THE DETERMINING FACTORS IN INFLUENCING CUSTOMER'S LOYALTY: A FINANCIAL APPROACH

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ABSTRACT: The research aims to evaluate customers' loyalty to Sharia banking related to internal and external factors of the financial performance approach. A loyalty is depicted with Third-Party Savings deposited in Sharia banking. This study employed Autoregressive-Distributive Lag (ARDL) to explore the short period and the long period from variables' relationships. The findings reveal that profit-sharing, administration fee, the interest rate of a conventional bank, inflation, and the total number of accounts (NOA) had significant effects on Third-Party Saving (TPS). They imply that the customer's loyalty is internally established if there is a higher profit sharing in savings, lower administration fees, and total supplementary accounts. Nevertheless, it is formed by external incentives, i.e., a lower interest rate of conventional banking and inflation.

Keywords*: Loyalty; Third-party saving (TPS); Number of accounts (NOA); Profit sharing; Administration fee

INTRODUCTION

The use of third-party savings (DPK) has continually increased in recent years, in line with the growth of Sharia banking in Indonesia. This increase of DPK, a vital part of the performance of Sharia banking, may experience some issues, such as increasing the public's trust in Sharia banking (KNKS, 2020). Sharia banking can provide security in accessing financial needs, either funding or lending, and its improving performance reveals the power of its customer loyalty (Hidayat & Al-bawardi, 2012). This loyalty demonstrates that satisfied customers will continue to use any products and services offered by Sharia banking. The increased use of DPK has contributed to Sharia banking achieving 6% of market share (Gita Rossiana, 2013). This high performance of Sharia banking shows that it can compete in the financial industry by using Sharia principles and allowing the public to engage in financial activities while upholding their religious values.

In marketing, customer loyalty refers to repetitive purchasing behavior in response to satisfaction with a product or service. Some studies concerning satisfaction involve a SERVQUAL study designed with some variables. However, the exploration of loyalty in the context of financial analysis has been relatively neglected in the extant literature, with most studies merely focusing on marketing and using primary data. This study uses the novel approach of employing secondary data, such as financial data related to internal and external factors, to analyze loyalty in Sharia banking. Thus, loyalty is a significant focus of this study since it shows banking customers' consistency as devoted customers.

Banks strive to build, maintain, and increase customer loyalty to boost their performance. Banks spend extravagantly to retain existing customers while seeking out prospective customers. Customer loyalty has become a banking tactic to improve their performance by providing various attractive services that are easy to use. This tactic also aims at providing comfortability and added-value for customers. The added-value provided by these services then becomes a convenient and attractive incentive for banking's customers to be loyal (Hasim et al., 2015).

DPK via deposit products—such as deposit funds and mortgage loans—can be regarded as a form of customer loyalty, compared with the lower utilization of other banking products (Chochoľáková et al., 2015). Deposit funds are eligible for higher compensation through profit-sharing schemes provided by Sharia banks; thus, customers can enjoy above-average profits from their deposits (Arshed & Kalim, 2020). DPK are also considered safe and secure assets since they are insured by the Deposit Guarantor Agency (LPS) in Indonesia .[1] DPK can strengthen the intermediation function of banking to provide financing and credit to the public. Then, this function will refine intermediation by gathering both financial surplus and deficit groups.

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[1] Deposit guarantee in Indonesia is executed by the Deposit Guarantor Agency (LPS) under provisions required by LPS.

DPK can help measure customers' loyalty through the amount of funds they deposit in a bank. The amount of funds deposited is influenced by internal and external factors. Internal factors include a bank's profit-sharing scheme and banking administration fees. External factors include the interest rates of conventional banks, the total of public's income, and inflation rates. Therefore, this research aims to analyze customers' loyalty to Sharia banking by examining their fund-depositing behavior.

THEORETICAL REVIEW

Numerous theories and approaches have been developed in studies of customer loyalty. In financial studies, DPK can be employed as a measure of customer loyalty to banking institutions. DPK data provide information on the amount of funds collected from the public through banking in the form of savings, deposits, demand deposits, and non-bank deposits (BI, 2016). Fund deposits received from customers represent customers' trust in the selected bank due to their satisfaction with the bank's performance. Customers will keep their funds in a bank or even transfer funds from a different bank if they are satisfied with the service of a particular institution. Thus, the act of customers depositing their funds into DPK indicates their loyalty to this type of banking.

Customer loyalty measured by DPK deposits are affected by several factors, both internal and external. Internal factors include the profit-sharing scheme of a bank, bank fees, and the number of accounts held by customers. External factors influencing customer loyalty are the interest rates of conventional banks and the inflation rate.

Customers of Sharia banking institutions are allowed to participate in profit-sharing schemes when they deposit funds into their accounts. Customers can determine how much of a return they will receive based upon the amount of funds they have deposited. Profit-sharing outcomes will satisfy customers if they align with their investment plans (Meutia, 2017). One factor driving fund deposits in banking is the guarantee by the LPS that the deposited funds are secure. Another motivation is particular term investment, and savings and deposits are an option in fund deposit in line with flexibility need and investment plan. A higher profit-sharing scheme attracts customers to Sharia banking due to the expectation of investment returns (Hilman, 2016).

The profit-sharing scheme of Sharia banking, for either savings or deposits, is a form of compensation given to customers. The amount given depends on the amount of revenue generated from managing customers' deposit funds and savings. This scheme also applies to lending and funding customers so the compensation for funding customers fluctuates each month. The total of compensation, then, depends on the banking revenue, specifically for lending customers. Customers can understand any Sharia banking operation with the profit-sharing system, but customers will analyze the total profit-sharing as compensation of fund deposit. Investment-oriented customers will carefully consider the returns provided by the profit-sharing scheme of a bank.

Many studies concerning DPK have been conducted using a financial approach or study; however, they have largely ignored the aspect of customer loyalty. Extant research has focused on the SERVQUAL model and satisfaction in the study of customer loyalty; however, customer loyalty has not been examined in the context of finances. Thus, this research utilizes secondary data and investigates the customer loyalty aspect of the DPK variable.

Almejyesh and Rajha (2014) researched DPK in relation to financial data and reported that the rate of return and its stability in savings products' dividends affected the amount of deposits made to banks in Saudi Arabia. Che Arshad and Nurfadilah (2017) strengthen the effect of the rate of return to the deposit change in Indonesia and Malaysia. Arshed and Kalim (2020) showed that the extent of profit sharing, customer knowledge index, the interest rate of the financial market, and inflation influenced the amount of deposits made to banks. Customers experience the tangible and intangible benefits of a selected deposit product. In Pakistan, banks include insurance in their deposit products. However, Meutia (2017) found that the level of profit-sharing has a negative influence on the total deposits made to banks. A relatively lower profit-sharing rate results in a stagnant number of total deposits from customers.

Other research on DPK has investigated the role of banking costs or banking services in relation to deposits or savings. Andespa (2018) found that administration fees charged by banks have a positive impact on the appeal to saving in banking. This research was consistent with results found by Saini, Bick, and Abdulla (2011) in South Africa. They found that customers chose Islamic banks for reasons outside of the religious aspect. It displays that fee connected with the profit-sharing of savings. The higher the fees (rather than profit-sharing or interest gained from the savings), the lower the customers' interest in saving.

Sharia banking operates in a similar manner to conventional banking by referring to the interest rate (SBI) and the Sharia interest rate (SBIS). The margin between these two interest rates creates a competitive climate between Sharia banks and conventional ones. However, conventional banking acts as both a partner to and competitor of Sharia banking in terms of providing compensation for customer's deposits and savings. Aghnia (2015) stated that the interest rate impacts conventional banking's deposit and savings, and profit-sharing affects Sharia banking. Musri and Rama (2015) also found out that the interest rate and profit-sharing affect both conventional and Sharia banks' deposits. Morina (2019) explained that the interest rate influences savings and deposits as balancing loan interest rate in the Balkans.

In contrast, Mushtaq and Siddiqui (2017) found that while interest rates affected deposits in non-Muslim countries, no such effect was seen in Muslim countries. Arif and Hanifah's (2017) research also confirmed that interest rates have no impact on deposits made to Sharia banks; therefore, it is necessary for banks to develop a strategy that considers internal factors. The interest rate and profit-sharing scheme should not exceed provisions stipulated in BI references and by the LPS.

One of the external factors influencing customers to keep their funds in Sharia banks is inflation. Aghnia (2015) postulated that inflation influences the

deposits to Sharia banks. In contrast, Ayuniyyah, Beik and Arsiyanti (2013) argued that inflation has no influence on the deposits made to Sharia banks. This finding was confirmed by Ostadi and Sarlak (2014), who demonstrated that inflation and interest rates are significantly negative per the demand of money and interest rate as inflation occurs.

The increase in the total number of accounts held at Sharia banks can be correlated with the success of either literacy or inclusion programs offered by Sharia banking institutions. This indicates an increasing concern of the public in accessing Sharia banking to fulfill their banking needs. Financial inclusion increased from 67.8% in 2016 to 76.19% in 2019 (OJK, 2019). Account opening by customers can indicate customers' loyalty in accessing various Sharia banking products. The more accounts that are opened at Sharia banks, the greater the amount of DPK in Sharia banks.

The research approach used in this study differs from previous studies on loyalty by employing secondary data via DPK. DPK itself can be studied from the aspect of either financial performance or marketing. Hence, this study analyzes loyalty as part of marketing performance while employing secondary data from DPK and other variables that influence loyalty to Sharia banking.
Ha.1: The profit-sharing of fund deposits positively impacts third-party savings (DPK).

Administration fees charged to customers have a significant effect on-fund deposits in Sharia banking. Some customers are sensitive to any charges, whether they be administration fees or service costs (Hariyana & Arsyianti, 2019). These customers will compare any cost arising from one bank with costs at other banks and choose the least expensive option. These less-expensive products offer the best choice for customers depositing their funds (Hidayat & Al-bawardi, 2012).

Based on these facts, banks strive to offer their best products and services to customers. A service complements a bank's operation by providing convenience to customers and cultivating their trust. Any cost arising from a product or financing differs from bank to bank according to its performance and efficiency. Since banks charge administration fees, customers will consider such expenses and compare them with the amount received from profit-sharing.
Ha.2: Administration fees negatively impact third-party savings (DPK) at Sharia banks.

One of the external factors determining the amount of fund deposits into Sharia banks is the interest rate of conventional banks. Customers compare the amount of compensation provided by different banking products such as deposits and savings. In any country with a dual banking system, both types of banks will mutually adjust their provisions in providing compensation to customers. From this, Sharia banks can benchmark their interest rate in stipulating the profit-sharing or margin to maintain a competitive climate (Ashraful et al., 2014). In addition, customers can compare the total compensation received from Sharia and conventional banking. This can influence fund deposits by customers, excluding loyal customers. A loyal customer of Sharia banking is relatively under-developed. However, other customers may transfer their funds to another bank if the competitor provides better compensation. This creates a

close relationship between the interest rate of conventional banks with the total deposits at Sharia banks (Haron & Ahmad, 2000). Another argument suggests that Sharia banking is not affected by the interest rate of conventional banks since Sharia banking is stable. The profit-sharing system applied in funding and lending can reduce the banking uncertainty (Ergeç & Arslan, 2013).

Ha3. The interest rate of conventional banking negatively affects the fund deposits of third-party savings (DPK) of Sharia banks.

Inflation can affect DPK in two ways: by improving or reducing the total of DPK in banking. Customers are not willingly to take any risks and will likely secure any funds during inflation by depositing their funds in a bank. In addition, any group of public interestingly maintain their assets and target of income during inflation will select a secure fund deposit in the bank (Mobin & Masih, 2014) and (Ostadi & Sarlak, 2014). Those two outcomes can occur if the increasing price of goods and continued desire to buy goods is not taken into account.

Inflation is an external factor that affects any state or population. Continuous inflation drives the increasing price of goods, thereby decreasing purchasing power. Consumers who want to buy goods require more money than they did pre-inflation. This budget constraint suffered by customers can reduce fund allocation to other things, including depositing funds in Sharia banks. The reduced or eliminated allocation of fund deposits to Sharia banks will decrease the amount of their deposited DPK. In addition, a continuing and relatively higher inflation can associate banking management as its intermediary function. The public's need for money will increase during inflation, so banking faces obstacles in collecting public funds.

Ha4. Inflation negatively affects the amount of third-party savings (DPK) in Sharia banks.

An account is a receipt of ownership in banking. The number of accounts shows the total number of customers accessing banking products. Account ownership in a particular bank shows the extent of loyalty at a selected bank for fund deposits. Additional funds can accompany any increase in the number of banking accounts via DPK as its occurrence in 2019 (LPS, 2019). Furthermore, account information provides data on customers' involvement in banking as part of financial inclusion. Account information also provides details on the amount of funds deposited in a bank. Therefore, the number of accounts (NOA) held by customers at a bank can be used as a measure of customer loyalty to a particular institution.

Ha5. The number of accounts (NOA) has a positive impact on third-party savings (DPK) at Sharia banks.

METHODOLOGY

This study employed quantitative research by using numerical and statistical analysis to test the effects of the equivalent rate of the profit-sharing, NOA, consumer price index (IHK), and interest rate of conventional banks on DPK at Sharia banks. This research utilized monthly time series data from 2010

to 2019. The data were collected from the Financial Service Authority (OJK) and Bank Indonesia (BI). Table 1 provides definitions of each variable employed in this research.

Table 1. Definitions of variables

	Definition and calculation	Data sources
Third-party savings (DPK)	DPK includes of giro, savings, and deposits. This research utilized the total of DPK (DKBS), savings (TBBS), and one-month deposit (DPBS) in Sharia banking in a million Rupiah. To minimize data variants, each indicator of DPK is converted into a natural log.	Statistic of Indonesian Banking, OJK
Equivalent rate of the profit-sharing of DPK (BH)	BH represents the percentage of profit obtained based on the amount of a customer's funds in demand deposit, savings, and deposit accounts. This research used the equivalent rate of DK, TB, and DP.	Statistic of Indonesian Banking, OJK
Number of accounts (RK)	RK is the number of accounts in DKBS, TBBS, and DPBS.	Statistic of Indonesian Banking, OJK
Administration fees (BYBS)	In this research, administration fees were proxied with other components of revenue.	Statistic of Indonesian Banking, OJK
Consumer Price Index (IHK)	IHK represents price stability or the inflation rate.	Statistic of Indonesian Economy and Financial, BI
The interest rate of a conventional bank (SB)	SB was measured based on the interest rate of deposit (DP), savings (TB), and the total of third-party savings (DK) offered by a conventional bank.	Statistic of Indonesian Banking, OJK

This study tested the impact of the profit-sharing, number of accounts, administration fees, inflation, and the interest rate of conventional banks on the customer loyalty measured by the amount of DPK in Sharia banking. There were some issues that needed to be considered in the modeling of the time series data. First, I analyzed the time series data regression with an autoregressive distributed lag (ARDL) analysis involving non-stationary data in the extent of spurious relation (Brooks, 2014; Wooldridge, 2018). This occurred since inter-variables were more dominant due to trends against the period. Though statistically, it had a higher R-squared, the relationship between variables did not

theoretically have meaning (spurious). Second, when the stationary condition was not met, the parameter was still valid if the linear combination in the stationary regression was within the level. This indicated a long-term relation or cointegration (Greene, 2018).

The error correction model (ECM) was used to address the aforementioned issues (Engle & Granger, 1987; Harris & Sollis, 2003). This model, however, required changing the variables into the first difference form. In contrast, one or more variables were enabled stationary within the level. To accommodate any limitation of ECM, ARDL was utilized since it did not require a static variable in the level or the first difference (Bhattacharya, Bhattacharya & Basu, 2019). In general, the ARDL model was written as follows (Pesaran, Shin & Smith, 2001):

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2 X_{t-1} + \sum_{i=1}^{p} \beta_1 \Delta Y_{t-i} + \sum_{i=1}^{q} \beta_2 \Delta X_{t-i} + \varepsilon_t \tag{1}$$

The lag optimums p and q were determined with Akaike information criterion (AIC). The bound test was then used to determine the existence of a long-term relation $H_0: \alpha_1 = \alpha_2 = 0$. If H_0 was denied, there was a long-term relationship. Furthermore, the conclusion of the hypothesis was obtained by comparing the F-value and critical bound value in I(0) and I(1). If the F-value was greater than the critical value, H_0 was denied. However, if the F-value was between the two critical values, it necessarily considered the coefficient of error correction term (ECT) (Shrestha & Chowdhury, 2007). Whereas the coefficient of ECT was significantly negative, the relationship between variables, both independent and dependent, achieved the equilibrium point for an extended period or cointegrated.

The estimation of ARDL assumed an ordinary least squares test, heteroscedastic, autocorrelation, and stability test were passed. Each test employed the White, Breusch–Godfrey, cumulative sum of residuals (CUSUM), and cumulative sum of squared residuals (CUSUMSQ) methods. In the stability test, CUSUM and CUSUMSQ were conducted both together and separately (Brooks, 2014). The following is the regression model of ARDL that was used in this research:

$$\Delta LNTBBS_t = \alpha_0 + \alpha_1 LNTBBS_{t-1} + \alpha_2 LNBYBS_{t-1} + \alpha_3 LNRKTB_{t-1} + \alpha_4 BSTB_{t-1} + \alpha_5 TBTB_{t-1} + \alpha_6 LNIHK_{t-1} + \sum_{i=1}^{p} \beta_1 \Delta LNTBBS_{t-i} + \sum_{i=1}^{q1} \beta_2 \Delta LNBYBS_{t-i} + \sum_{i=1}^{q2} \beta_3 \Delta LNRKTB_{t-i} + \sum_{i=1}^{q3} \beta_4 \Delta BSTB_{t-i} + \sum_{i=1}^{q4} \beta_5 \Delta TBTB_{t-i} + \sum_{i=1}^{q5} \beta_6 \Delta LNIHK_{t-i} + \varepsilon_t \tag{2}$$

$$\Delta LNDPBS_t = \alpha_0 + \alpha_1 LNDPBS_{t-1} + \alpha_2 LNBYBS_{t-1} + \alpha_3 LNRKDP_{t-1} + \alpha_4 BSDP_{t-1} + \alpha_5 TBDP_{t-1} + \alpha_6 LNIHK_{t-1} + \sum_{i=1}^{p} \beta_1 \Delta LNDPBS_{t-i} + \sum_{i=1}^{q1} \beta_2 \Delta LNBYBS_{t-i} + \sum_{i=1}^{q2} \beta_3 \Delta LNRKDP_{t-i} + \sum_{i=1}^{q3} \beta_4 \Delta BSDP_{t-i} + \sum_{i=1}^{q4} \beta_5 \Delta TBDP_{t-i} + \sum_{i=1}^{q5} \beta_6 \Delta LNIHK_{t-i} + \varepsilon_t \tag{3}$$

$$\Delta LNDKBS_t = \alpha_0 + \alpha_1 LNDKBS_{t-1} + \alpha_2 LNBYBS_{t-1} + \alpha_3 LNRKDK_{t-1} + \alpha_4 BSDK_{t-1} + \alpha_5 TBDK_{t-1} + \alpha_6 LNIHK_{t-1} + \sum_{i=1}^{p} \beta_1 \Delta LNDKBS_{t-i} + \sum_{i=1}^{q1} \beta_2 \Delta LNBYBS_{t-i} + \sum_{i=1}^{q2} \beta_3 \Delta LNRKDK_{t-i} + \sum_{i=1}^{q3} \beta_4 \Delta BSDK_{t-i} + \sum_{i=1}^{q4} \beta_5 \Delta TBDK_{t-i} + \sum_{i=1}^{q5} \beta_6 \Delta LNIHK_{t-i} + \varepsilon_t \tag{4}$$

Equations (1) – (3) show the regression model with the dependent variables of TBBS, DPBS, and DKBS, respectively. All variables were changed into a natural log (LN), excluding the equivalent rate and interest rate proxy.

RESULTS

Table 2 reports the descriptive statistics of each variable and shows that the mean of the equivalent rate from savings (BHTB) and third-party savings (BHDK) from a Sharia bank was higher than the interest rate of savings (SBTB) and third-party savings (SBDK) from a conventional bank. Meanwhile, for deposit products, the interest rate offered by the conventional bank was slightly higher than the equivalent deposit rate in a Sharia bank.

Table 2. Descriptive statistics

	Obs.	Mean	SD	Min	Max	JB
LNTBBS-savings	120	10.916	0.576	9.701	11.800	8.119*
LNDPBS-deposit	120	11.261	0.597	9.883	11.967	13.126**
LNDKBS-dpk	120	12.126	0.579	10.874	12.940	9.198*
LNBYBS-cost	120	5.830	0.964	2.197	7.676	9.661**
BHTB-basil	120	2.975	1.118	1.330	5.760	18.490**
BHDP-basil	120	6.283	0.886	3.340	8.310	0.124
BHDK-basil	120	5.292	2.652	2.633	11.997	51.627**
LNRKTB-tab account	120	16.447	0.610	15.264	18.622	0.077
LNRKDP-dep. Account	120	12.562	0.302	11.942	14.196	191.291**
LNRKDK-dpk account	120	16.465	0.569	15.316	17.349	6.531*
SBTB-tab interest	120	1.907	0.389	1.171	2.920	1.675
SBDP-dep interest	120	6.627	0.881	5.426	8.635	8.500*
SBDK-dpk interest	120	1.340	0.191	1.070	1.755	8.265*
LNIHK-inflation	120	5.026	0.142	4.771	5.226	10.009**

* and ** indicate significance at the 5% and 1% levels, respectively.

The stationarity becomes the essential issue in the analysis of the time series data. Table 3 reports the result of the stationary test utilized the augmented Dickey–Fuller (ADF) and Phillip–Perrons (PP) method of each variable in either the level or the first difference. Based on the parameters of ADF and PP, LNBYBS, LNRKDP, and LNRKDK were the only static variable in the level, and the rest were the first difference. Since stationary characteristics were different in inter-variables, the estimation employed the recommended ARDL.

In sum, the specifications of the ARDL model for the respective dependent variables are reported in Table 4. Each regression had a different lag. The bound test was then utilized to test the relation of the long-term of the ARDL model. The F-value was higher than the value of critical bound of 2.62 and 3.79, only in the DPK, while the F-values for DEPO and TAB were within the critical values. The parameter of ECT was necessary to see in the analysis result of a short-term relation (Table 6). The coefficient of significant ECT was at 5% level, in line with the assumption of a long-term relationship.

Table 3. Results of stationary test

	ADF		PP	
	Level	1st diff	Level	1st diff
LNTBBS	−2.27	−8.10**	−2.84	−12.53**
LNDPBS	−1.59	−8.36**	−1.32	−11.79**
LNDKBS	−2.18	−7.19**	−1.87	−10.85**
LNBYBS	−4.45**	−12.44**	−7.74**	−23.57**
BHTB	−2.16	−12.27**	−2.02	−12.31**
BHDP	−2.90	−13.49**	−2.69	−14.05**
BHDK	−1.35	−6.44**	−2.05	−13.68**
LNRKTB	−1.49	−10.28**	−2.47	−74.39**
LNRKDP	−2.83	−11.79**	−3.59*	−31.06**
LNRKDK	−1.71	−9.82**	−3.11*	−13.61**
SBTB	−0.22	−14.16**	0.12	−14.19**
SBDP	−2.43	−4.09**	−1.95	−6.78**
SBDK	−1.61	−12.22**	−1.63	−12.17**
LNIHK	−2.43	−4.09**	−1.95	−6.78**

This table shows the results of a stationary test with the augmented Dickey–Fuller (ADF) and Phillip–Perron (PP) methods. * and ** indicate significance at the 5% and 1% levels, respectively.

Table 4 reports that the White and BPG (*Breusch–Pagan–Godfrey*) tests and chi-squared value for all models were insignificant. The assumption of homoscedastic and non-autocorrelation was supported. Hence, stability tests could be determined from the graphic of CUSUM or CUSUMSQ. Although one or two graphics was out of the designed limit of error standard, the model was stable.

Table 4. Specifications of ARDL model

	DEPO	TAB	DPK
ARDL Model	(1, 1, 0, 3, 3, 0)	(4, 1, 0, 1, 1, 1)	(4, 0, 0, 0, 0, 2)
Adjusted R2	0.9952	0.9984	0.9987
Bound test (5%)	3.14[2.62; 3.79]	3.21[2.62; 3.79]	4.20[2.62; 3.79]
White test	0.992	1.492	1.312
BPG test	1.650	0.293	0.090
CUSUM test	Unstable	Stable	Stable
CUSUMSQ test	Stable	Stable	Unstable

* and ** indicate significance at the 5% and 1% levels, respectively.

Table 4 shows the specifications of the ARDL model. The bound value is the F-statistic used in examining the ARDL model's long-term relationships. White and BPG tests used the F-statistic as indicators of heteroscedasticity and autocorrelation. The JB (Jarque–Berra) test used the chi-squared as an indicator of normality. CUSUM and CUSUMSQ are used to test and compare the stability of the ARDL models (see Appendix 1). Table 4 shows the model of the stability

tests in detail. The model for stable TBBS was in the CUSUM and CUSUMSQ, and the model of stable DPBS and DKBS was one of them. A general conclusion from the analysis of the ARDL model specification is that all models were consistent and efficient.

DISCUSSION

Tables 5 and 6 report the analysis results of the long- and short-term regressions. BHDP was significant and positive in the short-term regression; thus, the first hypothesis was accepted. The higher a bank's equivalent rate, the more DPK collected. Customers expect that savings are either short-term or long-term investments and that they will profit from their deposited funds. Thus, this result is consistent with a study conducted by Arshed and Kalim (2020), which argued that customers feel tangible and intangible benefits regarding on-fund deposits with a sufficient equivalent rate.

Table 5. Long-term regression results

	DEPO	TAB	DPK
LNBYBS	−0,145*	−0,073	−0,043
	(−2,116)	(−1,724)	(−1,886)
LNRKDP	−0,205		
	(−0,719)		
LNRKTB		0,108	
		(0,915)	
LNRKDK			0,755*
			(2,405)
BSDEP basil	−0,067		
	(−0,717)		
BSTAB basil		−0,034	
		(−0,710)	
BSDPK basil			−0,014
			(−1,204)
SBDEP of interest	−0,023		
	−0,269		
SBTAB		−0,556**	
		(−3,340)	
SBDPK			−0,196
			(−1,508)
LNIHK	1,624	1,390	0,191
	(1,878)	(1,959)	0,140
C	−1,438	3,059	−1,019
	(−0,346)	(1,050)	(−0,482)

The t-statistics are shown in parentheses. * and ** indicate significance at the 5% and 1% levels, respectively.

Fund deposits in Sharia banks provide security and have economic added-value by allowing customers to uphold their religious principles while engaging in financial activities. Almejyesh and Rajha (2014) recommended that savings products provide stability and convenience to customers in Saudi Arabia. This finding confirms that customers' loyalty to Sharia banking will be established if there is sufficient profit-sharing, which is consistent with research by Arshad and Nurfadilah (2017) in Indonesia and Malaysia.

Table 6. Short-term regression results

	DEPO	TAB	DPK
D(LNTABBS(-1))		−0,243**(−2,472)	
D(LNTABBS(-2))		−0,093(−0,897)	
D(LNTABBS(-3))		0,242**(2,580)	
D(LNDPKBS(-1))			−0,149(−1,754)
D(LNDPKBS(-2))			0,008(0,095)
D(LNDPKBS(-3))			0,317**(3,688)
D(LNBIAYABS)	−0,006(−1,248)	−0,002(−0,642)	−0,004(−1,700)
D(LNREKDEP)	−0,018(−0,859)		
D(LNREKTAB)		0,010(0,971)	
D(LNREKDPK)			0,072*(2,302)
D(BASILDEP)	0,029**(2,912)		
D(BASILDEP(-1))	−0,016(−1,364)		
D(BASILDEP(-2))	0,019*(2,017)		
D(BASILTAB)		0,006(1,176)	
D(BASILDPK)			−0,001(−1,314)
D(SBDEP)	−0,104**(−3,510)		
D(SBDEP(-1))	−0,009(−0,199)		
D(SBDEP(-2))	0,045(1,463)		
D(SBTAB)		0,035(0,957)	
D(SBDPK)			−0,018(−1,347)
D(LNIHK)	0,268(1,696)	0,384(1,307)	0,775(1,970)
D(LNIHK(-1))			−1,188**(−2,996)
ETC(-1)	−0,089*(−2,373)	−0,090*(−2,073)	−0,096**(−3,716)

The t-statistics are shown in parentheses. * and ** indicate significance at the 5% and 1% levels, respectively.

The coefficient of LNBYBS was significantly negative in the long-term regression, supporting the second hypothesis of administration fees negatively affecting deposit savings (DPK). Some customers were sensitive to any costs for Sharia banking services, indicating that competitor banks would be chosen due to their lower administration fees. There are many banking options, and those boasting lower administration fees will likely be preferred by customers. Some banks may even choose not to charge any fees (Hidayat & Al-bawardi, 2012). The test result shows that customers' loyalty to Sharia banking could be maintained with lower administration fees. Saini et al. (2011) suggested that customers

choose Sharia banking because of its low costs and administration fees rather than for religious reasons.

SBTB and SBDP had significantly negative values in both the short-term and long-term. This supports the third hypothesis which states that the interest rate of conventional banking (deposit and savings) negatively affects the amount of DPK in Sharia banks (DEPO and TAB). Indonesia has a dual banking system that includes Sharia and conventional institutions. This provides customers with the opportunity to compare the products and services of Sharia and conventional banking, thereby enabling them to choose the most suitable and profitable products and services.

A higher interest rate of savings and conventional deposits is the first choice of customers of Sharia banking. The results of extant studies have shown that increasing the interest rate at conventional banks resulted in decreasing savings and deposits at Sharia banks (Aghnia, 2015; Musri & Rama, 2015). A loyal customer of Sharia banking is still in low margin, so they will transfer their funds to a conventional bank that provides a more attractive interest rate. In some countries and certain period, the interest rates of conventional banks is closely related to the profit-sharing of Sharia banks (Haron & Ahmad, 2000). The results of this research substantiate the findings of previous studies stating that customers' loyalty to Sharia banking will be maintained if the interest rate offered by conventional banks is lower or equal to the extent of the profit-sharing given by Sharia banking.

LNIHK had a significantly negative value in the short-term regression. Thus, it can be concluded that the extent of inflation hurt the total amount of DPK. Inflation is a condition experienced by everyone in a country. During inflation, the public tends to hold onto their cash to fulfill daily needs. A higher commodity price drives customers to withdraw their funds deposited in Sharia banking during inflation. This hampers Sharia banks in collecting funds, allowing them to only maintain their current DPK (Finger et al., 2009). This test shows that customers' loyalty to Sharia banking remained the same if inflation was stable and constant. This result is supported by Mobin and Masih's (2014) research on the Malaysian Islamic banking market. Higher inflation made customers withdraw their funds rather than keep them in Sharia bank accounts in both Islamic and non-Islamic countries (Mushtaq & Siddiqui, 2017). Other research showed that inflation did not affect savings (Zahid & Basit, 2018).

LNRKDK had a significantly positive value in both short-term and long-term regressions. This finding supports the fifth hypothesis arguing that the number of accounts at a Sharia bank has a positive impact on its DPK. Bank account data show that the public had accessed Sharia banking to fulfill their financial needs. Data on the number of accounts show that customers had deposited their funds in Sharia banks. Furthermore, supplementary data on the number of accounts in Sharia banks indicates that customer loyalty is expressed through fund deposits; thus, the total amount of DPK also increased. This finding supports previous research regarding the number of individual retirement accounts that contribute to national savings (Attanasio & DeLeire, 2002)

FURTHER STUDY

This study analyzes the loyalty of Sharia banking customers from a financial approach. However, limitations of this study include the variables explored and the scope of the study. The scope of research can be expanded to include Islamic banking in various countries, both Muslim and non-Muslim.

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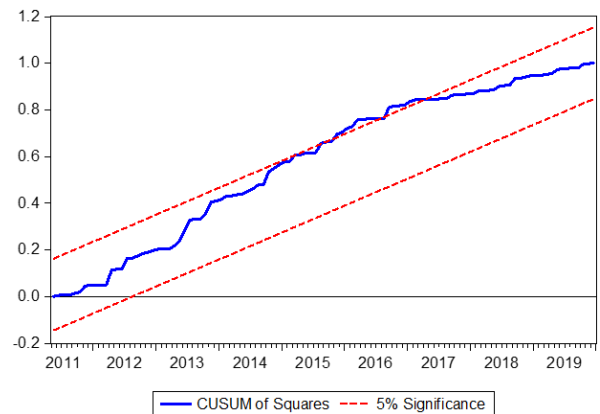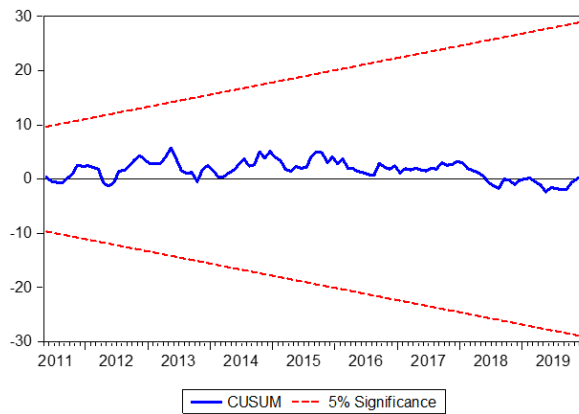
Appendix 1. the stability of the ARDL models
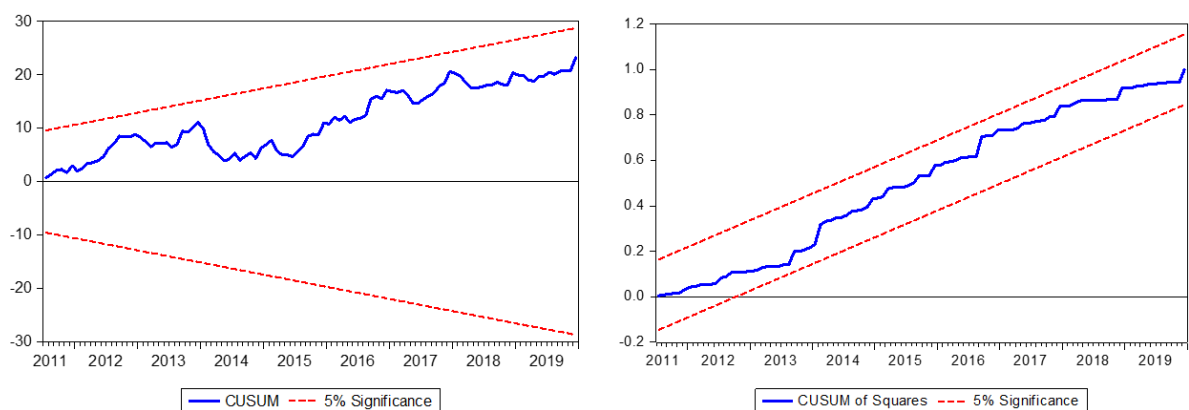
CUSUM TEST: SAVINGS
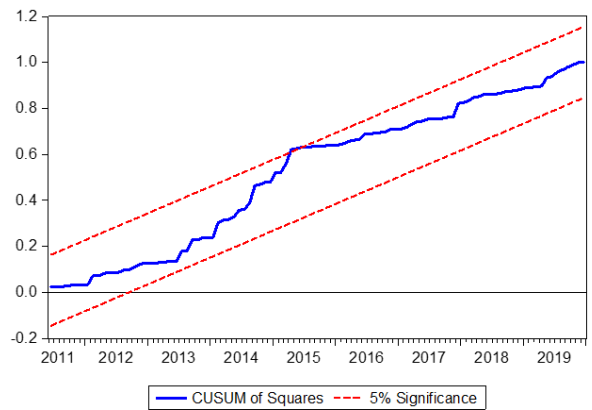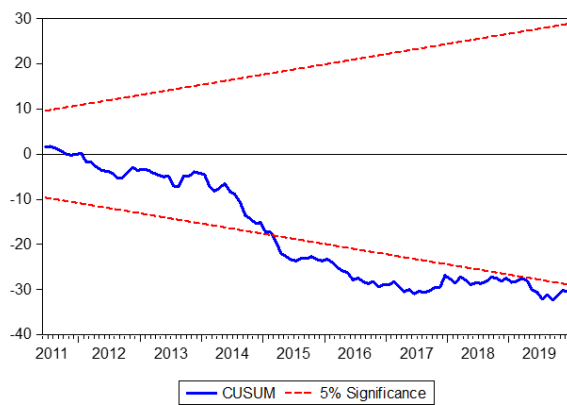
CUSUM TEST: MONTHLY DEPOSIT

CUSUM TEST: THIRD-PARTY SAVINGS (DPK)