An-Nisbah: Jurnal Ekonomi Syariah
Volume10, Nomor 02, Desember 2023

THIRD PARTY FUNDS AND WORKING CAPITAL FINANCING AT ISLAMIC BANKS IN INDONESIA: ARDL-ECM APPROACH

Lukman Hakim[1], Akmal Riza[2]
[1]Universitas Syiah Kuala, [2]Universitas Islam Negeri Ar-Raniry
lukmandja@usk.ac.id[1]

Abstrak: *Penelitian ini bertujuan untuk menganalisis pengaruh dana pihak ketiga dan tingkat margin pembiayaan terhadap realisasi pembiayaan modal kerja yang disalurkan bank syariah pada sektor UMKM di Indonesia. Menggunakan data time series selama periode 2014.6-2018.9, model analisis yang digunakan adalah autoregressive distributed lag (ARDL). Penelitian mengungkapkan adanya hubungan kointegrasi jangka panjang antara realisasi pembiayaan dengan dana pihak ketiga dan tingkat margin pembiayaan. Dalam jangka panjang dan jangka pendek, dana pihak ketiga berpengaruh positif dan signifikan terhadap pembiayaan modal kerja. Selanjutnya, tingkat margin berpengaruh negatif dan signifikan dalam jangka pendek, tetapi tidak berpengaruh dalam jangka panjang.*
Kata kunci: *Pembiayaan Modal Kerja, Dana Pihak Ketiga, tingkat Margin Pembiayaan, ARDL-ECM.*

Abstract: *This research aims to analyze the influence of third-party funds and the yield rate of financing on the realization of working capital financing distributed by Islamic banks to the MSMEs sector in Indonesia. Using time series data for the period 2014M6-2018M9, the analysis model used is autoregressive distributed lag (ARDL). The research pointed out that there is a long-term cointegration relationship between the realization of Islamic financing with third-party funds and the yield rate. In the long term and short term, third-party funds have a positive and significant effect on working capital financing. Furthermore, the yield rate has a negative and significant effect in the short term but has no effect in the long term.*
Keywords: *Working capital financing, Third-party funds, Yield rate of financing, ARDL-ECM.*

Introduction

Islamic financial institutions provide new hope for Indonesian people to increase their economic activities as most of them are Muslims who in all aspects of their lives are required to always be guided by sharia, especially in matters of *muamalah*. Along with the development of such financial institutions, third party funds (TPF) and sharia financing distribution increase from year to year. The term financing in this study refers to working capital financing channeled by Islamic banks to Micro, Small and Medium Enterprises (MSMEs).

In the January 2017 period, the total working capital financing disbursed by Islamic banks in Indonesia reached IDR 65,213.5 billion. This figure increased in the following periods to IDR 69,339.7

billion in January 2018. This increase indicates that Islamic bank financing is in great demand by MSMEs as a source of external financing when they need funds to increase their working capital.

Financing by Islamic banks is highly tied to the availability of third-party funds, considering that Islamic financial institutions basically act as intermediary institutions between savings customers and financing customers. In carrying out the function of financial intermediation, banks receive savings from the public (who have surplus funds) and distributes them in the form of financing to others in need for funds for various purposes including additional working capital and investment[1]. The greater the third-party funds, the greater the availability of funds that can be distributed to financing customers.

The growth of Islamic banks in Indonesia has led to a consistent rise in total third-party funds over the years. In January 2017, the cumulative third-party funds reached IDR 205,782.6 billion, which then continued reaching IDR 239,318.5 billion in January 2018. The increasing deposits shows an augmented public confidence in Islamic banks' capability to fulfill the financing needs of their customers.

The realization of working capital financing by Islamic banks to MSMEs is certainly related to some factors, including financing yield rates. Like the interest rate on loans at conventional banks, financing yield rates set by Islamic banks can be considered as the cost of funds borne by customers for the financing services they utilize. A rise in yield rate is interpreted as an increase in such costs. Excessively high yield rates become a financial burden for customers against their ability to meet repayment obligations for the financing installments[2].

Indonesia's Islamic banking statistical report show that the yield rate of working capital financing offered by Islamic banks to their customers fluctuated over periods. In January 2017, for example, it was 15.8 percent, and then had a downward trend to 15.2 percent in January 2018.

The realization of working capital financing by Islamic banks showed a tendency to rise along with the availability of third-party funds. However, the yield rates set by Islamic banks for financing tended to decrease. These empirical data encouraged the researchers to attempt to reveal empirical evidence about the direction and significance of the effect of third-party funds and yield rates on working capital financing. The results of this study would be very useful not only for Islamic banks in determining effective policies related to increasing financing realization, but also for the monetary authorities in formulating reference interest rate policies for commercial banks, especially for Islamic commercial banks.

Several researchers have conducted studies on the effect of third-party funds on financing by Islamic bank. Surprisingly, they did not come to the same conclusion[3]. For instance, Prihartadi found that third-

1 Yitayaw, M. (2021). *Firm-specific, industry-specific and macroeconomic determinants of commercial banks' lending in Ethiopia: Panel data approach. Cogent Economics & Finance, 9(1)*

2 Mahrous, S. N., Samak, N., & Abdelsalam, M. A. M. (2020). The effect of monetary policy on credit risk: evidence from the MENA region countries. *Review of Economics and Political Science*, 5(4), 289-304

3 Ikhsan, I., Fitri, C. D., Maulana, H., & Amri, K. (2020). Effect of inflation on total deposits and financing of sharia commercial banks: A monthly data evidence from Indonesia. *Regional Science Inquiry*, 12 (1), 103-114

party funding had no effect on *mudharabah* financing, while Anwar and Miqdad's study revealed it had significant effect on the same[4][5], as what Ryad and Yuliawati[6] found.

Regarding the effect of yield rate on financing realization, previous researchers also found controversial results. Sudarsono *et al*., for example, found that financing yield rate has a positive and significant effect on the distribution of Islamic bank financing[7]. In contrast, Laili and Tanjung's research found that yield rate did not affect financing realization[8]. The results of an empirical study conducted by Maiti *et al.* in the case of banks in Ghana also concluded that the distribution of financing is not significantly influenced by financing interest/yield rate[9].

The lack of consistency in empirical findings regarding the direction and significance of the influence of third-party funds and yield rates on Islamic bank financing required the re-examination of the relationship between these variables. This study, therefore, would test and analyze the effect of third-party funds and financing yield rates specifically on the realization of Islamic bank financing, focusing on working capital financing. Utilizing a dynamic autoregressive distributed lag (ARDL) model, our research would not only estimate short-term and long-term effects but also endeavored to discover cointegration relationships between these variables. This approach, with a more nuanced perspective on the dynamics of working capital financing in Islamic banks, made our study different from previous ones.

Literature Review

Relationship between third party funds and financing distribution

Banks as financial institutions fundamentally only serve as intermediaries between people with surplus funds and those in need of funds. Third party funds (TPF) in banks are sourced from public savings. The funds are distributed by the banks to the public in the form of financing. Thus, the greater TPF owned by a bank financial institution, the greater the pool of funds available to be distributed to customers.

The results of empirical studies revealed a very significant positive relationship between TPF and financing disbursed by Islamic banks. The increase in TPF significantly increases the financing disbursed

4 Prihartadi, M. T. (2016). The effect of third party funds and profit sharing rates on mudharabah financing at BRI Syariah Surabaya Gubeng branch for the 2013-2015 period. *eL-Qist*, 6(1),1-16.

5 Anwar, C., &; Miqdad, M. (2017). The effect of third party funds (DPK), capital adequacy ratio (CAR), return on assets (ROA) on mudharabah financing at Islamic commercial banks in 2008 – 2012. *Research & Journal of Accounting*, 1(1), 1-6

6 Ryad, A. M., & Yuliawati, Y. (2017). Pengaruh dana pihak ketiga (DPK), capital adequacy ratio (CAR), non performing finance (NPF) terhadap pembiayaan. *Jurnal Riset Akuntansi dan Keuangan*, 5 (3), 1535-1540

7 Sudarsono, H., Mifrahi, M. N., Susantun, I., Rudatin, A., & Ruchba, S. M. (2019). Analysis of factors affecting the financing with Islamic banks in agriculture sectors. *Asian Journal of Islamic Management* (AJIM), 1(2), 116-126

8 Laili, N., & Tanjung, H. (2019). Analysis of factors affecting islamic bank financing for the fisheries sector in Indonesia. *Abdimas Talenta*, 4 (2), 568-583

9 Maiti, M., Esson, I. A., & Vuković, D. (2020). The impact of interest rate on the demand for credit in Ghana. *Journal of Public Affairs.* doi:10.1002/pa.2098

to financing customers[10]. Research conducted by Amelia & Fauziah also proved that total third-party funds have a positive and significant effect on financing[11]. Earlier, Nazir *et al*.'s research on banking companies in Pakistan also found that the amount of third-party funding is positively associated with loan offerings by the banking sector.[12] However, in contrast, research conducted by Moussa & Chedia in Tunisia found strong evidence that deposits do not have a significant effect on total financing[13].

Relationship between yield rate and financing distribution

The demand for Islamic bank financing is also tied to the financing yield rates set by the bank. The yield rate in financing products refers to the amount of costs that must be borne by customers when utilizing financing services. For Islamic banks as fund owners, yield rate is the main source of income. For customers, on the other hand, it is a financial burden, which potentially can influence their demand for loans. The demand for bank loans is highly responsive to changes in interest rates, and the elasticity of interest rates for bank loan requests is very significant. The interest rate is an important determinant of the private sector's demand for bank loans[14].

Studies on the relationship between financing distribution and yield rates have been conducted by many researchers specialized on banking. Higher interest rates can discourage new investment, boost savings, and consequently reduce output and inflation[15]. At the same time, they can also affect funding costs, a factor of production that could potentially be reflected in price levels when the magnitude of the increase in funding costs is considerable. Increasing interest rates on loans imposes a huge burden on borrowers, making bad loans and non-performing loans more likely to occur[16]. Rising interest rates generally have a negative effect on the realization of loan/financing. Empirical studies using banking data in Nigeria proved that an increase in lending rates by 1% drives a decrease in bank lending by 0.45%.[17]

---

[10] Husaeni, U. A. (2016). The variables effects of *Murabaḥah* in Islamic commercial banks, *International Journal of Nusantara Islam*, 4(2), 1-16.

[11] Amelia, E., & Fauziah, H. E. (2017). Determinant of mudharaba financing: A study at Indonesian islamic rural banking. Etikonomi, 16 (1), 43 – 52

[12] Nazir, M. S., Naqvi, I. H., & Nawaz, M. M. (2013). Role of rate of return, inflation and deposits on loan supply: An empirical study of banking sector in Pakistan, *African Journal of Business Management*, 7(25), 2427-2431

[13] Moussa, M. A. B., & Chedia, H. (2016). Determinants of Bank Lending: Case of Tunisia, *International Journal of Finance and Accounting*, 5(1): 27-36

[14] Qayyum, A. (2002). Demand for Bank Lending by the Private Business Sector in Pakistan. *The Pakistan Development Review, 41*(2), 149-159.

[15] Egilsson, J.H. (2020) How raising interest rates can causeinflation and currency depreciation, *Journal of Applied Economics*, 23(1), 450-468

[16] Mahrous, S. N., Samak, N., & Abdelsalam, M. A. M. (2020). The effect of monetary policy on credit risk: evidence from the MENA region countries. *Review of Economics and Political Science*, 5(4), 289-304

[17] Adeleye, B. N. (2020). Unbundling interest rate and bank credit nexus on income inequality: structural break analysis from Nigeria. *Journal of Financial Regulation and Compliance*

Method

The initial phase of this research involved collecting data related to the variables studied. The data comprises monthly time series data spanning the period from June 2014 to September 2018. The operationalized variables in this study include the distribution of working capital financing by Islamic banks, third-party funds, and financing margins. All data associated with these variables were extracted from Islamic banking statistical reports published by the Financial Services Authority. The distribution of working capital financing, as referenced in this study, pertained to the allocation of such financing by Islamic banks to MSMEs during specific periods (months), measured in units of billion rupiah. Third-party funds represent the amount of funds owned by Islamic banks from external sources within a specified timeframe, measured in units of billion rupiah. Additionally, the financing yield rate refers to the working capital financing yields set by Islamic banks in a determined period, measured in units of percentage.

Given that the data operationalized had different sizes, for the benefit of analysis, the process of transforming the data was carried out in the form of logarithms. The statistical advantage of the process of transforming data in the form of logarithms is that the estimated coefficient obtained regarding the influence of one variable on other variables could be interpreted as the elasticity of the independent variable[18].

As explained earlier, the data used in this study was monthly data. In practice, the influence of one variable on another one can occur in different time spans (*lag*). The distribution of financing in a particular month, for example, is not only related to deposits and financing margins in that month, but also to those in the previous months. Thus, capital analysis that allows researchers to estimate the distribution of working capital financing by involving the present value and past value of explanatory variables was needed in this study. Regression models that include the present and past values (lag) of independent variables in addition to the model are called Autoregressive Distributed Lag (ARDL). This model can distinguish the short-term and long-term responses of non-free variables to a single unit change in the value of the explanatory variable[19].

$$\Delta logPB_t = \alpha + \sum_{j=1}^{p} \beta_{1i}\, \Delta logPB_{t-j} + \sum_{j=0}^{q} \beta_{2i}\, \Delta logDPK_{t-j} + \sum_{j=0}^{q} \beta_{3i}\, \Delta logMP_{t-j} + \gamma_1 logPB_{t-1} + \gamma_2 logDPK_{t-1} + \gamma_3 logMP_{1-1} + \varepsilon_t$$

Where *PBt* is the realization of working capital financing in month *t*, *DPKt* is the total third party funds in Islamic banks in month *t*, and MP is the yield rate of financing. Δ is the first difference of the research data, α is the constant, β_{1i}, β_{2i}, and β_{3i} are the short-term estimation coefficients. γ_1, γ_2, and γ_3 are

[18] Chen, Z., Wang, Z., & Jiang, H. (2019). Analyzing the heterogeneous impacts of high-speed rail entry on air travel in China: A hierarchical panel regression approach. *Transportation Research Part A: Policy and Practice, 127, 86–98*

[19] Gwaison, P. D., Maimako, L. N., & Mwolchet, P. S. (2021). Capital Market and Economic Growth in Nigeria: An Autoregressive Distributed Lag (ARDL) Bounds Testing Approach. *International Journal of Finance Research*, *1*(2), 74–92

long-term estimation coefficients. *p*, *q*, and *r* are, respectively, lag lengths that represent the time horizon of the influence of exogeneous variables on the endogenous ones. ε_t is the error term of estimation. The hypothesis of a cointegration relationship is described in the nul hypothesis and alternative hypothesis, where $H_0 = \gamma_1 = \gamma_2 = \gamma_3 = 0$ (there is no long-term relationship), and $H_a = \gamma_1 = \gamma_2 = \gamma_3 \neq 0$ (there is a long-term relationship). The acceptance of one of the hypotheses is based on the *F* test value generated through the ARDL bound test, compared with the critical values (the upper and lower bounds)[20]. If the *F* test is greater than the critical value, it can be interpreted that there is cointegration. If the value of the statistic is between the upper and lower bounds, the decision is not conclusive. Furthermore, if the *F* test value is below the lower bound, it is concluded that there is no cointegration[21]. The results of the ARDL bound test indicated a cointegration relationship between variables (Table 3). This indicates a long-term balance relationship between Islamic bank financing with third-party funds and financing yield rates.

In the short term, a modification in one variable induces a deviation from the long-term equilibrium, necessitating adjustments in other variables. In other words, any such deviation would be rectified to restore the system to long-term equilibrium. In this context, the Error Correction Model (ECM) was employed to ascertain the magnitude and speed of short-term adjustments between variables as they were cointegrated towards a state of re-equilibrium. Moreover, the ARDL-based Error Correction Model was formulated as follows[22]:

$$\Delta logPB_t = \alpha + \sum_{i=1}^{p} \beta_{1i}\, \Delta logPB_{t-i} + \sum_{i=1}^{q} \beta_{2i}\, \Delta logDPK_{t-i} + \sum_{i=1}^{q} \beta_{3i}\, \Delta logMP_{t-i} + \gamma_1 ECT_{t-1} + \varepsilon_t$$

In the equation above, the error term representing the speed of short-term adjustment to long-term equilibrium is *ECTt-1*. The estimated error *correction* coefficient (γ_1) is expected to be negative and significant, indicating a convergence process towards long-term equilibrium.

Results and Discussion

The variables in this study consisted of the realization of working capital financing channeled by Islamic banks to MSMEs, the availability of third-party funds, and the yield rates of working capital financing. The results of descriptive statistics and correlation between the three variables are as shown in Table 1.

[20] Ridzuan, A. R., Saad, R. M., Subramaniam, G., Amin, S. M., & Borhan, H. (2019). The link between financial sector development and income distribution: Evidence from Singapore. *International Journal of Business and Society*, *20*(2), 627–640

[21] Tursoy, T. (2019). The interaction between stock prices and interest rates in Turkey: empirical evidence from ARDL bounds test cointegration. *Financial Innovation*, *5*(1)

[22] Musakwa, M.T., & Odhiambo, N.M. (2019). THE impact of remittance inflows on poverty in Botswana: an ARDL approach. *Economic Structures* 8, 42

Table 1

Descriptive Statistics and Correlation Matrix

Statistical Parameters	Working Capital Financing (IDR Billion)	Third-Party Funds (IDR Billion)	Yield Rate (%)
Mean	65,919.21	195,726.20	15.76
Median	64,548.60	178,851.00	15.50
Maximum	73,078.70	251,483.20	18.50
Minimum	54,643.40	150,529.80	13.20
Korelasi			
PBMDK	1		
DPK	0.943	1	
MMDK	-0.499	-0.567	1

Source: Secondary Data (Processed), 2023.

As described in the previous section, this study used the ARDL dynamic model. The first step in using this dynamic model was done by performing a unit root test on each research variable. The goal was to find out whether or not the data reaches a stationary state. A time series data is considered stationary when its values tend to revert to the long-term mean, and the properties of the time series are not influenced solely by changes in time. Conversely, non-stationary time series do not exhibit a tendency to return to their long-term mean values, leading to changes in their mean, variance, and covariance over time[23].

The unit root test in this study used ADF (Augmented Dickey Fuller) and Phillips-Perron (PP) tests. Both of these methods are commonly used in testing time series data stationarity and have been shown to have better empirical power in measuring unit root symptoms, so they are most widely used in empirical studies. The results of the unit root test using both methods indicated that the research data reached stationary on different orders. Working capital financing reached stationary at the level. Furthermore, third-party funds and financing yield rates reached stationary at first difference. For more details about the results of the unit root test, see Table 2.

[23] Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science, 4(2), 71–89*

Table 2

Unit Root Test

Variable	Method	Augmented Dicky Fuller ADF)				Phillips-Perron (PP)			
		Level		First difference		Level		First difference	
		t-stat	*p-value*	*t-stat*	*p-value*	*t-stat*	*p-value*	*t-stat*	*p-value*
Working capital financing (LPB)	Intercept	-2.898	0.053	-3.995	0.003	-2.915	0.051	-13.389	0.000
	Trend and intercept	-5.531	0.000	-3.987	0.016	-5.866	0.000	-11.917	0.000
Third Party Funds (LDPK)	Intercept	-0.300	0.917	-8.020	0.000	-0.235	0.927	-8.016	0.000
	Trend and intercept	-1.912	0.634	-7.928	0.000	-1.932	0.623	-7.926	0.000
Financing yield rates (LMP)	Intercept	-2.002	0.285	-12.026	0.000	-2.433	0.138	-12.207	0.000
	Trend dan intercept	-2.271	0.442	-11.961	0.000	-3.461	0.055	-11.961	0.000

Source: Secondary data (Processed), 2023

The next step in the ARDL model was a cointegration test with the aim of determining whether or not there was a long-term relationship between variables in the equation. The cointegration test, in this case, utilized a bound test based on comparing the *F*-statistic or bound test with the upper bound at level I(1) and the lower bound at level I(0). The *F*-statistic exceeding the upper bound indicates cointegration. Conversely, the *F*-statistic under the lower bound suggests no cointegration. The results of the bound test are presented in Table 3.

Table 3

Results of the ARDL Bound Test

Working Capital Financing Model	*K*	*F*-statistic
Δ*logPB= F(*Δ*logDPK,* Δ*logMP)*	2	22.104
Significance	Critical Value	
	Lower Bound I(0)	Upper Bound I(1)
10%	2.63	3.35
5%	3.10	3.87
2.5%	3.55	4.38
1%	4.13	5.00

Source: Secondary data (Processed), 2023.

Based on Table 3 above, it can be seen that the statistical *F* value of 22.104 is greater than the upper bound at the 99% confidence level of 5.00. Thus, it can be concluded that at 99% confidence there is a long-term relationship between the distribution of Islamic bank financing, third party funds, and financing yield rates.

The impact of these two independent variables on the financing of working capital by Islamic banks does not manifest directly in the same period but requires a lag (time duration) during the analysis period. In this context, the selection of the best ARDL model with the optimal combination of lags was then determined based on the Akaike Information Criterion (AIC). According to AIC selection, the most suitable ARDL model for this research is ARDL (1, 1, 2). The results of data processing indicated that the Adjusted *R*-squared value in the model is 0.937, indicating that only 93.7% of the variation in Islamic bank financing can be explained by third-party funds and financing yield rates. For more detailed insights, the results of estimating the long-term and short-term effects of the two explanatory variables on Islamic bank financing are presented in Table 4.

Table 4

Long-Term and Short-Term Estimation

Variable	Coefficient	Std. Error	*t*-Statistic	*p*-value
Long-term elasticity				
C	6.724***	0.345	19.462	0.000
logDPK	0.348***	0.021	16.935	0.000
logMP	0.052	0.048	1.087	0.283
Short-term elasticity				
Δ*logDPK*	0.406***	0.088	4.625	0.000
Δ*logMP*	0.007	0.051	0.135	0.894
Δ*logMP(-1)*	-0.145***	0.052	-2.803	0.008
ECT(-1)	-0.447***	0.119	-3.751	0.001
Residual diagnostic				
R-squared	0.945			
Adjusted R^2	0.937			
F-statistic	123.572			
Prob(*F*-stat)	0.000			
DW	1.901			
Residual normality				
J-B	2.646 (2.66)			
Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.060 (0.942)			
Obs**R*-squared	0.146 (0.929)			
Heteroskedasticity Test: White				
F-statistic	0.580 (0.887)			

Obs*R-squared	12.597 (0.815)			
Scaled explained SS	8.739 (0.966)			
Ramsey RESET Test				
t-statistic	1.046(0.302)			
F-statistic	1.094(0.302)			

Source: The results of the authors' count using E-Views 9

In the long run, third party funds (TPF) have a positive effect on the distribution of working capital financing with an estimated coefficient of 0.348 (p-value < 0.05). A 1% increase in third-party funding increases working capital financing by 0.348%. In other words, the greater the third-party funds owned by Islamic banks, the greater the distribution of working capital financing to financing customers.

This finding confirmed the results of Nazir *et al.*'s research in Pakistan which also proved that the availability of third-party funds has a positive and significant effect on the distribution of financing by the banking sector.[24] When third party funds increase as a result of the increased flow of funds sourced from savings customers, Islamic banks distribute them to customers in the form of, among others, working capital financing. Conversely, the decline in TPF also has a significant impact on the decrease in financing. The results of this study are in line with Amelia & Fauziah's research findings on the determinants of *mudarabah* financing that provided empirical conclusions that the distribution of financing to Islamic banks is positively and significantly influenced by the availability of third party funds[25]. The primary activity of banks is fundamentally serving as financial intermediary institutions in society. Through their intermediation function, financial institutions collect funds in the form of savings and then redistribute them to those in need. So. Islamic banks should try to increase deposit funds to increase financing.

Unlike third party funds, in the long run, margin of financing has no effect on working capital financing with an estimated coefficient of 0.052 (p-value > 0.05). Changes in financing margins in the long term do not significantly impact changes in the amount of working capital financing disbursed by Islamic banks. This means that in the long run, changes in the financing yield rate do not significantly affect the realization of working capital financing. This finding supports the results of Olusanya *et al.*'s research which also proved that in the long run bank financing distribution is not significantly influenced by loan interest

[24] Nazir, M. S., Naqvi, I. H., & Nawaz, M. M. (2013). Role of rate of return, inflation and deposits on loan supply: An empirical study of banking sector in Pakistan, *African Journal of Business Management*, 7(25), 2427-2431

[25] Amelia, E., & Fauziah, H. E. (2017). Determinant of mudharaba financing: A study at Indonesian islamic rural banking. Etikonomi, 16 (1), 43 – 52

rates [26], and, at the same time, is contrary to Olaoluwa & Shomade's research in the case of banking institutions in Nigeria which revealed that loan interest rates negatively affect the financing disbursed by banks[27].

In the short term, third-party funds also have a positive and significant effect on working capital financing. The distribution of financing in a certain period is significantly influenced by third party funds in the same period. This is indicated by an estimation coefficient of 0.406 (*p*-value = 0.000 < 0.05). Conversely, margin financing negatively affects working capital financing at *lag* 1, with an estimated coefficient of -0.145 (p-value < 0.05). An increase in financing margin of 1% in a given month period significantly decreases financing realization by 0.145% in the next period. In other words, the decrease in financing in the *t* period is significantly due to the increase in the financing margin of the previous period (*t*-1). The negative influence of margin on financing due to the financing yield rate can be seen as the cost of funds borne by customers in utilizing the bank's financing. The higher the margin, the greater the financial burden that must be borne by the customers which in turn has a negative impact on their ability to pay. This reduces their interest in utilizing financing from Islamic banks.

The ARDL results as shown in the table above show an *ECTt*-1 value of -0.447, indicating that deviations from the long-term balance in financing will be corrected by 44.7% in the next period. In other words, when there is a short-term imbalance, each variable will make adjustments towards long-term equilibrium. This adjustment is very fast at 44.7% per month, and this reinforces the evidence of long-term relationship stability and short-term adjustment between variables.

The stability of the estimation coefficient on ARDL is detected using CUSUM and CUSUM square charts generated through data processing. If the charts remain within limits at a significant level of 5%, then the model can be said to be precise and the coefficient is stable[28]. Conversely, if the charts are not within the limits at a significant level of 5%, then it can be stated that the coefficient is unstable. Both charts are as shown below.

[26] Olusanya, S., Oyebo, A., & Ohadebere, E. (2012). Determinants of lending behaviour of commercial banks: Evidence from Nigeria. A co-integration analysis (1975–2010). Journal of Humanities and Social Science, 5(5), 71–80

[27] Olaoluwa, F., & Shomade, H. (2017). Appraisal of monetary policies on commercial bank lending behaviour in Nigeria banking industry from 1980 to 2014. Global Journal of Human-Social Science: Economics, 17(4), 1–9

[28] Zameer, H., Yasmeen, H., Zafar, M.W., Waheed, A., & Sinha, A. (2020). Analyzing the association between innovation, economic growth, and environment: divulging the importance of FDI and trade openness in India. *Environ Sci Pollut Res* **27,** 29539–29553

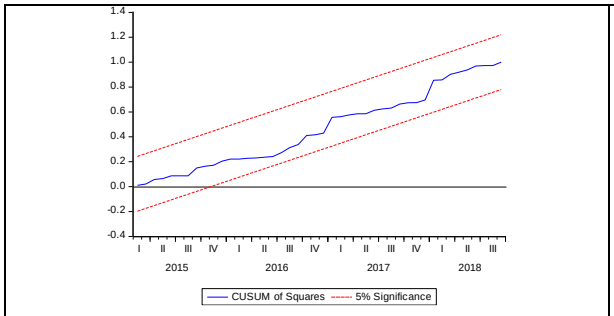

Figure 1. CUSUM chart

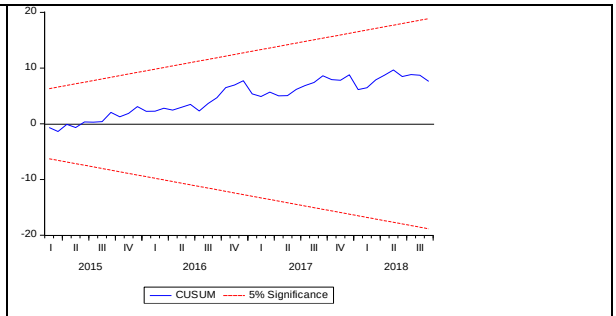

Figure 2. Square CUSUM Chart

Figures 1 and 2 above show that the charts remain within limits at a significant rate of 5%. Thus, it can be interpreted that the estimation coefficient produced by the ARDL model is stable enough to ensure the reliability or accuracy of the estimated results.

Conclusion

Research on the determinants of Islamic bank in providing working capital financing to MSMEs has been limited among researchers. Existing studies have primarily focused on the total amount of financing provided by the banks. This study analyzed the effect of third-party funds and yield rates on the distribution of Islamic bank working capital financing to MSMEs in Indonesia. Utilizing monthly data from June 2014 to September 2018, the ARDL-ECM method was employed to examine the relationship between the variables.

The research identified a long-term equilibrium relationship between working capital financing provided by Islamic banks to MSMEs with third-party funds and the yield rates of the financing. The distribution of working capital financing by Islamic banks to the business sector is notably influenced by the availability of deposits. Both in the short and long term, an increase in deposits encourages a corresponding rise in financing, and conversely, a decrease in deposits has a negative impact on financing.

Interestingly, financing yield rates showed different influences on working capital financing. In the long run, the impact is positive but not significant. This suggests that, over the long term, fluctuations in the distribution of working capital financing to MSME players are not significantly affected by changes in the financing yield rates. Conversely, in the short term, the financing yield rates negatively impact working capital financing. In simpler terms, an increase in yield rates can significantly decrease the realization of financing.

REFERENCES

Adeleye, B. N. (2020). Unbundling interest rate and bank credit nexus on income inequality: structural break analysis from Nigeria. *Journal of Financial Regulation and Compliance, ahead-of-print(ahead-of-print).* doi:10.1108/jfrc-04-2020-0035

Amelia, E., & Fauziah, H. E. (2017). Determinant of mudharaba financing: A study at Indonesian islamic rural banking. Etikonomi, 16 (1), 43 – 52.

Anwar, C., & Miqdad, M. (2017). Pengaruh dana pihak ketiga (DPK), capital adequacy ratio (CAR), return on asset (ROA) terhadap pembiayaan mudharabah pada bank umum syariah tahun 2008 – 2012. *Riset & Jurnal Akuntansi*, 1(1), 1-6.

Chen, Z., Wang, Z., & Jiang, H. (2019). Analyzing the heterogeneous impacts of high-speed rail entry on air travel in China: A hierarchical panel regression approach. *Transportation Research Part A: Policy and Practice, 127, 86–98.* doi:10.1016/j.tra.2019.07.004

Egilsson, J.H. (2020) How raising interest rates can cause inflation and currency depreciation, *Journal of Applied Economics*, 23(1), 450-468, DOI: 10.1080/15140326.2020.1795526

Gwaison, P. D., Maimako, L. N., & Mwolchet, P. S. (2021). Capital market and economic growth in Nigeria: An Autoregressive Distributed Lag (ARDL) Bounds Testing Approach. *International Journal of Finance Research, 1*(2), 74–92. https://doi.org/10.47747/financeinvestmentderivative.v1i2.113

Husaeni, U. A. (2016). The variables effects of *Murabaḥah* in Islamic commercial banks, *International Journal of Nusantara Islam*, 4(2), 1-16.

Ikhsan, I., Fitri, C. D., Maulana, H., & Amri, K. (2020). Effect of inflation on total deposits and financing of sharia commercial banks: A monthly data evidence from Indonesia. *Regional Science Inquiry,* 12 (1), 103-114

Laili, N., & Tanjung, H. (2019). Analysis of factors affecting islamic bank financing for the fisheries sector in Indonesia. *Abdimas Talenta,* 4 (2), 568-583.

Mahrous, S. N., Samak, N., & Abdelsalam, M. A. M. (2020). The effect of monetary policy on credit risk: evidence from the MENA region countries. *Review of Economics and Political Science*, 5(4), 289-304. https://doi.org/10.1108/REPS-07-2019-0099

Maiti, M., Esson, I. A., & Vuković, D. (2020). The impact of interest rate on the demand for credit in Ghana. *Journal of Public Affairs.* doi:10.1002/pa.2098

Moussa, M. A. B., & Chedia, H. (2016). Determinants of bank lending: Case of Tunisia, *International Journal of Finance and Accounting*, 5(1): 27-36

Musakwa, M.T., & Odhiambo, N.M. (2019). THE impact of remittance inflows on poverty in Botswana: an ARDL approach. *Economic Structures* 8, 42.https://doi.org/10.1186/s40008-019-0175-x

Nazir, M. S., Naqvi, I. H., & Nawaz, M. M. (2013). Role of rate of return, inflation and deposits on loan supply: An empirical study of banking sector in Pakistan, *African Journal of Business Management*, 7(25), 2427-2431

Olaoluwa, F., & Shomade, H. (2017). Appraisal of monetary policies on commercial bank lending behaviour in Nigeria banking industry from 1980 to 2014. Global Journal of Human-Social Science: Economics, 17(4), 1–9.

Olusanya, S., Oyebo, A., & Ohadebere, E. (2012). Determinants of lending behaviour of commercial banks: Evidence from Nigeria. A co-integration analysis (1975–2010). Journal of Humanities and Social Science, 5(5), 71–80.

Prihartadi, M. T. (2016). Pengaruh dana pihak ketiga dan tingkat bagi hasil terhadap pembiayaan mudharabah pada BRI Syariah cabang Surabaya Gubeng periode 2013-2015. *eL-Qist*, 6(1),1-16.

Qayyum, A. (2002). Demand for Bank Lending by the Private Business Sector in Pakistan. *The Pakistan Development Review, 41*(2), 149-159. Retrieved August 18, 2021, from http://www.jstor.org/stable/41260458

Ridzuan, A. R., Saad, R. M., Subramaniam, G., Amin, S. M., & Borhan, H. (2019). The link between financial sector development and income distribution: Evidence from Singapore. *International Journal of Business and Society, 20*(2), 627–640

Ryad, A. M., & Yuliawati, Y. (2017). Pengaruh dana pihak ketiga (DPK), capital adequacy ratio (CAR), non-performing finance (NPF) terhadap pembiayaan. *Jurnal Riset Akuntansi dan Keuangan*, 5 (3), 1535-1540

Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science, 4(2), 71–89.*

Silviany, R., & Habib, M. A. F. (2023). Strategi Bank Syariah Indonesia KCP Tulungagung Trade Center dalam Menghadapi Persaingan di Industri Perbankan. *Journal on Education*, 5(3), 10250-10264.

Sudarsono, H., Mifrahi, M. N., Susantun, I., Rudatin, A., & Ruchba, S. M. (2019). Analysis of factors affecting the financing with Islamic banks in agriculture sectors. *Asian Journal of Islamic Management* (AJIM), 1(2), 116-126

Tursoy, T. (2019). The interaction between stock prices and interest rates in Turkey: empirical evidence from ARDL bounds test cointegration. *Financial Innovation*, *5*(1). https://doi.org/10.1186/s40854-019-0124-6.

Yitayaw, M. (2021). Firm-specific, industry-specific and macroeconomic determinants of commercial banks' lending in Ethiopia: Panel data approach. *Cogent Economics & Finance, 9(1), 1952718.* doi:10.1080/23322039.2021.1952.

Zameer, H., Yasmeen, H., Zafar, M.W., Waheed, A., & Sinha, A. (2020). Analyzing the association between innovation, economic growth, and environment: divulging the importance of FDI and trade openness in India. *Environ Sci Pollut Res* 27, 29539–29553 (2020). https://doi.org/10.1007/s11356-020-09112-5