Fisher, it is necessary to test with Auxiliary Regression. Auxiliary regression is done by comparing the determistic coefficients (R2). According to the client, if the coefficient of determination of the auxiliary regression is greater than the coefficient of the original regression model, it is subject to multicollinearity.

Table 1. **Model AuxiliaryTest**

Model	The deterministic coefficient (R2) of model auxiliary	The determistic coefficient (R2) model	Multicolonierity Conclusion
Infagr c Infmn Infind Infegw Infconc	0.98	0.98	No
Infmn c Infagr Infind Infegw Infconc	0.96	0.98	No
Infind c Infagr Infmn Infegw Infconc	0.98	0.98	No
Infegw c Infind Infagr Infmn Infconc	0.95	0.98	No
Infconc c Infegw Infind Infagr Infmn	0.95	0.98	No

Source : Eviews

Based on the test results above, it can be concluded that all variables do not experience multicollinearity.

Based on the results of the estimation of the effect of sectoral financing on Islamic banking to economic growth, it can be presented in the following table:

Based on the estimation results above, the equation model is obtained as follows:

$$LNGDP = 3.176 + 0.0954 * LNFAGR + 0.0173 * LNFMN - 0.0469 * LNFIND + 0.0788 * LNFEGW + 0.0744 * LNFCNC.$$

The R-Square value of 98 percent is influenced by the financing variable in the agricultural sector, the mining sector, the industrial sector, the electricity sector, gas and water and the construction sector, while the remaining 2 percent is influenced by other variables outside the model.

The effect of agricultural sector financing on economic growth, based on the results of data processing. It is known that Islamic banking financing in the agricultural sector has a positive effect on economic growth with a coefficient value of 0.095457, which means that every 1

percent growth in Islamic bank financing in the agricultural sector will increase GDP growth by 0.095457 percent.

The positive effect of financing in Islamic banking on economic growth was also stated by (Asngari, 2015) which stated that the higher the financing channeled by Islamic banking, the higher the economic growth. But there are different outcomes for the agricultural sector which has estimate by (Indrawan & Rahman, 2020), economic growth is significantly but negatively affected by Islamic banking Finance in both the short and long terms.

The effect of mining sector financing on economic growth, based on the regression results, the relationship between mining sector financing on economic growth is not significant where the probability value is greater than $\alpha = 0.05$. The mining sector coefficient value of 0.0173 percent does not have a significant effect on economic growth. The results of this estimate are the same as previous research conducted by Susilo and Ratnawati, who said that only the mining and excavation sector has an insignificant relationship to economic growth.

Table 2 Ordinary Least Square (OLS)

Dependent Variable: LNGDP
 Method: Least Squares
 Date: 11/02/20 Time: 20:46
 Sample (adjusted): 2011Q1 2019Q3
 Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.176093	0.015222	208.6545	0.0000
LNFAGR	0.095457	0.038010	2.511359	0.0179
LNFMN	0.017332	0.031736	0.546146	0.5891
LNFINN	-0.046940	0.044078	-1.064931	0.2957
LNFEWG	0.078799	0.025263	3.119122	0.0041
LNFCNC	0.074400	0.029742	2.501560	0.0183
R-squared	0.977346	Mean dependent var	3.348000	
Adjusted R-squared	0.973440	S.D. dependent var	0.057179	
S.E. of regression	0.009319	Akaike info criterion	-6.358810	
Sum squared resid	0.002518	Schwarz criterion	-6.092178	
Log likelihood	117.2792	Hannan-Quinn criter.	-6.266768	
F-statistic	250.2234	Durbin-Watson stat	1.747020	
Prob(F-statistic)	0.000000			

Source: Eviews

The effect of industrial sector financing on economic growth, based on the OLS estimation results, it is found that the coefficient value of industrial sector financing is -0.046940 and the probability is $0.2957 > \alpha = 0.05$ which illustrates that the financing of the industrial sector in Islamic banking does not have a significant effect on economic growth. An increase in industrial sector financing by 1 percent is able to reduce GDP by 0.46940 percent. This is inversely proportional to the theory explained by Schumpeter who argues that economic growth is largely determined by entrepreneurial ability (entrepreneurship) because entrepreneurs are able to innovate in production activities. Stock existence of new relevant ideas and the existence of sources of capital from financial institutions can create innovations that can drive economic growth.

The absence of influences between Islamic banking financing on economic growth was also revealed by (Afandi & Amin, 2019). In his research, he revealed that investment financing has a negative effect on economic growth. This is in line with the results of this paper where the industrial sector uses more investment financing products in developing its business so that the industrial sector in this study has a negative effect on economic growth.

The same result was also revealed by (Indrawan & Rahman, 2020). In the industrial sector, Islamic Banking Financing was found to be significant in the short term in a positive direction, but no long-term relationship was found because there was no cointegration.

The effect of electricity, gas and water sector financing on economic growth, based on the regression results, every time there is an increase in the financing of the electricity, gas and water sectors in Islamic banking by 1 percent, it will significantly affect economic growth by 0.078 percent.

The effect of Construction financing on economic growth, the coefficient value of construction sector financing in Islamic banking is 0.0744 percent and the probability is 0.0183 or less than $\alpha = 0.05$, which means that every 1 percent increase in Islamic banking financing in the construction sector will significantly affect 0.0744 percent of economic growth.

Conclusion. The estimation result using the least square method shows that the R-Square value of 98 percent is influenced by the variable of financing in the agricultural sector, mining sector, industrial sector, electricity sector, gas and water and the construction sector, while the remaining 2 percent is influenced by other variables outside the model. The agriculture, mining, electricity, gas & water and construction sectors have a positive influence on economic growth. Meanwhile, the industrial sector has a negative influence on economic growth. The results of this study are expected to be useful for making policies so that they can prioritize financing for sectors that have a major contribution to economic growth and can determine the direction of policies in Indonesia's economic development.

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