

ISLAMIC BANKING FINANCING AND ECONOMIC GROWTH: AN EMPIRICAL STUDY FROM INDONESIA

Muhammad Iryanto

Faculty Syariah and Islamic Economic, Institut Agama Islam Negeri Ternate, Maluku Utara, Indonesia, Jl. Lumba-Lumba Kelurahan Dufa-Dufa Ternate 97727

Email: rianm6629@gmail.com

Fathy Inat

Faculty Syariah and Islamic Economic, Institut Agama Islam Negeri Ternate, Maluku Utara, Indonesia, Jl. Lumba-Lumba Kelurahan Dufa-Dufa Ternate 97727

Email: fathyinat@iain-ternate.ac.id

Fadly

Faculty Syariah and Islamic Economic, Institut Agama Islam Negeri Ternate, Maluku Utara, Indonesia, Jl. Lumba-Lumba Kelurahan Dufa-Dufa Ternate 97727

Email: fadly5@yahoo.com

ABSTRACT

This research studies the relationship of Islamic bank financing and Indonesia economic growth from 2017:1 to 2019:12. The analytical approach used is Autoregressive Distributed Lag (ARDL) model, which can show the dynamics of short and long terms relationship. Also using Granger causality test to study the relationship of causality between research variables. ARDL estimation results show the independent variable: Total Financing (TF), *Mudharabah* (PLS) and *Murabahah* (PMH) are proven to have long-term co-integration or in the long term move together in influencing Indonesia's economic growth (GDP). This three variables also have a dynamic short-term relationship with an adjustment speed of 52.47 percent per month. Furthermore, the Granger causality test results indicate that a supply-following relationship, economic growth affects the financing of Islamic banks in Indonesia. The vital record from this research is Islamic Banking intermediation empirically contributes directly to create economic growth justly, even though it still in limited section.

Keywords: Economic Growth; Islamic Banking Financing; ARDL.

ABSTRAK

Penelitian ini mempelajari hubungan antara pembiayaan perbankan syariah dan pertumbuhan ekonomi Indonesia tahun 2017:1 hingga 2019:12. Pendekatan analisis yang digunakan adalah model Autoregressive Distributed Lag (ARDL), yang dapat menunjukkan dinamika hubungan jangka pendek maupun jangka panjang. Serta menggunakan uji kausalitas Granger untuk mempelajari kausalitas antar variabel penelitian. Hasil estimasi ARDL menunjukkan variabel independen: Total Pembiayaan (TF), akad *Mudharabah* (PLS) dan Akad *Murabahah* (PMH) terbukti memiliki kointegrasi atau bergerak bersama-sama dalam jangka panjang dalam mempengaruhi pertumbuhan ekonomi (PDB) Indonesia. Ketiga variabel tersebut juga mempunyai dinamika hubungan jangka pendek dengan kecepatan penyesuaian 52,47 persen per bulan. Disamping itu, hasil uji kausalitas Granger mengindikasikan hubungan searah (supply-following), pertumbuhan ekonomi mempengaruhi pembiayaan bank syariah di Indonesia. Catatan penting dari hasil penelitian ini adalah, intermediasi perbankan syariah secara empiris ikut berkontribusi langsung pada penciptaan pertumbuhan ekonomi yang lebih berkeadilan, meskipun dalam pangsa yang masih sangat terbatas.

Kata Kunci: Pertumbuhan Ekonomi; Pembiayaan Bank Syariah; ARDL.

INTRODUCTION

Economists often assume intermediary function of a bank is like a heart that pumps blood throughout body. Circulation will run smoothly when the banking industry is healthy: capital flowing to real sector will stimulate the formation of fixed capital, as one of the main conditions for economic growth. Chapra (2000), even emphasized that no economy can achieve its socio-economic goals without the support of a fair and healthy banking and financial system.

The profit and loss sharing system and the prohibition of speculative practices, as the main differentiator from conventional banks, are able to synchronize the monetary sector with the real sector in a more natural and equitable manner, since business risks are distributed evenly according to their respective proportions: fund owners, banks, and users of funds.

A number of studies have shown the effectiveness of intermediary function of Islamic banking in driving economic growth, including Abduh & Omar (2012), Elhachemi & Othman (2015), and Khartabiel et al. (2018). In the context of financial system stability, Hossain (2016) reports in his study, the non-interest system and the prohibition of speculative practices can create national financial stability and low inflation. In short, the economy has become more resilient with the presence of Islamic financial institutions. Islamic banks have been operating in Indonesia since 1992, but their market share is still small, stuck at 5% (OJK, 2015). Because of this, its unique and superior value system has not been strongly internalized in the national economy. The government responded to this fact by issuing a number of strategic policies. The Indonesian Sharia Financial Architecture Master Plan (MAKSI) was released by Bappenas in December 2015. This document serves as an initial guide for integrating the great potential of Islamic finance - which is considered still fragmented - into national development goals. In the same year, the Financial Services Authority (OJK) published the 2015-2019 Indonesian Sharia Banking Roadmap (RPSI) which was synchronized with the MAKSI documents. Furthermore, in 2018 the government established a more holistic Indonesian Sharia Economic Master Plan 2019-2024 which combines the real and financial sectors, and a number of supporting prerequisites to create a sharia economic ecosystem in Indonesia. Its fundamental objective is that sharia economic activities contribute significantly to creating sustainable and equitable economic growth. (OJK, 2015; dan Bappenas, 2016, 2018)

Table 1: Sharia Banking Indicator ** & Indonesian Economic Growth *

Description	2005	2015	2016	2017	2018	2019
PYD Mudharabah (Rp. Triliun)	3,123	14,820	15,292	17,090	15,866	13,779
PYD Musyarakah (Rp. Triliun)	1,898	60,713	78,421	101,505	129,641	157,491
PYD Murabaha (Rp. Triliun)	9,487	122,111	139,536	150,332	154,805	160,654
Total PYD (Rp. Triliun)	15,23	212,996	248,007	285,695	320,193	355,182
DPK (Rp. Triliun)	15,58	231,175	279,335	334,888	371,828	416,558
Market Share (%)	1,46	4,83	5,13	5,74	5,96	6,17
Economic Growth (%)	5,60	4,88	5,03	5,07	5,17	5,02

Source: * BPS,2020. **LPIP-OJK, 2019, 2020. (data processed)

Since the last five years (2015-2019) Indonesia's economy grew at an average of 5.03 percent per year. Productive sector which statistically 99 percent are micro-businesses small and medium enterprises contribute to the GDP in 2018 amounted to 61.07% and labor absorbing up to 97% (SMEs/Kemenkop UKM, 2018). This fact reinforces the importance of Islamic banks in the intermediary function, mobilizing funds to productive sectors in order to drive business growth and an increase in fixed capital formation. The murabaha contract took up the largest portion of around 50% out of total financing disbursed (PYD). Next is profit sharing contract (mudharabah & musyarakah) with a portion of 45%. Buying - selling (murabaha) is indeed become the main characteristic of Islamic banks in Indonesia which in practice is likely to be consumptive.

In several studies, PYD is seen as cumulative. Therefore, this study aims to test empirically with the Autoregressive Distributed Lag (ARDL) model approach, the effect of financing components consisting of: profit-sharing (mudharabah and musyarakah contracts), buying-selling (murabaha contract), and total financing, both short and long term on economic growth in Indonesia from 2017: 1 to 2019: 12, as well as studying the causality through the Granger Causality Test.

THEORITICAL REVIEW

The relationship between the financial sector and economic growth are described in three hypotheses: (1) The financial sector affects economic growth (supply-leading), first proposed by economist Joseph Schumpeter in 1911. (2) Economic growth affects the financial sector (demand-following). This anti-thesis was stated by economist Joan Robinson in 1952. (3) The interplay between economic growth and the financial sector (bi-directional causal relationships). Developed by H.T. Patrick in 1966.

A number of studies have shown different results. King & Levine (1993) research from 1960-1989 in 80 countries found a strong correlation between the financial sector and economic growth. Financial services can stimulate economic growth through the accumulation of fixed capital and increasing the efficiency of capital allocation. These findings corroborate Schumpeter idea, and also the research results of Goldsmith (1969) and McKinnon (1974).

Different opinions expressed by economist Joan Robinson, that the development of financial sector only follows economic growth. Since high economic growth can increase demand for financial services, financial markets respond effectively to that demand (Adeyeye et al., 2015). This view is supported by research from Odhiambo (2010) in South Africa, Ang & McKibbin (2007) in Malaysia (Elhachemi & Othman, 2015), and Ali & Uddin (2016) also in Malaysia.

On the other hand, Patrick (1966) suggested developing a two-way relationship hypothesis between the financial sector and economic growth. The argument is that the supply leading hypothesis applies in the early stages of the economy. As economic growth increases, the demand-following hypothesis will show its effects. Apart from the three hypotheses above, there is a different perspective by other economists, that the role of financial institutions in economic growth is overemphasized. (suggested by Lucas, and Dornbusch & Reynoso. See Furqani & Mulyany, 2009; Khartabiel et al., 2018)

Since last two decades, empirical studies with topics that focus on Islamic finance and economic growth have been conducted in a number of countries in line with the development of the global Islamic financial system. Several studies have found empirical evidence of the effectiveness of the intermediation function in Islamic banks and its relationship to economic growth which is a two-way causal bi-directional causal relationship. (Abduh & Omar, 2012; Elhachemi & Othman, 2015; Furqani & Mulyany, 2009; Khartabiel et al., 2018; Prastowo, 2018), although in the long term there is also a two-way causality relationship that is not too strong (Caporale & Helmi, 2018).

Using the ARDL model approach, Abduh & Omar (2012) studied the relationship between Islamic banks and Indonesia's economic growth in the 2003 period: 1-2010: 2. The test results show the variable total financing has a significant and positive correlation to capital formation and Indonesia's economic growth in the long and short term. This study concludes that Islamic banking has proven to be effective as

a financial intermediary institution and shows a two-way causal relationship: the development of Islamic banking encourages growth and at the same time it encourages the development of Islamic banking in Indonesia. Similar results were found by El Ayyubi et al. (2018), and Iryanto (2018).

Afandi & Amin (2019) studied Islamic bank financing and economic growth using a panel data approach in 33 provinces in Indonesia, 2013-2017. This study divides working capital financing, investment financing channeled to MSMEs (micro, small and medium enterprises) and non-MSME consumption financing to be examined with economic growth. The findings show that working capital financing and consumer financing show a positive effect on economic growth, although not significant. Meanwhile, investment financing shows a negative effect on economic growth, nor is it significant. In conclusion, Islamic banking still makes a small contribution to Indonesia's economic growth.

Caporale & Helmi (2018) examined the causal relationship between financing and credit and GDP in 14 countries. This study finds a long-term two-way causality relationship between financing to GDP, although in the long run the causality is weak. Meanwhile, in countries that only have conventional banks, GDP growth affects credit. The two different results imply that Islamic bank financing is oriented towards the real sector and is not involved in speculative transactions. Therefore, Islamic bank financing can encourage capital formation and sustainable economic growth.

The above literature generally shows that bank intermediation function is indeed the foundation of economic activity. The presence of Islamic value-based banks has different implications for economic activity. Islamic banks in their financing activity are based on Al-Quran and Sunnah of the Prophet, which clearly distinguishes buying - selling with interest, "... Allah has legalized buying and selling and forbidden usury ..." (QS. 2: 275), and prohibits the practice of speculation (QS. 5: 90-91).

This research aims to specifically study the effect of the PYD (Total Financing / TF, profit-loss sharing / PLS Financing, and Murabaha / PMH) components on the Industrial Product Index (IPI), as a proxy for GDP, and how the causal relationship is for 2017: 1 to 2019: 12. This period was chosen by considering the policy of the Indonesian Sharia Financial Architecture Master Plan (MAKSI) that the government has run since 2015 as an effort to integrate the Islamic financial system into the national development goals.

RESEARCH METHODS

Data and Variable

This study uses time series data during the 2017 period: 1 -2019: 12. Time series data can show several conditions as well as relationships or influences on other circumstances (Gujarati, 1995). The type of data used is secondary data from the Financial Services Authority (OJK), the Central Bureau of Statistics (BPS), and Bank Indonesia (BI). The variables used in this study are Total Financing (TF), Profit-Loss Sharing (PLS) consisting of mudharabah contract financing plus the musyarakah contract, and murabahah contract financing (PMH) as an independent variable, and the dependent variable is the Industrial Production Index (IPI), a proxy for GDP (Gross Domestic Product). In general, this research model is: $GDP = f(TF, PLS, PMH)$.

Data Analysis

This study use Autoregressive Distributed Lag (ARDL) model introduced by Pesaran & Shin (1997) with a cointegration approach which has the utility of overcoming the time series data problem that does not pass the residual cointegration test. The advantages of using ARDL is that it can estimate the short-term and long-term components simultaneously even on a small number of samples, and eliminates the problems that arise related to autocorrelation and omitted variables. Furthermore, the Granger Causality Test is used to see the causality between variables.

RESULTS AND DISCUSSION

Stationarity Test

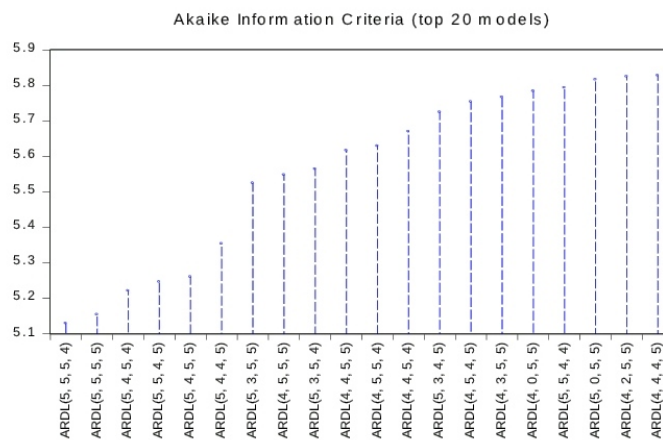
The stationarity test is performed to determine the degree of data integration. ARDL provides a condition that the data do not have to be at the same stationary level, but must not be at the 2nd Difference stationary level. The results of the Philips Perron (PP) stationarity test are in table 4.1. shows the GDP variable is stationary at level or I(0), and for TF, PLS and PMH variables are stationary at 1st difference or integrated at degree I(1). The results of the stationarity test confirmed that there was no cointegration between variables so that the data used in this study fulfilled the procedure required in the ARDL method.

Table 2. Stationarity Test

Variabel	Uji Akar Unit			
	Level		1 st Difference	
	PP	Prob	PP	Prob
GDP	-4.189140	0.0023	-33.13390	0.0001
TF	0.180264	0.9673	-9.093964	0.0000
PLS	-0.624189	0.8524	-7.845967	0.0000
PMH	-0.169167	0.9334	-8.647981	0.0000

Source : Eviews-9 Output

Figure 1. Lag Optimal Result



Source : Eviews-9 Output

Lag Length Test

Next phase is to select the ARDL model using the lag length test. In this study, the determination of the lag length uses the Akaike Information Criteria (AIC). Its provisions are, the smallest AIC score is the best of the top 20 best models presented by the AIC criteria. The selection results (Figure.1) show that the ARDL model (5,5,5,4) is the most appropriate to be used in this study.

Bound Test

After determining the length of the lag, the next step in the ARDL method is to test the long-term relationship between the independent variables and the dependent variable. Based on the results of the bound test (Table 4.3.), The f-statistical value is greater than the f-critical value of 1% at the 1st difference, namely $14.32 > 5.61$. This means that the research variables have a cointegration with a significance level of 1%. This proves that the three independent variables in this study, namely TF, PLS, and PMH in the long run have a significant effect on Indonesia's economic growth.

Table 3. Cointegration Test

<i>F-Bounds Test</i>		<i>Null Hypothesis: No levels relationship</i>		
Test-Statistic	Value	Signif.	I(0)	I(1)
F-statistic	14.32456	10%	2.72	3.77
K	3	5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61

Source: Eviews-9 Output

Table 4. Estimation Model ARDL (5,5,5,4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	-0.276979	0.144437	-1.917650	0.0914
GDP(-2)	-0.445055	0.146941	-3.028807	0.0163
GDP(-3)	-0.012286	0.118167	-0.103972	0.9198
GDP(-4)	-0.449515	0.135930	-3.306955	0.0107
GDP(-5)	-0.340872	0.138324	-2.464311	0.0391
TF	0.001247	0.000378	3.300308	0.0109
TF(-1)	0.000428	0.000467	0.916810	0.3860
TF(-2)	-0.000649	0.000451	-1.438877	0.1881
TF(-3)	0.000678	0.000423	1.603806	0.1474
TF(-4)	0.000495	0.000432	1.146079	0.2849
TF(-5)	0.000448	0.000385	1.163297	0.2782
PLS	19.25939	10.29256	1.871195	0.0982
PLS(-1)	30.42711	8.898791	3.419240	0.0091
PLS(-2)	-2.125630	10.99161	-0.193387	0.8515
PLS(-3)	32.17394	11.16383	2.881981	0.0204
PLS(-4)	-49.85925	9.038398	-5.516381	0.0006
PLS(-5)	7.741545	2.641277	2.930986	0.0190
PMH	36.39029	11.63736	3.127023	0.0141
PMH(-1)	31.21010	9.333330	3.343940	0.0102
PMH(-2)	-4.770466	11.35211	-0.420227	0.6854
PMH(-3)	41.48169	11.72673	3.537361	0.0076
PMH(-4)	-49.06677	10.13446	-4.841576	0.0013
C	-4847.647	1622.694	-2.987408	0.0174

Source: Eviews-9 Output

ARDL Model Estimation (5,5,5,4)

Furthermore, after the Bound Test indicates empirically there is a long-term relationship between the GDP / TF, PLS, and PMH variables, the next step is to estimate long-term coefficients and short-term dynamics using the ARDL model that has been selected in determining the long lag based on the smallest AIC value of 5.12, namely the ARDL model (5,5,5,4). The estimation results can be seen in table 4 above.

Long & Short-Term Estimation Result

Based on the short-term estimation results through the error correction mechanism (ECM) in the ARDL model (Table 5.), the ECT or CointEq (-1) value is -2.524 with a probability of 0.000, significant at 1%. This coefficient value is valid (cointegration occurs) since it is negative and significant. This means that if there is a disturbance or imbalance in the previous period, the model will aim for long-term equilibrium with an adjustment speed of 52.47 percent per month.

Furthermore, the TF variable has a positive and significant effect ($\alpha = 5\%$) with a coefficient of 0.001 percent which indicates that in the aggregate the effect of Islamic financing on economic growth is still very limited in short term. The short-term estimation results also prove that the PLS ($\alpha = 10\%$) and PMH ($\alpha = 5\%$) variables have a positive and significant correlation to economic growth with coefficients of 19.25% and 36.39%, respectively.

Refers to the parameterization of the ARDL model estimation results (5,5,5,4), all independent variables are positive and significantly affect economic growth in long term (Table 5. Long Run Coefficients). The strongest influence was on the financing of murabaha contract (PMH) with a coefficient of 21.88%, and the financing of the sharing contract (PLS) with a coefficient of 19.25%. This confirms that Islamic bank intermediation is functioning effectively. Allocation of third party funds (TPF) in the form of investments and buying and selling based on sharia principles non-interest and non-speculative transactions directly encourages the development of the real sector based on fairer business risks in contributing to Indonesia's economic growth.

ARDL Model Suitability Test (5,5,5,4)

Diagnostic tests and stability tests are conducted to ensure the model suitability. The results of diagnostic test indicate (Table 6.) that the model is free from autocorrelation problems (LM Test), heteroscedasticity (Breusch Pagan Godfrey) and normality-test indicated by a p-value or a probability greater than 0.05 ($\alpha 5\%$). . Furthermore, the results of the stability test (Figure 2. and Figure 3.) indicate that the model is in a stable state because the CUSUM and CUSUMSQ lines are still between the 5 percent significant line.

Granger Causality Test

Granger Causality occurs when the probability value is smaller than $\alpha 0.05$. The results of the Granger causality test (Table 7.) explain that the TF, PLS, and PMH

variables do not statistically significantly affect GDP. Only GDP has a Prob. value less than 0.05, i.e. 0.01. It means there is unidirectional causality, that economic growth affects TF, PLS, and PMH, or this supports the demand-following hypothesis, economic growth affects the development of Islamic banking.

Table 5. Short Run Estimation & Long Run coefficients (5,5,5,4)
 Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TF)	0.001247	0.000378	3.300308	0.0109
D(TF(-1))	0.000649	0.000451	1.438877	0.1881
D(TF(-2))	-0.000678	0.000423	-1.603806	0.1474
D(TF(-3))	-0.000495	0.000432	-1.146079	0.2849
D(TF(-4))	-0.000448	0.000385	-1.163297	0.2782
D(PLS)	19.259389	10.292561	1.871195	0.0982
D(PLS(-1))	2.125630	10.991610	0.193387	0.8515
D(PLS(-2))	-32.173937	11.163827	-2.881981	0.0204
D(PLS(-3))	49.859247	9.038398	5.516381	0.0006
D(PLS(-4))	-7.741545	2.641277	-2.930986	0.0190
D(PMH)	36.390287	11.637359	3.127023	0.0141
D(PMH(-1))	4.770466	11.352106	0.420227	0.6854
D(PMH(-2))	-41.481686	11.726732	-3.537361	0.0076
D(PMH(-3))	49.066767	10.134462	4.841576	0.0013
CointEq(-1)	-2.524708	0.345396	-7.309613	0.0001

Cointeq = GDP - (0.0010*TF + 14.8996*PLS + 21.8817*PMH -1920.0825)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TF	0.001048	0.000222	4.715214	0.0015
PLS	14.899585	5.367058	2.776118	0.0241
PMH	21.881675	6.390560	3.424062	0.0090
C	-1920.082499	603.506174	-3.181546	0.0130

Source: Eviews-9 Output

Table 6. Diagnose Test

Kategori Pengujian	p-value
LM Test	0,2821
Uji Normalitas	0,4498
Breusch Pagan Godfrey	0,2955

Source : Eviews-9 Output

Figure 2.
Cumulative Sum (CUSUM) of Recursive Residuals

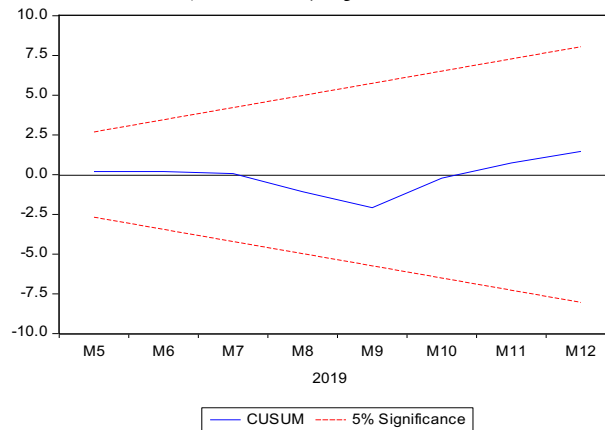


Figure 3.
Hasil Cumulative Sum of Squares (CUSUMSQ) of Recursive Residuals

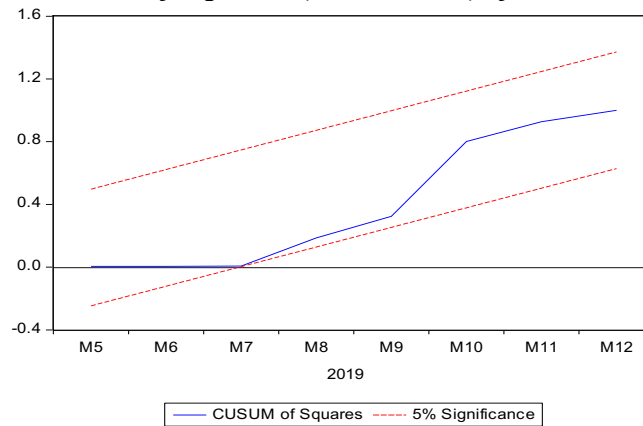


Table 7. Granger Causality Test result

Null Hypothesis:	Obs	F-Statistic	Prob.
PLS does not Granger Cause GDP	34	4.68014	0.0173
GDP does not Granger Cause PLS		0.15467	0.8574
PMH does not Granger Cause GDP	34	4.61708	0.0182
GDP does not Granger Cause PMH		0.01678	0.9834
TF does not Granger Cause GDP	34	4.64422	0.0178
GDP does not Granger Cause TF		0.53177	0.5932

Source: Output olah data, Eviews-9

CONCLUSION

This research studies the relationship between Islamic bank financing and Indonesia's economic growth in 2017: 1 to 2019: 12. The ARDL estimation results concluded that the murabaha contract, mudharabah contract and total financing had a positive and significant correlation to economic growth, both in long and short term. These results confirm the findings of previous studies, including Abduh & Omar (2012), El Ayyubi et al. (2018), Iryanto (2018), dan Afandi & Amin (2019). In addition, the Granger causality test results show a one-way relationship (demand-following), economic growth affects the development of murabaha, mudharabah financing and total financing. This finding supports the view of economist Joan Robinson and a number of other empirical studies, that economic growth is what drives the development of the financial sector (among others, Ang & McKibbin, 2007; dan Odhiambo, 2010). An important note from this study is that sharia banking intermediation has empirically contributed directly to the creation of a more equitable economic growth, although in a very limited share. However, it is very important to maintain consistency and optimization of the policies that have been carried out by the government (MAKSI and the 2019-2024 Sharia Economic Master Plan) because it can create momentum for the acceleration of the development of Islamic banking in Indonesia, considering that Indonesia is a country with the largest Muslim population in the world.

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