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THE CONTRIBUTION OF ISLAMIC FINANCING TOWARDS THE ECONOMIC GROWTH: AN ANALYSIS OF HALAL PRODUCTS IN MALAYSIA

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ABSTRACT

Capital is essential for businesses to sustain and grow. Sources of capital can be in many forms; it includes own saving, borrowed from a relative, seeking the financial assistance from the financial market and selling a share to the investor through the capital market. Thus, the purpose of this study is to examine the contribution of Islamic financing towards the production of halal products, which used the example of the livestock industry in Malaysia. Data on Islamic funding are obtained from 2009 until 2015 of the 16 Islamic commercial banks and the Agro bank of Malaysia as the representative for the development of financial institutions. The analysis of this study used the autoregressive distributed lag (ARDL) bounds testing approach for the cointegration test between Islamic financing and the halal production. We observed that Islamic financing sources have a significantly positive influence on the growth of halal livestock production in the long-run. This indicates that sources of financing could help with the growth of the halal industry, especially in the livestock sector for Malaysia's case. The result of the short-run was contrary to the long term. It shows an insignificant relationship between these two industries.

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***Keywords**: Agricultural finance; ARDL cointegration test; Halal livestock production*

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1. INTRODUCTION

The development of the halal industry in Malaysia was started around the 1970s were an initiative made by the Research Centre for the Islamic Affairs Division of the Malaysian government to code a product named halal status, which in compliance with the Shariah principles. A few years later, the government of Malaysia has invested in this sector,

which seen many infrastructures, incentives, and financial assistance schemes were provided. One of the examples is the establishment of a one-stop-halal-centre in 2006 named Halal Development Corporation (HDC), which mainly to cater to the halal industry in Malaysia. The economic of the halal industry is one of the contributions to the source of Malaysia's economic growth, which is about 5.1%. With the total value of RM37.7 billion exports of halal products in 2015, Malaysia is recognised as a potential of a global halal hub centre[1].

The growth of halal business in Malaysia was not succeeded independently without the support of substantial financial assistance or source of funds from the government and financial institutions (Manan, 2008). Being a halal business, the industry needs to ensure that the source of a fund must also be in line with the Shariah compliance. By looking at the values and principles, Islamic financing seems to have a good relationship compared to the others. On top of that, this was also demanded by Islamic law, and the source of funding was the central element of the business activities.

However, the growth of halal business in Malaysia was not much influenced by the Islamic finance sector, which less demand from the halal industry players (Jaffar & Musa, 2014). According to Badlisyhah (2011), there were only 5% of halal players use Islamic banking and finance products while the rest (95%) still preferable conventional schemes. The practices engaged by businesses producing halal products ought to also be halal and Shariah-compliant (Islamic law). The Riba-based (usury) financing used by the company would negate the efforts of producing halal goods; based on the principles of Islamic jurisprudence, borrowing on interest is a gravely sinful act for which the borrower is responsible in the hereafter (Daly & Frikha, 2016).

There are many factors in determining the status of the halal business. In the case of product consumption, i.e., livestock, the focus is mainly on the issue of food security to ensure to comply with the Shariah principle. Apart from production, the status of halal business needs also to look at the way its company operates, e.g., staff management, finance, business process, marketing, and operation (Febianto, 2011). Some scholars opine that for a company doing a halal business with funding or use conventional instruments is not considered as non-shariah compliance business at all. Determination of halal status is not limited to a selective section, but, it comprises as a whole and needs to be broadened (Muhamed, Ramli, Aziz, & Yaakub, 2014).

On top of that, the KLSE also provides a shariah screening for a company to ensure the status of halal or unlawful (haram) business. The method of screening is qualitative and quantitative approaches. Under the quantitative approach, it has highlighted the component of conventional financial instruments in halal business operation. For example, for a debt or equity ratio financing with 33% more from its capital, it is not permissible for investment and false under non-shariah compliance stock (Md. Hashim, Habib, Isaacs, & Gadhoum, 2017). Thus, using conventional instruments in halal permissible still allowed but in the minimum numbers.

There are limited studies that were conducted on the impact of Islamic finance and banking on the halal business. Some early studies on the relationship of Islamic finance and banking with halal business were done by (Al-Hashimi, 1989), where the research was looking at the influence of Islamic banking on the agriculture development in Sudan.

[1] Source: Halal Development Industry Corporation.

Most of the rural agriculture is more preferred to the Mudarabah financing compared to the conventional lender concept as the element of losses was absorbed by Islamic banking and funder.

There is also research that has been done by Osman and Ali (2008), which explores the level of knowledge on Muslims entrepreneur towards Islamic finance. From their findings, most of the Muslims entrepreneurs were opine the important of Islamic financing on their business growth. The importance of Islamic banking was not just contributed to their business benefit, but it includes on their life in the hereafter. Apart from that, research done by M. Hamouri, Basem, Hamouri, Qasem, Radaydeh, (2014) investigates the impact of Islamic financing and conventional financing in companies' performance. Being used as a set of financial ratios to determine the business performance, the findings show that the performance of the listed companies on the Amman Stock Exchange has a positive impact on the Islamic financing instrument.

Hence, this paper examines the relationship of halal business on the example of the livestock industry with the source of funds from the Islamic financial sector. The Islamic financial industry consists of commercial banks (CB), and Development Financial Institution (DFI) distribute the financing towards the industry of livestock in Malaysia.

This study is significant due to the growth of Islamic finance recently contributes more economy benefit towards the national income. As not just be a solution for the Muslims consumer, this sector also plays a significant role in the halal business sector. Provide capital, lease equipment, and selling a property are some examples of Islamic financial institution products given for the business. The research tries to further investigate the relationship between these two big industries in the Islamic economy. One is to provide financial assistance, while the other sector produces the consumer product.

2. LITERATURE REVIEW

2.1 Islamic banking concept

As mention in Alquran, the prohibition of riba and encourage of business trading are the critical elements of the establishment of Islamic finance. The concept of Islamic finance can be traced back to the idea proposed by Khan (1983), which the Islamic banking institutions operated based on the Islamic shariah law and responsible for promoting and encouragement of halal business activities. As an intermediary, this institution liable to fund with a stable available fund to any business and enterprises for their business operations with the conditions, not against the shariah prohibited elements. A study by Lewis and Algoud (2001), Islamic finance activities must hold the five religious features as to operate differently with the conventional system, which is the element of interest, prohibition, speculative and gambling, permissible items, shariah committee rules and the compulsory of zakat expenses.

Apart from that, Mirakhor and Iqbal (2011) summarise another three actions steps to differentiate Islamic banking and conventional. The avoidance of additional profit from lending activities, i.e., interest, is to protect the demander of the fund, i.e., the poorer from the manipulation of profit-generating by the lender. Thus, Islamic banking always to look at their operation as to avoid any unbalance income, promotes the fair society and maintaining the economic order. Besides, the contract of partnership, such as musyarakah and mudarabah or also known as profit and loss mechanism, is the primary tool of financial instruments by Islamic banking. From this element, it differs from the

conventional whereby the aspect of transfer of loss under the creditworthiness by the lender is replaced by the concept of sharing of risk through the partnership mode when coming to the business venture activities. Lastly, the whole operation of Islamic banking is strictly governed by Islamic ethics based on the view of the shariah law.

The only permissible loan under an Islamic contract is Qard, which also known as benevolent loan. As for profit-generating, Kazarian & Koko (1987) explain the three critical agreements of the relationship between Islamic banking and their customer, namely partnership, sale based, and leasing. Under the partnership contract, there are two types, which are full partnership financing and mudarabah concept. An Islamic bank is a capital provider to a project (based on shariah) by the customer and expects a share return if the investment makes a profit. Unless, if the project or venture are failed, Islamic banks and other capital providers will bear the loss which amount is according to their share of capital. Nevertheless, when it comes to negligent by the entrepreneur or customer, Islamic bank has the right to seek compensation.

Secondly, the sale contract for financing is the same as the other normal buy and sale activities. However, in this mechanism, the payment goods or asset which sale by the bank to the customer is based on future payments or debt. The future payments will be on a lump sum or by some instalments in the agreed period. The sale under the financing by the Islamic bank falls into two categories. First, the Islamic bank will sale a particular asset such as machinery, equipment, and others as requested by the customer based on markup sale. The price of markup sale includes the original cost and added with profit claimed by the Islamic bank. The Islamic bank must highlight the initial cost of the asset and the profit charged. Markup sale is namely as Murabaha type of contract. Other than that, the different kinds of sale modes are the differed delivery of the asset. Typically, this particular transaction only applicable to construction and farming activities. Contradict with normal activities of sale, and the payment is made first before preparing the asset. Here, the Islamic bank is a buyer for a particular asset from the customer. The contract of differed delivery is following the rules under the Salam and Istisna of shariah law.

Finally, the leasing activities by the Islamic bank are followed the same as practised in leasing companies and many conventional banks. The charging of leasing is based on rent or the ujrah mechanism. Leasing modes can have a variety of forms with fixed or variable rents, declining or fixed ownership, operational or financial, along with different conditions regarding the status of leased assets at the end of the lease period.

All this while, the operation of Islamic bank needs accordingly followed the objective of an Islamic bank, which promotes fairness in the transaction between the clients and the bank (Wajdi Dusuki, 2008). In line with this, Chapra (2000) opined that Islamic bank must differ from capitalist ideology where commercial activities and social welfare must be balance which helps in actualising the maqasid al-Shariah or what may be referred to as the vision of Islam, two of the most essential constituents of which are socio-economic justice and the well-being of all Allah (S.W.T)'s creatures. Thus, the operation of an Islamic bank is not based on commercial element and yet also put priorities on the social aspects factors. On top of that, Wajdi Dusuki (2008) claims that the idea of social welfare is not only towards the customer but also includes the relationship with the staff, shareholders, board, and general public as to raise the positive attitude in these stakeholders towards the operation of Islamic bank.

2.2 The roles of financial institution in the economic growth

The researcher in economists aims to seek an answer to the relationship between the two primary economic indicators, which is the financial development and economic growth, either positive or negative. The idea of connectivity of Financial development and market growth was founded by the economist Schumpeter in 1912. Purposely, a bundle of the fund provided by the banks for commercial activities is for encouragement for the businesses to grow with a new idea and implement for success in the future. Thus, this arrangement is, namely as supply leading. Besides supply leading, the purpose of financial development also reacts as demand leading. To differ with the previous definition, the growth of financial development is driven by the demanding of funds from commercial activities. Lastly, the link between these two variables is also fallen under the categories of bi-directional, where both have interlinked each other.

From the three definitions of the nexus growth, it already proved by the empirical study conducted by Christopoulos & Tsionas (2004). All of them opines that financial development fosters economic growth. While for the demand leading, among other researchers found the significant causality is Robinon, 1952; Masih and Masih 1996. And the third component of the connectivity is supported by a study from Demetriades & Hussien, 1996.

2.3 Empirical study on Islamic banking nexus growth

As a closed friendship of the conventional system, the study of Islamic banks on economic growth has also attracted the researcher. Mainly, the research of Islamic banking growth divided into two main empirical studies, namely time series mode (focus one country) or by what of cross-country study, which adopted the panel data approach. These two analyses are synonym with the econometric model of approach. The country selected is from the majority Islamic resident, which relevant as the Islamic financial system is already established.

Among other pioneer researchers on Islamic banking, nexus growth is by Furqani & Mulyany (2009). The study used Malaysia as the experimental for justifying any causality among the variable. Among the analysis are the cointegration test and vector error correction modelling. They used total Islamic banking as a proxy for Islamic bank institutions and against the real economy sector, such as GDP, fixed investment, and trade with the used of quarterly data from 1997-2004. The finding supports the theory of the financial nexus with find that the Islamic banking in Malaysia has the bi-directional with real investment in the long-run while for the GDP react as demander for the Islamic banking growth.

Besides, again Abduh and Azmi Omar (2012) continue the study of the impact of Islamic banking on the country's economy by looking at Indonesia as an example. The study confirms that the causality of Islamic banking economic growth falls under the categories of bi-directional. Data from 2003-2010 collected from Indonesia's economic indicator and make the gross domestic products as the dependent variable. To test the relationship, they used several econometric analyses such as bound testing approach, error correction models, and ARDL. In the end, the main factor that contributes the growth is the sustainable of the Islamic banking ecosystem with the support from the right workforce.

The first two studies used the time series way of experiment. While Barajas (2016) used the panel data approach with the example of oil-exporting and non-oil exporting country as for benchmarking the study. The authors find the cointegration of financial development with economic performance. However, a few limitations found in the research. Among others, such as the exercise combines the Islamic bank and current data, and the result cannot define the contribution solely by an Islamic bank. Other than that, the result also questionable due to the size of the country are ignored in their assessment. In the end, the result of cointegration assuming the relationship as the average causality, which is not appropriate for the cross-country level.

The study of cross-country level continues with Gudarzi Farahani and Dastan (2013) Abedifar, Hasan, & Tarazi, (2016), Lehnert & Kchouri (2019). Mixed approach adoption of the study when it comes to categorising the country involves ranging from development and undeveloped country. The result confines the contribution of the Islamic bank to economic performance.

From the view of the literature, it is confining the effectiveness of the roles of Islamic banking as the financial intermediaries' functions. Also, there are not significantly different contributions from both financial systems. As Islamic banking still new, there are still needed to assess financial nexus with add up another variable for further check-up. To further research, a study of Islamic bank financial nexus can take another approach with looking at the specific level of firm industry such as livestock industry and halal products.

3. DATA AND METHODOLOGY

3.1 Model

To investigate the factors that determine livestock production, the theory of the Cobb-Douglas production function is applied. The names of Charles Cobb and Paul Douglas are no stranger to the economists. The results of their research on manufacturing productivity in the US around 1927 found that there was a parallel relationship between input variables and output production (Smirnov & Wang, 2019). These two components are supported by three main components, two of which are contained in the inputs (capital and labour), and the product represents the output components (Cobb and Douglas, 1928). Increasing productivity in the US, especially in the manufacturing sector, has led researchers to study the changes in the components of capital and labour in the production of output and to see the relationship between the two variables (input and output) (Cobb and Douglas, 1928).

As a result of this relationship, the application of this theory is also used to measure the value of efficiency for an institution, business enterprise, and the economy of a country. Logarithmic linear (log-linear) function in these relationships can help to resolve efficiency issues by using linear programming techniques Gioksas (1991) with a look at technical efficiency (Chiang & Cheng, 2014). Thus, the theory helps in assessing effectiveness especially in terms of management of construction operating expenses Lin (2002) & Hassani (2012), branch management efficiency by financial institutions Gioksas (1991) as well as economic production growth (Hachicha & Ben Amar, 2015; Khatun, 2016; Shahbaz, Shabbir, & Butt, 2013). The details of the Cobb Douglas formation are as follows:

$$Q = AK^{\alpha}L^{\beta} \tag{1}$$

where Q is the quantity of output in units, K is the capital and L is the labour. Equation (1) can be changed to linear function as expressed below:

$$\ln Q = \ln A + \alpha \ln K + \beta \ln L \tag{2}$$

This study is only focusing on capital determinants, such as capital from Agro Bank and commercial banks that influence livestock production. Thus, we rearrange equation (2) to the livestock production model as below:

$$\ln LV_t = \alpha + \beta_1 \ln AB_t + \beta_2 \ln CB_t + e_t \tag{3}$$

where LV_t represents livestock production at time t, AB_t denotes financing from Agro Bank at time t, CB_t denotes financing from commercial banks at time t and e_t is the residual at time t. ln is a natural logarithm. b_1 and b_2 are regression coefficients of Agro Bank and commercial banks financing, respectively.

3.2 Data

The monthly data of livestock, sources of financing from Agro Bank and commercial banks covers from 2009.1 to 2015.12. Data are collected from the annual report of Agro Bank and Central Bank of Malaysia (BNM). For the production of the livestock industry, the data are taken from the Department of Veterinary Services. All variables are in logarithm form. The sample period can be summarised in Table 1.

Table 1: Sample period data.

	Sample Period
Livestock production	2009:1 – 2015:12
Agro Bank	2009:1 – 2015:12
Commercial Banks	2009:1 – 2015:12

3.2 Methodology

3.2.1 Unit roots

Two techniques, namely Augmented Dickey-Fuller (ADF) test proposed by Dickey and Fuller (1979, 1981) and Said and Dickey (1984), and Philips-Perron test (PP) proposed by Phillips (1987) and Phillips and Perron (1988) are used to identify all variables are stationary in level or first difference. A constant term and a linear trend, as well as a constant term and no linear trend, are employed in testing ADF and PP test. If the null hypothesis is accepted, it means that the ADF and PP statistics are less than the critical value in magnitude at the 10 per cent level. Thus, the variable has a unit root. Meanwhile, if ADF and PP statistics are larger than the critical value in magnitude. The null hypothesis is rejected, and the variable is significant at the 10 per cent level. Therefore, the variable can be stationary in the first difference.

However, if the explanatory variable fails to reject the null hypothesis of non-stationary in the first difference, the variable can be stationary in the second difference. Therefore, it must be omitted in testing cointegration. Furthermore, Autoregressive distributed lag (ARDL) bounds testing approach can be applied to examine the relationship between livestock production and sources of financing if the livestock production is integrated of the first order (see Pesaran et al., 2001 and Hoque and Yusop, 2010). Thus, it is crucial to identify the stationarity of each variable by using both methods.

3.2.2 Autoregressive distributed lag (ARDL) model

ARDL model will be employed to test the cointegration for all variables. The ARDL model is not only suitable for testing the long-run relationship, but it can also examine the linkage between livestock production and sources of financing in the short run. There are three main criteria to be considered in testing the cointegration among variables by using the ARDL model proposed by Pesaran et al. (2001). First, all variables must be integrated of order zero or one. Second, the model must pass the diagnostic checking with a view to getting validity of the model. Last but not least, to get the long-run and short-run coefficients of the model, cointegration among variables must exist (See You et al., 2017). The ARDL- Unrestricted Error Correction Model (UECM) can be constructed as follows:

$$\Delta LV_t = \alpha + \sum_{i=0}^{n} b_{1i} \Delta AB_{t-i} + \sum_{i=0}^{n} b_{2i} \Delta CB_{t-i} + \sum_{i=0}^{n} b_{3i} \Delta LV_{t-i} + b_4 LV_{t-1} + b_5 AB_{t-1} + b_6 CB_{t-1} + \mu_{1t} \qquad (4)$$

where Δ is the first difference operator, μ_{1t} is random error terms, b_{1i}, b_{2i} and b_{3i} denotes the short-run dynamics of the model, b_4, b_5 and b_6 denotes the long-run relationship. In addition, the maximum lag length is set to 12, and the optimal lag lengths are chosen by omitting the insignificant first difference variable sequentially.

The null hypothesis of coefficients for the entire one lagged variables is zero. In contrast, the alternative hypothesis of coefficients for the entire one lagged variables are not equal to zero. This means that there exhibits a long-run relationship. The critical values have to be simulated (Pesaran and Pesaran, 1997; Pesaran et al., 2001). According to this hypothesis, the decision of all variables are cointegrated can be identified. For instance, if the computed F-statistic larger than the upper bound I(1), then the null hypothesis of no cointegration is rejected. Thus, all variables are cointegrated. If the computed F-statistic smaller than the lower bound I(0), the null hypothesis of no cointegration is accepted. So then, there is no cointegration among variables. However, if the F-statistic falls between the upper and lower bounds, the final result would be inconclusive.

Furthermore, if there is cointegration among variables, long-run and short-run coefficients can be estimated as follows:

$$\Delta LV_t = \alpha + \sum_{i=0}^{n} b_{1i}\Delta AB_{t-i} + \sum_{i=0}^{n} b_{2i}\Delta CB_{t-i} + \sum_{i=0}^{n} b_{3i}\Delta LV_{t-i} + \lambda ECT_{t-1} + \mu_{1t} \quad (5)$$

where l is an adjustment speed back to the long-run equilibrium after the shock in short-run, and the expected sign for this parameter will tend to be negative.

3.2.3 Diagnostic test

Diagnostic checking is used to define the validity of the model. This study follows Ang (2010) to check the diagnostic of the ARDL-UECM model. A few diagnostic tests will be adopted, such as LM test, ARCH test, White test, CUSUM test and CUSUM square test.

The LM test is beneficial for knowing the serial correlation in the error term. The null hypothesis of no autocorrelation in error term can be rejected if the value of the chi-square statistic is less than the critical value at 10 per cent level. While, both ARCH and White tests are applied for the conditional homoscedasticity. If the chi-square statistics are smaller than the critical value at the 10 per cent level, the null hypothesis of no heteroskedasticity in error term can be rejected. These methods are applied to detect the goodness of the model. Besides that, CUSUM and CUSUM of Squared test proposed by Brown et al. (1975) will be implemented for detecting the stability of parameters. The parameters are constant over time if the null hypothesis can be accepted at the 5 per cent significance level.

4. EMPIRICAL RESULT

4.1 Unit root test

The results of the unit root test are reported in Table 2. For livestock production and Agro bank, it shows that these two variables are significant at 5 per cent level both trend and no trend (except livestock production is significant at the 10 per cent level for no trend). Thus, both variables are stationary at the first difference according to the ADF test and PP test. However, commercial banks show it seems to be integrated of a higher order than one based on the ADF test. Meanwhile, this variable is integrated of order one at 1 per cent level both trend and no trend based on PP test. Overall, none of the variables are integrated of a higher order than one according to the PP test, confirming that all variables cannot be omitted in checking cointegration.

Equation (5) must be estimated to perform the ARDL test. By using equation (5), this study selects the optimal lag with 12 to 1 in order to obtain the best model. This study selects eight as the optimal lag, and then select a parsimonious model using the AIC as suggested by Hendry and Ericsson (1991). So then, the best model for the cointegration test is ARDL (8,7,6). This model had passes all diagnostic tests, namely LM test, ARCH test, White test, CUSUM test and CUSUM of square test. The LM test confirmed that no serial correlation in the error term. Both ARCH and White tests have p-values of 0.562 and 0.889, respectively. It indicates that no heteroskedasticity in the error term. The CUSUM and CUSUM of square tests state that all parameters are stable, as presented in Figure 1 (a) and (b). According to the bound test, the result of computed F-statistic is 5.197, bigger than 4.85, as shown in Table 3. This means that the null hypothesis of no

cointegration can be rejected and significant at the 5 per cent level. Therefore, the Agro Bank and commercial banks can influence livestock production in the long run.

Table 2: Result of unit roots.

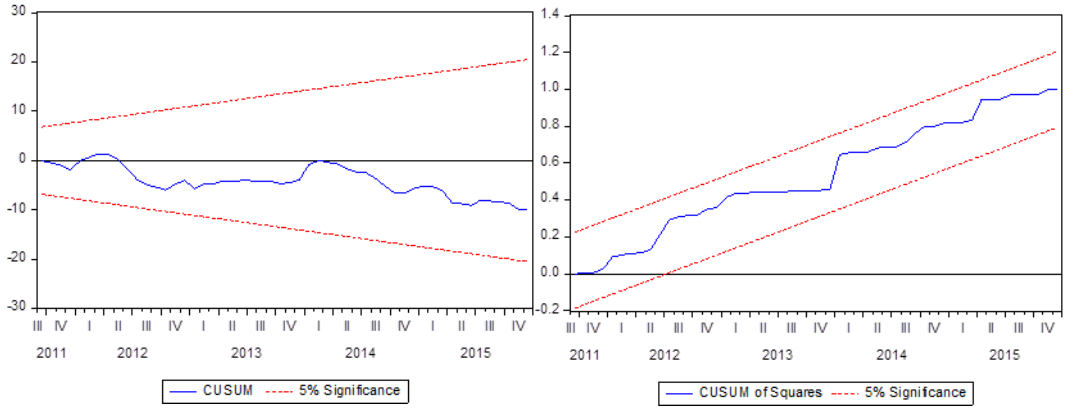
Variables	ADF		PP	
	Level			
	No trend	Trend	No trend	Trend
LV	-2.624*	1.217	-4.185***	0.720
AB	-1.670	-1.799	-1.644	-2.089
CB	-1.720	-2.995	-1.800	-1.663
	First Difference			
	No trend	Trend	No trend	Trend
LV	-2.596*	-8.815***	-3.302**	-7.086***
AB	-7.824***	-7.844***	-7.795***	-8.460***
CB	-1.796	-1.717	-4.674***	-4.687***

Notes: *, ** and *** denote significant at 10, 5 and 1 per cent levels, respectively.

Table 3 Result of ARDL bounds test for cointegration analysis

ARDL (8, 7, 6) k=2 and n=76		
Diagnostic checking		
LM Autocorrelation Test (1)	2.727	[0.100]
ARCH Test (1)	0.336	[0.562]
White Test	15.165	[0.889]
CUSUM Test	Stable	
CUSUM of square Test	Stable	
Computed F-statistics: 5.197** Pesaran et al. (2001) Case III: Unrestricted intercept and no trend		
Critical value	Lower Bound	Upper Bound
10%	3.17	4.14
5%	3.79	4.85
1%	5.15	6.36

Notes: *, ** and *** denote significant at 10, 5 and 1 per cent levels, respectively. For diagnostic test result, figures in parenthesis are the lag length, while probability-values are in brackets



(a) CUSUM test (b) CUSUM of square test

Figure 1: The CUSUM and CUSUM of square tests.

Based on Table 4, it shows that the commercial banks have a strong significant impact on livestock production at 1 per cent level, indicating that 1 per cent increase in financing from commercial banks leads to increase of livestock production by 0.199 per cent. Similarly, the Agro Bank has also a strong significant impact on livestock production at 1 per cent level. So then, livestock production rises by 0.538 per cent when the Agro Bank increases by 1 per cent. The expected sign of each variable is reliable. Apparently, sources of financing are crucial determinants of livestock production. Islamic finance would give more contribution to the growth of the halal industry in the long run.

Table 4: Result of Long-run elasticities.

Variable	Coefficients	P-value
LCB	0.199***	0.000
LAB	0.538***	0.000

Notes: *, ** and *** denote significant at 10, 5 and 1 per cent levels, respectively.

Lastly, this study attempts to investigate the short-run relationship between sources of financing and livestock production. As reported in Table 5, the lagged error correction term is a negative sign and strongly significant at 1 per cent level. This implies that livestock production adjusts about 14.4 per cent back to equilibrium level for the first month, and it takes seven months for the livestock production to adjust completely towards the equilibrium level. In the short run, the expected sign of the commercial bank is contradicted with the long-run coefficient. The commercial banks have an adverse impact on livestock production at 5 per cent level. Livestock production tends to fall when the commercial bank raises its financing.

For the financing source from Agro bank, only one coefficient has a positive sign (0.060) and significant at 1 per cent level; other coefficients have a negative impact and significant at 5 per cent level on livestock production. A rise in sources of financing results in fall of livestock production. The decrease in production is due to incurred cost or start-up cost. Therefore, the variable cost, such as operation cost, breeding livestock,

labour and feed as well as the fixed cost, that is, equipment, machinery, land, buildings, loan, and insurance need to be considered in the short run

Table 5: Result of Short-run elasticities.

Variable	Coefficients	P-value
Intercept	-0.546***	0.000
ΔLCB	0.010	0.734
ΔLCB_{t-1}	-0.048	0.200
ΔLCB_{t-2}	-0.050	0.173
ΔLCB_{t-3}	0.034	0.450
ΔLCB_{t-4}	-0.058	0.138
ΔLCB_{t-5}	0.002	0.955
ΔLCB_{t-6}	-0.069**	0.023
ΔLAB	0.060***	0.005
ΔLAB_{t-1}	-0.097***	0.000
ΔLAB_{t-2}	-0.018	0.489
ΔLAB_{t-3}	-0.089***	0.001
ΔLAB_{t-4}	-0.003	0.902
ΔLAB_{t-5}	-0.047**	0.042
ect_{t-1}	-0.144***	0.000

Notes: *, ** and *** denote significant at 10, 5 and 1 per cent levels, respectively.

5. CONCLUSIONS AND POLICY IMPLICATION

This study examines long-run and short-run relationships between the Islamic finance and halal industry, focusing on the livestock sector in Malaysia throughout 2009.1 to 2015.12. By using the ARDL model, this study found out that sources of financing (Agro Bank and Commercial Bank) and livestock production are cointegrated. It confirms that long-run coefficients of sources for funding have a significantly positive influence on livestock production, and those signs are as expected. The signs of the variables are not in line with the hypothesis in the short run. This is due to the start-up cost of running a business in the livestock sector. Next, a few policy implementations are suggested in this study. First, as the fastest-growing of Islamic finance, the Halal Development Centre of Malaysia need to play their role as to put this industry as one main contribution of halal business in Malaysia. Although the central bank governs the principal supervision of Islamic finance, the role of HDC can be extended to the promotion and awareness of

Islamic finance to the other halal business players and the public. At the same time, the government can also promote and establish more Islamic finance institutions, especially for users from the micro business market. This is important, as most of the entrepreneur of the livestock industry is categorised under the micro-business segment. In future research, other Islamic financial institutions can be included as one of the funds provided for the livestock industry, such as Zakat, Islamic Microfinance, and Waqf institutions. All of these are different from the Islamic financial institutions as the main objective is to help poverty. Low-profit rates, fund providers, and financial grants are some examples of the facilities provided by them. Other factors such as labour and start-up costs, research and development, innovation, technology have also influenced the livestock production. Thus, these variables also need to be considered in future research.

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