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SUKUK AND ISLAMIC BANKING FINANCING: THEIR IMPACTS ON THE REAL SECTOR

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ABSTRACT

Indonesia continues to strive to develop Islamic finance, especially its Islamic banking and sukuk, to support the real sector. The growth of Islamic finance in Indonesia is expected to encourage the development of the national economy. This study aims to investigate the impact of Islamic banking financing and sukuk financing on Indonesia's industrial output. Applying the Autoregressive Distributed Lags (ARDL) framework to monthly data from January 2011 to December 2018, we find that Islamic bank financing contributes positively to the real sector in both the long and short term. In addition, we also document a positive long-run contribution of sukuk financing to industrial output. Indeed, over the long run, sukuk financing tends to have a greater real impact than Islamic banking financing. The results of the study imply that Islamic banking and sukuk play a vital role in supporting the real sector in Indonesia. Accordingly, recent initiatives by the country to further develop its Islamic finance are steps in the right direction.

Keywords: Islamic banking financing, Sukuk financing, Real sector, ARDL, Indonesia.
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I. INTRODUCTION

The growing awareness and demand for financial services and investment in accordance with Sharia principles have provided impetus for the introduction and development of the Islamic financial services industry worldwide. According to Boukhatem & Ben Moussa (2018), Islamic finance has five basic principles: (i) the prohibition of usury (interest); (ii) the prohibition of gharar (fraudulent or malicious transactions) and maysir (acquisition of wealth by chance); (iii) backing of all funding by tangible assets; (iv) investment restrictions for halal activities; and (v) profit and loss sharing. Founded on these principles, Islamic finance, in particular Islamic banking and sukuk, have witnessed remarkable growth, outpacing the growth of conventional banking and bonds in various jurisdictions. Many Muslim countries have made efforts and adopted initiatives to further develop Islamic finance so that it will be at least on par with conventional finance. Non-Muslim majority countries have also come on board in promoting Islamic finance.

Being a Muslim-majority country, Indonesia is no exception in the promotion of Islamic finance. The most recent major step taken by the country was the merger of three state-owned Islamic banks, namely BRI Syariah, Bank Syariah Mandiri and BNI Syariah, to form Bank Syariah Indonesia (BSI), with the aim of making the bank more competitive and with a greater impact on the real sector. In addition to Islamic banking, sukuk has been another area of focus and has attracted much attention from both the government and investors. The current total assets of Islamic banking and sukuk are IDR 1.003.25 trillion, with total financing reaching IDR 424.28 trillion; both are expected to grow further. Through its roles in increasing financing, stimulating savings and promoting financial stability, it is generally viewed that Islamic banking plays a crucial role in a nation's development (Boukhatem & Ben Moussa, 2018).

In the literature, the positive role of the financial sector in a nation's economic growth is well acknowledged (Zarrouk, El Ghak, & Abu Al Haija, 2017). The theoretical basis for this relationship can be traced to the work of Joseph Scumpeter in the early twentieth century, Robinson (1952), Goldsmith (1969), McKinnon (1973), and Shaw (1973), with empirical support from King & Levine (1993), Levine (1997) and many subsequent studies. Ever since the 2008 global financial crisis, however, concerns that the financial market could be a potential source of instability, together with its overexpansion and decoupling from the real sector, have led not only to reassessments of the finance-growth nexus, but a search for a better alternative financial system. Therefore, it is not surprising that the development of Islamic finance and its value proposition as a better financial system than the prevailing conventional financial system has garnered much empirical attention.

Previous empirical studies have predominantly focused on Islamic banking and its relation to economic growth, but unfortunately the results have been inconsistent. Imam & Kpodar (2016), Abduh & Chowdhury (2012), Furqany & Mulyany (2009), Abd. Madjid & Kassim (2015) and Kassim (2016) found that the development of Islamic banking has a positive impact on economic growth. However, Hachicha & Ben Amar (2015) and Goaied & Sassi (2010) found no support for the positive growth effects of Islamic banking. As regards to the relationship

between sukuk and economic growth, a few studies have been made, with fairly encouraging results. In particular, Yildirim, Yildirim, & Diboglu (2020), Ledhem (2020), Echchabi, Abd. Aziz, & Idris (2018) and Smaoui & Nechi (2017) document evidence indicating a positive and significant relation between the two. In the case of Indonesia, Abduh & Azmi Omar (2012), Afandi & Amin (2019), Al Fathan & Arundina (2019), and Anwar, Junaidi, Salju, Wicaksono, & Mispiiyanti (2020) examined the relationship between Islamic banking development and economic growth, while Mitsaliyandito, Arundina, & Kasri (2017) and Suriani et al. (2021) studied that between sukuk and economic growth. Their results are supportive of the positive roles of both Islamic banking and sukuk on economic growth in Indonesia.

Following this line of research, this paper examines the real effects of Islamic bank financing and sukuk financing in the case of Indonesia. Being a country with the largest Muslim population in the world, Indonesia has great potential for developing its Islamic finance and economy. Moreover, the various Islamic finance initiatives by Indonesia to accelerate the growth of Islamic finance, in particular its Islamic banking and sukuk, renders the analysis timely. The few studies on Indonesia focus on either Islamic banking or sukuk, but not both, and hence remain incomplete. This paper brings together the two major and fast-growing segments of Islamic finance and compares their impacts on real output. Furthermore, in the analysis, we focus on both the long- and short-run relations between Islamic finance and real production.

The remainder of the paper is structured as follows. In the following section, we present the background of Islamic finance in Indonesia and review the related literature. Section III presents the empirical framework, followed by the estimation results in section IV. The final section, section V, concludes with a summary of the findings and provides recommendations.

II. BACKGROUND AND RELATED LITERATURE

2.1. Sukuk and Islamic Banking Development in Indonesia

The development of Islamic finance in Indonesia began to gain momentum after the financial crisis of 1997, at which time Bank Muamalat, the only Islamic bank in the country, was able to survive the brunt of the world financial crisis. The success of Bank Muamalat in surviving the crisis, attracted the attention of various parties with regard to developing Islamic banks in Indonesia. One of the efforts made by the Government in developing such banking was to make improvements to Law No. 7/1992 in Law No. 10 of 1998, which was refined again to Law No. 21 in 2008. The birth of this law provided legal certainty in the development of Islamic banking in Indonesia. Up to December 2020, the number of Islamic banks in the country has reached 197 units, with total assets reaching IDR 608.9 trillion (OJK, 2021).

To accelerate the development of the Islamic economy and finance in Indonesia, the government established the National Sharia Economics Committee (KNKS) on November 8, 2016, then on February 10, 2020 it changed its name to the National Committee for Sharia Economics and Finance (KNEKS). The committee aims to enhance the development of Islamic economic and financial ecosystems

in order to support national economic development. To develop the Islamic economy and finance, the Ministry of National Development Planning (known as Bappenas) has prepared a Masterplan for Islamic Economics in Indonesia for 2019-2024. In this plan, four main goals are to be achieved, namely increasing the scale of Sharia economic business; increasing the ranking of the Islamic Economic Index; increasing economic independence; and improving the welfare index. To achieve these, Bappenas has developed four strategies, namely strengthening the halal value chain; strengthening the Islamic financial sector; strengthening micro, small and medium-sized enterprises; and utilising and strengthening the digital economy (Bappenas, 2018).

To support and accelerate the achievement of the master plan, the Indonesian Financial Services Authority (OJK) has prepared a National Sharia Banking Development Roadmap for 2020-2025. This was created to provide direction for the development of Sharia banking in the country. It is a continuation of the 2015-2019 roadmap, which made several main achievements, including the formation of the KNKS, the conversion of Bank NTB and Bank Aceh into Sharia banks, and the Initial Public Offerings (IPOs) of BTPN Syariah and BRI Syariah. In the roadmap for the development of Sharia banking in 2020-2025, the vision is to realise resilient, highly competitive Sharia banking and to contribute significantly to the national economy and social development by undertaking three main agendas, namely strengthening the identity of Sharia banking, synergising the Sharia economic ecosystem, and strengthening licensing, regulation and supervision (OJK, 2020).

Other Islamic financial instruments such as sukuk has also been developed in Indonesia through the issuance of Law No. 19 of 2008 concerning state sukuk. This development was made in order to improve the performance of Islamic finance in the country in supporting national development. Besides state sukuk, corporate sukuk was also first practised in 2002, when the first company to issue was PT. Indosat Tbk. As of December 2019, the total amount of corporate sukuk issued was IDR 48,240.40 billion, with the level of state sukuk issued amounting to Rp967 trillion. The development of Islamic finance in Indonesia has also been made through the development of Sharia shares on the Indonesia Stock Exchange, where up to 2019 the total capitalisation of such shares reached Rp3,744.82 trillion. Sharia mutual funds have also been developed, with their value reaching Rp53.74 trillion (OJK, 2019). The development of Indonesian Islamic finance is an effort to increase its competitiveness in the world, with the main hope being to be able to provide welfareto the community.

2.2. Related Literature and Hypotheses

The theoretical basis for the impacts of Islamic finance on real activities stems from the finance-growth literature, which can be dated back to Schumpeter (1934), Gurley & Shaw (1955), Goldsmith (1969), Hicks (1969), McKinnon (1973) and Shaw (1973). Schumpeter argues that the banking system is an important factor for economic growth because of its roles in the allocation of savings, investment incentives and the funding of productive investments. While Islamic finance plays similar roles, it has the potential to be better at promoting the real sector. Islamic banking was founded on Sharia principles, as prescribed in the Qur'an and Ahadith (sayings of the Prophet). Under such principles, Islamic banks are not allowed to engage in

speculative transactions such as derivatives and gambling. Moreover, instead of shifting risk, as practised by conventional banks, Islamic banks share the risk and can only provide credit to financially productive investments. Each transaction made by Islamic banks must be supported by real assets. Moreover, Islamic banks cannot generate profits based on pure financing, so they have to engage in investments or sale transactions and share both risk and return (Caporale, Çatık, Helmi, Menla Ali, & Tajik, 2020). On this basis, the impact of Islamic financing on economic development will be more significant (Zarrouk et al., 2017).

Grassa & Gazdar (2014) examined the effect of Islamic and conventional financial developments on economic growth in five GCC countries (Bahrain, Kuwait, Qatar, Saudi Arabia and the UAE) from 1996-2011. Their results show that the development of conventional finance affects the economic growth of these countries negatively and significantly, while the development of the Islamic banking sector is also a relevant determinant for economic growth. More interestingly, the sukuk market does not contribute to economic growth. Therefore, Islamic banking development is a relevant determinant of economic growth in GCC countries. More importantly, Islamic finance performs better than conventional finance in terms of superior economic development.

Mohd. Yusof & Bahlous (2013) examined the short- and long-term relations between Islamic banking and economic growth during the period 2000-2009 in GCC and East Asian countries. Their results provide evidence indicating that Islamic banking is key in translating financial resources into economic growth. The results also lend support to the view that Islamic intermediation not only leads to economic benefits, but also improves managers' entrepreneurial skills through the involvement of lenders in decision-making and partnerships, which also reduces agency costs. In another study, Lebdaoui & Wild (2016) examined the relationship between Islamic banking and economic growth in Southeast Asian countries. They document similar results, which reaffirm a long-term relationship between economic growth and Islamic banking. In addition, they add further the importance of the Muslim population in triggering the contribution of the share of Islamic banking in the financial sector to economic growth.

Apart from the above studies that focus on Islamic banking, some focus on the relationship between sukuk and economic growth have also been conducted. Yildirim et al. (2020) found a positive long-run relationship between the volume of sukuk issuance and economic growth, although it is the short-run relation between them. Their research covers nine countries, namely Brunei, Indonesia, Jordan, Kuwait, Malaysia, Nigeria, Saudi Arabia, Pakistan and Turkey. Using a larger sample of eighteen countries, Smaoui & Nechi (2017) also found a positive relationship between sukuk and economic growth.

Ledhem (2020) specifically investigates the role of sukuk in economic growth in Southeast Asia by taking samples from three countries, namely Indonesia, Malaysia and Brunei. The results of this study show that sukuk financing plays a vital role in economic growth in the region. Mitsaliyandito et al., (2017) investigated the role of sukuk in promoting economic growth in Indonesia. Using quarterly data from 2009-2016, they also found a positive relationship between sukuk and economic growth in Indonesia. However, different results were obtained by Grassa & Gazdar (2014) and Echchabi et al. (2018), who found that

the development of sukuk in GCC countries did not have an impact on economic growth as proxied by GDP, Gross Capital Formation (GCF) and trading activities. Meanwhile, Smaoui, Mimouni, & Ben Salah (2021) note that sukuk has a positive relationship with infrastructure development. Based on these studies, we propose the following hypotheses:

H1: Islamic banking financing has a positive and significant impact on the real sector in the short and long term.
H2: Sukuk financing has a postive and significant impact on the real sector in the short and long term.

Unlike previous studies, which mostly focus on either Islamic banking or sukuk, we bring both segments of Islamic finance together and examine their relative contributions to economic growth.

III. METHODOLOGY

3.1. Variables and data

The data used in the analysis are monthly, covering the period January 2011 to December 2018. To represent the real economic sector, we used industrial production (IP). In the analysis, three indicators of Islamic financial development were used: total financing by Islamic banks (IBF); sukuk financing (SUKUK); and the market capitalisation of Islamic stocks (JII). We also included the consumer price index (CPI) in our model as a control variable. Kassim (2016) states that inflation is an indicator of price stability in the economy, which in turn has an impact on consumption, savings, and investment decisions. The selection of the study variables was also in accordance with other research, such as that of Mohd. Yusof & Bahlous (2013), Kassim (2016), Grassa & Gazdar (2013), Abduh & Azmi Omar (2012), Pan & Mishra (2018), Lebdaoui & Wild (2016), Hachicha & Amar (2015), Abd. Majid & Kassim (2015), Boukhatem & Moussa (2017), Smaoui & Nechi (2017), and Yildirim et al. (2020). The data for Islamic banking financing and sukuk financing were obtained from the Financial Services Authority (OJK) of Indonesia, with other variable data obtained from the Indonesia Stock Exchange (IDX) and from the International Financial Statistics database of the International Monetary Fund (IMF). All the variables are expressed as a natural logarithm. Table 1 gives a brief explanation of each variable and its source, while Table 2 presents the descriptive statistics.

Table 1.
Variable Description

Variable	Code	Description	Source of Data
Industrial Production	IP	Output of the industrial sector, including manufacturing, mining, and utilities	World Bank (Global Economic Monitor)
Islamic Banking Financing	IBF	Total financing of Islamic Banking	OJK
Sukuk	SUKUK	Total sukuk issued by corporations	OJK
Stock Capitalisation	JII	Market capitalisation of the Jakarta Islamic Index	IDX
Consumer Price Index	CPI	Aggregate price level of a basket of goods and services	IMF

Table 2.
Statistic Description

Statitistic	LNIP	LNIBF	LNJII	LNSUKUK	LNCPI
Mean	33.42400	32.83239	35.07702	29.82588	4.83638
Median	33.42134	32.91908	35.16776	29.66117	4.86798
Maximum	33.61148	33.39995	35.40291	30.75962	5.00224
Minimum	33.19034	31.87557	32.46663	29.30231	4.64321
SD	0.108940	0.397223	0.387355	0.389435	0.11544
Observations	95	95	95	95	95

Notes: IP = Industrial Production; IBF = Total Islamic Banking Financing; JII = Jakarta Islamic Index; SUKUK = Islamic Financial Instrument, CPI = Consumer Price Index

3.2. Empirical Models and Estimation

In line with previous studies (e.g., Yildirim et al., 2020), we specify the following equation that links industrial output to Islamic finance and other controlled variables:

$$lnIPt = a_0 = a_1 lnIBF_t + a_2 lnJII_t + a_3 lnSUKUK_t + a_4 lnCPI_t + e_t \quad (1)$$

All the variables are as defined in Table 1 and the prefix "ln" represents the natural logarithm. Equation (1) forms a long-run relation between industrial output and its determinants. We employ the ARDL approach to test for cointegration, or the presence of a long-run relation such as equation (1), as well as to estimate from equation (1) if there is cointegration among the variables. ARDL has several advantages, notably its applicability to small samples and in models with variables of mixed integrated orders, I(0) and I(1) (Narayan, 2005; Aslam & Sivarajasingham, 2021). This approach was adopted by Bougatef, Nakhli, & Mnari (2020), Kassim (2016), Mohd. Yusof & Bahlous (2013), Abd. Madjid & Kassim (2015), Abduh & Azmi Omar (2012), and Abduh & Chouwdhury (2018) in their analyses of the relationship between economic growth and several macroeconomic variables. In

our analysis, we also extend the model to include the export variable (EXP), which is considered important for growth in developing countries such as Indonesia (Sultanuzzaman, Fan, Mohamued, Hosain, & Islam, 2019). Our results are the same and hence are not reported here to conserve space.

Apart from long-run equation (1), the paper also evaluates the short-run dynamics of real output to observe how they are impacted by their determinants in the short-run and adjust towards the long-run equilibrium, using an error-correction model:

$$\Delta lnIP_t = \beta_0 + \sum_{i=1}^{p} \beta_1 \Delta lnIP_{t-i} + \sum_{i=0}^{p} \beta_2 \Delta lnIBF_{t-i} + \sum_{i=0}^{p} \beta_3 \Delta lnSUKUK_{t-i} + \sum_{i=0}^{p} \beta_4 \Delta lnJII_{t-i} + \sum_{i=0}^{p} \beta_5 \Delta lnCPI_{t-i} + \emptyset ECT_{t-1} + \mu t \quad (2)$$

where ECT is the error correction term, or the error term from (1). According to Engle & Granger's (1987) representation theorem, if cointegration is found to exist between variables, their short-run dynamics should be framed in a dynamic error correction framework, as presented in (2). In this model, the significance of the lagged first-differenced terms, for example of $\Delta lnIBF_{t-i}$, suggests that Islamic bank financing affects industrial output in the short run, while the significance of the error-correction term signifies long-term causality from the included variables to industrial output (Kassim, 2016). The latter means that once there exists deviation from the long run, real output adjusts itself towards its long run value. To find the optimal length, the Schwarz Information Criterion (SIC) is used.

Finally, we also investigated the causal relations between real output and finance using the causality test, as suggested by Toda & Yamamoto (1995), which is also used by Pan & Mishra (2018) and Bougatef et al., (2020). Toda & Yamamoto (1995) propose a causality test using the VAR ($k+d_{max}$) models, where k is the optimal lag length in the original VAR system and d_{max} is the maximum order of integration of the system variables. The VAR ($k+d_{max}$) Toda and Yamamoto model is given below:

$$ln\,IP = \alpha 1 + \sum_{i=1}^{k+d_{max}} \beta_{1i}\, ln\, IP_{t-i} + \sum_{i=1}^{k+d_{max}} \delta_{1i}\, ln\, X_{t-i} + \gamma_{1t} \quad (3)$$

$$ln\,X = \alpha 2 + \sum_{i=1}^{k+d_{max}} \beta_{2i}\, ln\, X_{t-i} + \sum_{i=1}^{k+d_{max}} \delta_{2i}\, ln\, IP_{t-i} + \gamma_{2t} \quad (4)$$

where γ_{1t} and γ_{2t} are random distrubances, k is the optimum lag order and dmax captures the maximum order of integration of the various variables used in the equations. *lnIP* is the natural log of industrial production, and *lnX* represents Islamic banking financing (IBF), the capitalisation of the Jakarta Islamic Index (JII), sukuk, and the Consumer Price index (CPI). In (3), if the coefficients of lagged lnX up until lag orders of k are jointly statistically significant, then X is said to Granger cause industrial output. Likewise, in (4), if the coefficients of the lagged lnIP up until lag k are jointly significant, then industrial output is said to Granger Cause X.

IV. FINDINGS AND DISCUSSION

4.1. Results

4.1.1. Unit Root Test

Although the ARDL approach can be applied irrespective of the variables' integration orders, I (0) or I (1), it is necessary to perform a stationarity test to verify that there is no variable integrated of order 2 or I (2). Therefore, we conducted the Augmented Dickey Fuller (ADF) and Phillips-Perron tests. The test results can be seen in Table 3.

Table 3.
Unit Root Test

Variable	ADF test		PP test	
	Level	First difference	Level	First difference
LNIP	-0.590293	-11.98141***	-0.815017	-32.64979***
LNIBF	1.716987	-1.658515*	-4.521874***	-8.728214***
LNJII	-8.447546***	-11.86354***	-8.463833***	-70.20017***
LNSUKUK	-3.292733*	-12.97024***	-3.049559	-18.74581***
LNCPI	-1.324026	-8.612325***	-0.985751	-6.693466***

Note: Significant at: *10, **5 and ***1 percent levels

Table 3 shows that the variables lnIP, lnIBF, lnJII, lnSUKUK, and lnCPI are not integrated in order two or I (2). Accordingly, we may proceed to the ARDL bound testing procedure to establish whether they share a long run relation or are integrated.

4.1.2. Cointegration Test: Bounds F-test

The results of the cointegration test are presented in Table 4.

Table 4.
ARDL Bounds F-Test for Cointegration

Country	F-Statistic Value	Number of Variables	Significance level	I(0)	I(1)
Indonesia	13.72922	4	1%	3.74	5.06
			5%	2.86	4.01
			10%	2.45	3.52

Note: Critical value based on Pesaran, Shin, & Smith (2001), Table C (iii) unrestricted intercept and no trend.

The cointegration test results show that the F-statistic value is greater than the upper-bound critical value at the 1% level. This shows that there is a long-term equilibrium relationship between Islamic finance development and the real economy.

4.1.3. Long-Term Estimation

Long-term coefficient estimation was performed after it was verified that the study variables had a cointegration relationship. The results of the long-term coefficient estimation are shown in Table 5.

Table 5.
Long-Term Estimation

Variable	Coefficient	t-Statistic
LNIBF	0.051794*	1.753993
LNJII	0.008307	0.881724
LNSUKUK	0.060916***	3.478431
LNCPI	0.547825***	4.981568
C	26.971738	46.255309
Diagnostic test statistics		
Correlation LM test		1.413451 (0.4933)
Heteroskedasticity Test: Glejser		10.45762 (0.1641)
D-W		1.89952

Selected Model: ARDL (1,0,0,1,1)

Note: Significant at: *10, **5 and ***1 percent levels

The estimation results shown in the table indicate that industrial output is positively related to Islamic bank financing in the long run. A positive coefficient value of 0.052 suggests that a 1% change in such financing is related to an increase in expected real output by 0.05% in the long run. Table 5 shows that Islamic financial instruments in the form of sukuk have a positive and significant impact on Indonesia's real activity, with a coefficient value of 0.060916. This means that a 1% increase in sukuk financing is associated with an expected increase in industry output of 0.06. Finally, we observe no significant long-run relation between Islamic stock market capitalisation and the Indonesian real sector.

4.1.4. Short-Term Dynamics

The final step in the ARDL testing technique was to assess the short-run dynamics of industrial production using the error correction term (ECM) model. The results are given in Table 6.

Table 6.
Short-Term Estimation

Regressor	Coefficient	t-Statistic
D(LNIBF)	0.045869*	1.707602
D(LNJII)	0.007357	0.894986
D(LNSUKUK)	0.007853	0.264147
D(LNCPI)	-0.654567	-1.188147
ECT (-1)	-0.885604***	-8.255141

Selected Model: ARDL (1,0,0,1,1)

Note: Significant at: *10, **5 and ***1 percent levels

As may be noted from Table 6, the coefficient of the error correction is -0.885604. This indicates that real output adjusts to correct for the deviation from the long-run equilibrium. More specifically, 88.6% of the deviation is corrected in the following period. The significance of the ECT also indicates the existence of long-term Granger causality from Islamic bank financing and other variables to real output. This finding supports the findings of Abduh & Azmi Omar (2012). Furthermore, as suggested by Pesaran & Pesaran (1997), CUSUM was conducted to test the structural stability. The CUSUM test below shows that the estimated model is structurally stable.

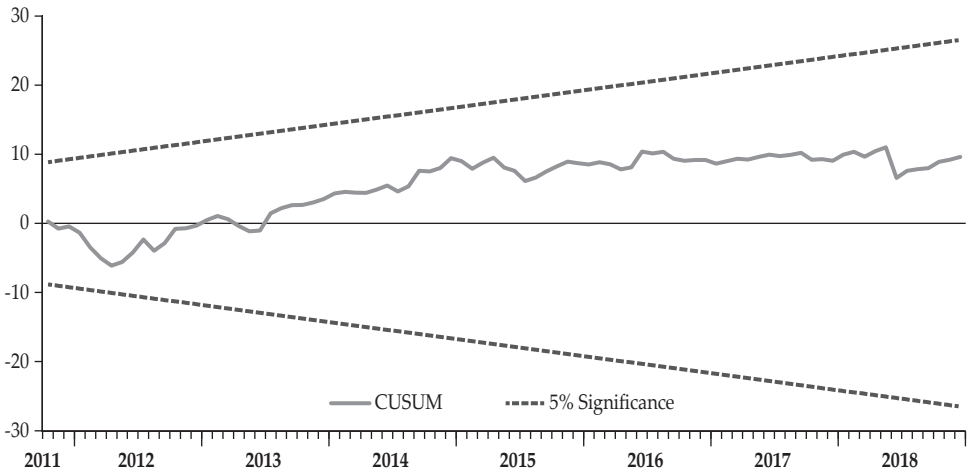

Figure 1a.
The CUSUM Test

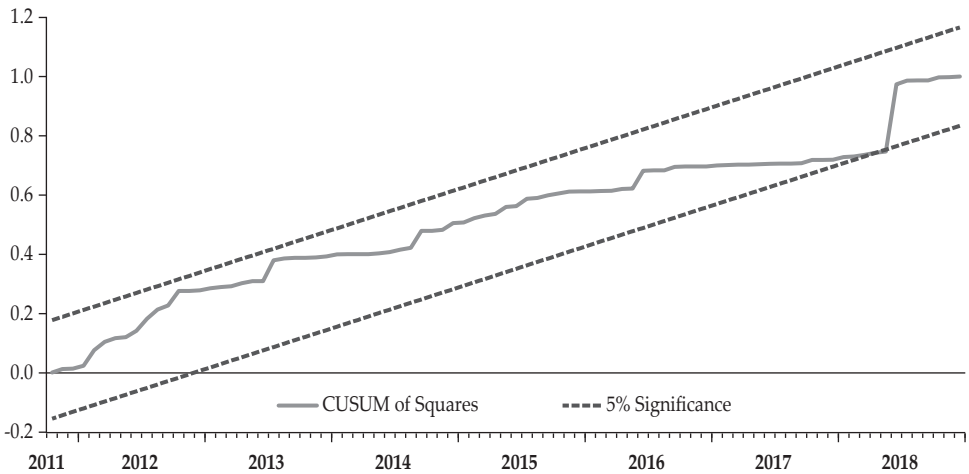

Figure 1b.
The CUSUM Test

4.1.5. Toda-Yamamoto Test for Causality

In Table 7, we show the Toda-Yamamoto causality test results. The tests suggest uni-directional causality running from Islamic banking financing to industrial production. The results support the supply-leading hypothesis. Unlike Islamic bank financing, sukuk financing has a two-way causal relation with the real sector, which is in line with both the supply-leading and demand-following hypotheses. In this case, the existence of sukuk is very important in supporting the real sector, while stable economic growth is also vital for sukuk. Finally, it can be noted that the capitalisation of JII does not have a causal relationship with the real sector, while the Consumer Price Index has a one-way relationship with it.

Table 7.
Direction of Causality Test Results

Null Hypothesis	Df	X^2	Prob	Direction of Causality
LNIBF does not Granger cause LNIP	1	2.8559937	0.0910	Unidirectional causality
LNIP does not Granger cause LNIBF	1	1.890809	0.1691	
LNJII does not Granger cause LNIP	1	0.006670	0.9349	No causality
LNIp does not Granger cause LNJII	1	0.646463	0.4207	
LNSUKUK does not Granger cause LNIP	1	9.980942	0.0016	Bidirectional causality
LNIP does not Granger cause LNSUKUK	1	6.986612	0.0082	
LNCPI does not Granger cause LNIP	1	20.78690	0.0000	Unidirectional causality
LNIP does not Granger cause LNCPI	1	0.140664	0.7076	

4.2. Analysis

Schumpeter states that financial development is very important in encouraging economic growth. The results of this study prove that the development of Islamic finance, namely Islamic banks in Indonesia, contributes positively to encouraging the real sector. The results of the study are in line with with the findings of Naqvi et al. (2018), Kassim (2016), Mohd. Yusof & Bahlous (2013), Zarrouk et al. (2017), Lebdaoui & Wild (2016), Abduh & Chowdhury (2012), Abduh & Azmi Omar (2012), Furqani & Mulyany (2009), and Abd. Majid & Kassim (2015). However, they contradict those of Hachicha & Ben Amar (2015) and Goaied & Sassi (2010). We also note that sukuk financing has a positive impact on the real sector. The results further suggest that Islamic banking financing is key in the real sector in the short term, while sukuk financing tends to have a greater real impact in the long run.

Islamic banking can contribute more to the real sector in the short term through various financing schemes including murabahah, mudhorabah, musyarakah, and ijarah, amongst others. From data released by the OJK, financing conducted by Islamic banking in December 2020 reached Rp. 394.62 trillion, with the murabahah contract scheme accounting for 46.11% and the musyarakah scheme accounting for 44.22%. The household sector is the largest financing sector for Islamic banking, at 45.50%. The amount of sukuk financing, which only reached Rp. 30.35 trillion, was smaller than that made by Islamic banking. Financing undertaken by Islamic

banking is also more varied when compared to sukuk financing, so has a wider impact on the real sector. One of the advantages of financing made by Islamic banking is that it can make households one of the main targets of finance. However, sukuk financing can only be made by companies, so the contribution to the real sector is also limited. The household sector is one of the main components driving the real sector. Therefore, it is necessary to accelerate and expand the financing made by Islamic banking so that a wider impact on the real sector can be felt.

We also found that JII did not contribute significantly to economic growth in either the short or long run. This is in line with the findings of Carp (2012), which show that stock market capitalisation has no impact on the Romanian economy. This is because share capitalisation in the Islamic capital market occurs in the secondary market, which is not directly related to the real sector. Transactions in the secondary market are not directly related to companies' operational activities, so the capitalisation that occurs does not have a direct impact on the real sector, especially the business sector of the stock-issuing company. Therefore, it is necessary to conduct further in-depth study related to stock transactions in the secondary market so that their existence makes a genuine contribution to the real sector. In addition, inflation has a negative impact on the real sector, but is not significant.

V. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The increasing proportion of assets, highlighting the growth of 65% over the last five years, is a major attraction and is expected to play a role in improving the Indonesian economy. This study has considered the role of Islamic banking financing and sukuk financing on the real sector by means of the ARDL approach. The results indicate that Islamic bank financing has a stronger impact on the real sector than sukuk financing in the short run. However, in the long run, sukuk financing has a stronger impact. Although JII plays a major role in attracting investors, this study documents no significant impact of Islamic stock market capitalisation. The results illustrate that Islamic banking is still the main driving force for the real sector in Indonesia. Therefore, the existence of Islamic banking in the national banking system in the country needs to be continuously encouraged in order for it to have a wider impact on the development of the national economy. This finding is in line with the roadmap for Indonesian Islamic banking (2015-2019), namely realising that Islamic banking contributes to economic growth. However, the study has certain limitations, especially regarding the sukuk data, as only corporate sukuk data are used.

5.2. Recommendations

From the findings, several policy recommendations can be made. First, we recommend further encouragement of Islamic bank financing in the public and the private sectors to support their growth. Second, to support the contribution of Islamic banking to developing the real sector, the spin-off plan for all Islamic business units to become Islamic commercial banks should be accelerated to reap

the benefits of the expansion of Islamic financing. Third, we recommend that the sukuk instrument continue to be developed as an alternative means of corporate financing and as an alternative investment for the community. Fourth, the government also needs to keep inflation under control effectively, because this can encourage investors to invest and thus have a significant impact on the sustainable development of Islamic finance in Indonesia.

REFERENCES

Abd. Majid, M. S., & H. Kassim, S. (2015). Assessing the contribution of Islamic finance to economic growth: Empirical evidence from Malaysia. *Journal of Islamic Accounting and Business Research*, *6*(2), 292–310.

Abduh, M., & Azmi Omar, M. (2012). Islamic banking and economic growth: The Indonesian experience. *International Journal of Islamic and Middle Eastern Finance and Management*, *5*(1), 35–47.

Abduh, M., & Chowdhury, N. (2012). Does Islamic banking matter for economic growth in Bangladesh? *Journal of Islamic Economics, Banking and Finance*, *8*(3), 104–113.

Afandi, M.A., & Amin, M. (2019). Islamic bank financing and its effects on economic growth : A cross province analysis. *Signifikan: Jurnal Ilmu Ekonomi, 8*(2), 243 - 250.

Al Fathan, R., & Arundina, T. (2019). Finance-growth nexus : Islamic finance development in Indonesia. *International Journal of Midle Eastern Finance and Management, 12*(5), 698-711.

Anwar, S.M., Junaidi, J., Salju, S., Wicaksono, R., & Mispiiyanti, M. (2020). Islamic bank contribution to Indonesian economic growth. *International Journal of Midle Eastern Finance and Management, 13*(3), 519-532

Aslam, A.L.M., & Sivarajasingham, S. (2021). The inter-temporal relationship between workers' remittances and consumption expenditure in Sri Lanka. *Journal of Economic and Administrative Sciences*, *37*(2), 163-178.

Bougatef, K., Nakhli, M.S., & Mnari, O. (2020). The nexus between Islaminc banking and industrial production, empirical evidence from Malaysia. *ISRA International Journal of Islamic Finance, 12*(1), 103-114.

Boukhatem, J., & Ben Moussa, F. (2018). The effect of Islamic banks on GDP growth: Some evidence from selected MENA countries. *Borsa Istanbul Review*, *18*(3), 231–247.

Caporale, G. M., Çatık, A. N., Helmi, M. H., Menla Ali, F., & Tajik, M. (2020). The bank lending channel in the Malaysian Islamic and conventional banking system. *Global Finance Journal*, *45*(August 2020), 100478.

Carp, L. (2012). Can stock market development boost economic growth? Empirical evidence from emerging markets in central and Eastern Europe. *Procedia Economics and Finance*, *3*(12), 438–444.

Echchabi,A., Abd. Aziz, H. and Idris, U. (2018). The impact of sukuk financing on economic growth : The case of GCC countries. *International Journal Financial Service Management, 9*(1), 60-69.

Engle, R.F., & Granger C.W.J. (1987). Co-integration and error correction: Representation, estimation and testing. *Econometrica, 55*(2), 251-276.

Furqani, H., & Mulyany, R. (2009). Islamic banking and economic growth: Empirical evidence from Malaysia. *Journal of Economic Cooperation and Development*, *30*(2), 59–74.

Goaied, M. & Sassi, S. (2010). Financial development and economic growth in the MENA region: What about Islamic banking development. *Working Paper*, Institut des Hautes Etudes Commerciales, Carthage.

Goldsmith, R.W. (1969). *Financial structure and development*. New Haven: Yale University Press.

Grassa, R., & Gazdar, K. (2014). Financial development and economic growth in GCC countries: A comparative study between Islamic and conventional finance. *International Journal of Social Economics*, *41*(6), 493–514.

Gurley, J.G. & Shaw, E. (1955). Financial aspects of economic development. *The American Economic Review*, *45*(3), 515-538.

Hachicha, N., & Ben Amar, A. (2015). Does Islamic bank financing contribute to economic growth? The Malaysian case. *International Journal of Islamic and Middle Eastern Finance and Management*, *8*(3), 349–368.

Hicks, J. (1969). *A theory of economic history*. Oxford: Clarendon Press.

Imam, P., & Kpodar, K. (2016). Islamic banking: Good for growth? *Economic Modelling*, *59*, 387–401. https://doi.org/10.1016/j.econmod.2016.08.004

Kassim, S. (2016). Islamic finance and economic growth: The Malaysian experience. *Global Finance Journal*, *30*(May 2016), 66–76.

King, R. G., & Levine, R. (1993). Finance and Growth: Schumpeter Might Be Right. *The Quarterly Journal of Economics*, *108*(3), 717–737.

Lebdaoui, H., & Wild, J. (2016). Islamic banking presence and economic growth in Southeast Asia. *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(4), 551–569. https://doi.org/10.1108/IMEFM-03-2015-0037.

Ledhem, M.A. (2020). Does sukuk financing boost economic growth ? Empirical evidence from Southeast Asia. *PSU Research Review, ahead-of-print*(ahead-of-print). https://doi.org/10.1108/PRR-09-2020-0028.

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, *35*(2), 688–726.

McKinnon, R.I. (1973). *Money and capital in economic development.* Washington D.C.: Brookings Institution Press.

Mitsaliyandito, R.Q., Arundina, T., & Kasri, R.A. (2017). Impact of sukuk market development on Indonesian economic growth. *International Journal of Applied Business and Economic Research, 15*(3), 1-13.

Mohd. Yusof, R., & Bahlous, M. (2013). Islamic banking and economic growth in GCC & East Asia countries: A panel cointegration analysis. *Journal of Islamic Accounting and Business Research*, *4*(2), 151–172.

Naqvi, B., Rizvi, S. K. A., Uqaili, H. A., & Chaudhry, S. M. (2018). What enables Islamic banks to contribute in global financial reintermediation? *Pacific Basin Finance Journal*, *52*, 5–25. https://doi.org/10.1016/j.pacfin.2017.12.001.

Narayan, P.K. (2005). The government revenue and government expenditure nexus: Empirical evidence from nine Asian countries. *Journal of Asian Economics, 15*(6), 1203-1216.

Pan, L., & Mishra, V. (2018). Stock market development and economic growth: Empirical evidence from China. *Economic Modelling*, *68*(July 2017), 661–673.

Pesaran, M.H., Shin, Y., & Smith, R.J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289-326.

Pesaran, M.H. & Pesaran, B. (1997). *Working with Microfit 4.0: Interactive econometrics analysis*. Oxford, UK: Oxford University Press.

Robinson, J. (1952). *The generalization of the general theory*. *The rate of interest and other essays*. London: Macmillan.

Schumpeter, J.A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.

Shaw, E.S. (1973). *Financial deepening in economic development.* New York, USA: Oxford University Press.

Smaoui, H., & Nechi, S. (2017). Does Sukuk Market Development Spur Economic Growth ?. *Research in International Business and Finance, 41,* 136-147.

Smaoui, H., Mimouni, K., & Ben Salah, I. (2021). Do sukuk spur infrastructure development?. *International Journal of Islamic and Middle Eastern Finance and Management*, *14*(4), 655-670.

Sultanuzzaman, M.R., Fan.,H., Mohamued, E.A., Hosain, M.D., & Islam, M.A. (2019). Effect of export and technology on economic growth: Selected emerging Asian economies. *Economic Research-Ekonomska Istrazivanja, 32*(1), 2515-2531.

Suriani., Abd. Majid, S.A., Masbar, R., Wahid, N.A., & Ismail, A.G. (2021). Sukuk and monetary policy transmission in Indonesia : The role of asset price and exchange rate channels. *Journal of Islamic Accounting and Business Research, 12*(7), 1015-1035.

Toda, H.Y., & Yamamoto. (1995). Statistical inference in vector autoregressions with possibly integrated processes. *Journal of Econometrics, 66*(1-2), 225-250.

Yildirim, S., Yildirim, D.C. & Diboglu, P. (2020). Does sukuk market development promote economic growth ?. *PSU Resarch Review, 4*(3), 209-218.

Zarrouk, H., El Ghak, T., & Abu Al Haija, E. (2017). Financial development, Islamic finance and economic growth: Evidence of the UAE. *Journal of Islamic Accounting and Business Research*, *8*(1), 2–22.