

Third-Party Interest Rate Spread Determinant of Bank in Indonesia

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Abstract

This research examines the determinants of the banks' third-party interest rate spread. The dependent variable of this research is the banks' third-party interest rate spread. Independent variables include the bank-specific, macroeconomic, and global condition factors. The bank-specific factors include capital adequacy, unresolved credit, corporate value, operational inefficiency, non-interest income portion, and stocks' total risk. The reference interest rate and saving propensity are part of macroeconomic factors. The global condition factor uses the COVID-19 pandemic as a dummy variable. The mediating variable uses the banks' customer trust. The banks' customer trust consists of depositor trust and debtor trust. The research uses panel data from banks' annual reports, the Indonesian Central Bank (Bank Indonesia), Indonesia's Central Bureau of Statistics (Badan Pusat Statistik), and Yahoo Finance from 2010 to 2022. According to the panel selection and classical test, the Generalize Leases Square Fix Effect Model was chosen for panel data estimation. This research found that unresolved credit, operational inefficiency, and saving propensity significantly affect depositor trust. Unresolved credit, operational inefficiency, saving propensity, and the COVID-19 pandemic significantly affect debtor trust. Capital adequacy, operational inefficiency, saving propensity, stocks' total risk, the COVID-19 pandemic, depositor trust, and debtor trust significantly affect the third-party interest rate spread. Depositor trust and debtor trust as mediating variables successfully mediated some of the independent variables to influence third-party interest rate spread.

Keywords: *Third-Party Interest Rate Spread, Saving Propensity, Customer Trust, COVID-19, Panel Data*

INTRODUCTION

In general, all firms aim to maximize their performance in response to current situations, whether stable or unstable, such as a pandemic, war, or other significant event. As a firm, the bank does the same thing; therefore, it must look at indicators that may be utilized as a guide for management to make judgments. One of the decisions is to calculate the interest rate spread (IRS). The difference between the credit and deposit interest rates is applied to calculate the interest rate spread.

Based on Freixas & Rochet (2008), a bank is an institution that operates to receive deposits and give credit to the public. As an institution, banks should maximize their performance. Maximizing performance can be achieved by maximizing profit and minimizing cost (Bikker & Bos, 2008). Based on Wijaya et al. (2020), the interest rate spread is one of the banks' performance measurement tools. The interest rate spread is the difference between interest gained from loans to the total credit ratio and interest paid to deposits to the total deposits ratio. Based on Koch & MacDonald (2015), spread as a sort of interest rate spread is the difference between interest income to average earning assets ratio and interest expense to average interest-bearing liabilities ratio. Previous research found that interest rate spread is positively affected by

capital adequacy (Kiptui, 2014; Nabende et al., 2019; Wijaya et al., 2020) and credit risk (Anjom, 2021; Kiptui, 2014; Nabende et al., 2019; Njoroge & Chogii, 2017; Purnama, 2017; Shrestha, 2022; Were & Wambua, 2014) but negatively affected by efficiency ratio (Wijaya et al., 2020).

Kotler et al. (2022) define satisfaction as a person's experience of pleasure or disappointment after contrasting expectations with reality. Customers are unhappy if the reality falls short of their expectations. Customers are satisfied when their expectations and reality align. If the reality surpasses the customer's expectations, they are thrilled. An anticipated outcome may be influenced by prior purchasing experience, information and promises made by marketers and rivals, public knowledge and discussion, and recommendations from friends and colleagues. In banking, the relationship between the management and its customers and transactions will occur if there is trust. That is why trust is a must. Based on Sirdeshmukh et al. (2002), trust in a narrower scope is defined as customer expectations that are held and relied upon to fulfill their promises from service providers (the banks in this case). In financial sectors, Ennew & Sekhon (2007) have another definition that trust is a willingness of vulnerability accepted by the individual based on positive expectations about the intentions or behavior of others in situations characterized by interdependence and risk. According to Järvinen (2014), consumer trust in banking relationships is lower in many European countries.

Customers' trust usually can be determined by research using primary data through a survey or an interview. The following are some previous researches that use primary data related to customer trust. Research conducted in North Cyprus by Ozatac et al. (2016) found trust building between customers and bank employees toward banks' customer satisfaction. Being married and having a higher level of education can reduce customer trust in the bank, and age and satisfaction with the financial situation can contribute to a higher customer trust (Fungáčová & Weill, 2018). Research by Fungáčová et al. (2019) found that trust in banks tends to decrease with education and age but increase with income. Either surveys or interviews, research conducted with primary data will take the management effort of the banks because it will take resources. This effort will increase if the samples increase. To avoid this effort, we use an alternative approach to solve that issue. Using Observation of the growth of third-party deposits (total deposit or deposit growth) and the growth of third-party credit (total credit, credit distribution, or credit growth) with secondary data, we can examine the customer's trust. We define two types of customer trust: (1) depositor trust is customer trust that is given to the bank to save their money, and (2) debtor trust is customer trust that is given to the bank to take credit. Depositor trust is proxied by deposit growth. Debtor trust is proxied by credit growth. If deposit or credit growth increases, we can assume customer's trust will increase. Previous research found that deposit growth is positively affected by the COVID-19 pandemic (Hasan et al., 2021; Pransiska & Ilmiah, 2022) and gross domestic product (Kamugisha, 2022).

Based on Freixas & Rochet (2008), the bank is an institution that provides loans and accepts savings from the public in their operational activities. Based on Rose & Hudgins (2013), one of the terms in the bank definition is performing economic functions. A bank's economic function has defined a bank as a financial intermediation involved in funds transfer from the depositor to the debtor. In operational activity, banks use some indicators to monitor their profitability, risk, etc.

Capital adequacy is a bank indicator of a bank's capital measurement. Capital adequacy uses the ratio between the capital and risk-weighting asset (CAR) as a measurement. CAR is risk weighting based on Bessel I (Rose & Hudgins, 2013). Higher CAR is less risky. In Indonesia, the minimum CAR is 8% based on Indonesian Central Bank (Bank Indonesia) regulation. Previous research found that CAR positively affects deposit (Karolina, 2020) and time deposit (Riadi & Yonatan, 2023). CAR also negatively affects credit growth (Firnanda, 2022; Ha, 2020; Poerwanti & Kartika, 2018) and credit distribution (Panuntun & Sutrisno, 2019; Pratama & Putri, 2022).

Unresolved credit is a bank indicator of a bank credit risk measurement. Unresolved credit uses the non-performance loan ratio (NPL) as a proxy. Unresolved credit is a part of bank risk (credit risk). Credit risk is a part of financial risk that risk comes from the borrower if they fail to fulfill their contractual obligations (Jorion, 2011). Based on Koch & MacDonald (2015), credit risk is the potential of net profit or stock value variation caused by unpayment and delayed payment. Previous research found that unresolved credit has negative effect on third-party fund (Karolina, 2020; Ridwan & Mahardika, 2019; Thao & Thanh, 2021), credit growth (Ivanovic, 2016), total credit (Rabab'ah, 2015) and credit distribution (Pratama & Putri, 2022; Prihartini & Dana, 2018; Sudaryanti et al., 2021; Wiriya et al., 2023).

Corporate value is a bank indicator that measures how the investor values a bank. In this research, the corporate value uses the price-to-book value (PBV) as a proxy. Based on Bodie et al. (2021), the PBV uses a stock value to book value ratio. Book value is a ratio of total equity and number of outstanding shares. There was no research that found that corporate value has a significant direct effect on deposit growth and credit growth.

Operational inefficiency is a bank indicator that measures how inefficient the bank's operation is. Operational inefficiency uses an efficiency factor ratio (EFF) as a proxy. In Indonesia, operational inefficiency uses the ratio of operational expense and operational income (OEOI) as a variable instead of EFF. Previous research found that operational inefficiency negatively affects credit distribution (Haryanto & Widyarti, 2017; Panuntun & Sutrisno, 2019; Suastika & Herawati, 2023).

The non-interest income portion is a bank indicator to measure banks' non-interest incomes compared to total incomes. Based on Koch & MacDonald (2015), there are some sources of non-interest income banks on *Uniform Bank Performance Report* (UBPR), such as deposit service charges, fiduciary, trading revenue, venture capital, consultant fees, insurance fees and revenue, etc. No research found that the non-interest income portion affects deposit and credit growth.

Stock total risk is a bank indicator of bank risk measurement related to the earnings of stocks in the market. According to Koch & MacDonald (2015), the stock total risk is a sum of systematic and unsystematic risk. The stock total risk can be measured by stock volatility. In this research, we use a deviation standard of earning stock. No research found that stock volatility significantly affects deposit and credit growth.

This research uses macroeconomic variables such as a reference interest rate and saving propensity. The reference interest rate is the rate of interest applied in a country as a reference. We use the referent rate from the Bank Indonesia (BI rate) as the reference interest rate in Indonesia. Previous research found that interest rates significantly affect depositor trust

(Cahyono et al., 2021), the interest rate has a positive effect on bank's deposit (Ojeaga & Odejimi, 2014), the interest rate positively affects saving decisions (Widowati & Mustikawati, 2018), Reference interest rate positively affect government bank of third-party fund (Anggraini et al., 2021), the Interest rate has negative effect on number of consumptive borrowers (Astiani, 2017), and Credit interest rate negatively affect credit distribution (Purnama, 2017).

Saving propensity is a macroeconomic indicator of behavior measurement of people saving their assets in the bank on a national scale. It uses the change of national savings on the bank on a national scale as a proxy. Saving propensity is saving behavior aggregated from individual saving decisions in personal financial planning. Based on Madura (2020), personal finance planning is a plan for expense, financing, and private investment for individual financial optimization. According to Garman & Fogue (2018), personal finance planning is a read-up on the importance of private and family resources toward financial success. From previous research, there was no finding yet that saving propensity was used as a variable. Similar research found that national saving positively affects credit distribution (Sari, 2005).

This research defines the global condition to describe the world status as a normal or an abnormal state. An abnormal condition occurs if there is a war, pandemic, etc. This research uses a dummy variable named CVD when the COVID-19 pandemic happened. Previous research found that the COVID-19 pandemic positively affects deposit growth (Hasan et al., 2021; Pransiska & Ilmiah, 2022), but it negatively affects credit growth (Le Hoang et al., 2022; Pham, 2022) and MSM (micro, small, and medium) enterprises of credit demand (Sitanggang et al., 2021).

The interest rate on IRS applied to both third-party and related parties. With the IRS, the bank's management cannot decide to determine interest rate spread for both third-party and related parties differently. In this research, we apply the third-party interest rate spread (TPIRS) instead of the IRS. The TPIRS is measured by the difference between the interest income to the third-party credit ratio and the interest expense to the third-party deposit ratio. When this research was conducted, there was no previous research found using the TPIRS. We used the bank-specific factors (capital adequacy, unresolved credit, corporate value, operational inefficiency, non-interest income portion, stocks' total risk), macroeconomic factors (reference interest rate and saving propensity), and global condition (COVID-19 pandemic) as determinants. While customer trusts (depositor trust and debtor trust) are used as mediating variables.

RESEARCH METHODS

This research wants to test the banks' third-party interest rate spread (TPIRS). We use bank-specific (capital adequacy, unresolved credit, corporate value, operational inefficiency, non-interest income portion, and stocks' total risk), macroeconomic (referent interest rate and saving propensity), and global condition (COVID-19 Pandemic) factors as determinants. We also use the banks' customer trust (depositor trust and debtor trust) as mediating variables. The research is quantitative and uses panel data. This research method uses panel data estimation. When estimating the panel data, we transform some variables to pass classical tests (multicollinearity, heteroscedasticity, autocorrelation, and normality test) and test to select the

model of panel data (Chow test, Hausman test, and Breusch-Pagan LM Test). We do recursively until all tests have passed.

This research uses yearly secondary data from Indonesian banks listed on the Indonesia Stock Exchange (IDX) and their initial public offering (IPO) before 2010. Twenty-eight banks have met these criteria, but five banks were not included, such as no stock transaction in a certain period and unhealthy category based on Bank Indonesia Circular Letter No. 6/23/DPNP year 2004. The sample data period 2010-2022. Table 1 shows the variables used in this research.

Table 1. Variables, Proxies and Measurement

No	Variables:	Proxies	Symbol	Measurements
1	Third-Party Interest Rate Spread	The difference of interest income to third-party credit ratio and interest expense to third-party fund ratio	TPIRS	$TPIRS = II/TPC - IE/TPF$
1	Depositor Trust	Change of yearly third-party total deposit	DEPT	$DEPT_t = (TPF_t - TPF_{t-1})/TPF_{t-1}$
2	Debtor Trust	Change of yearly third-party total credit	DEBT	$DEBT_t = (TPC_t - TPC_{t-1})/TPC_{t-1}$
3	Capital Adequacy	Capital Adequacy Ratio	CAR	$CAR = (Tier1 + Tier2)/RWA$
4	Unresolved credit	Non-Performance Loan	NPL	$NPL = UC/TC$
5	Corporate Value	Price to Book Value	PBV	$PBV = Stock\ Value/Book\ Value$
6	Operational Inefficiency	Efficiency Factor Ratio	EFF	$EFF = NIE/(II - IE + NII)$
7	Non-Interest Income Portion	Non-interest income to total income ratio	NIIP	$NIIP = NII/II$
8	Referent Interest Rate	Interest rate referent from Bank Indonesia	RIR	Data from Bank Indonesia
9	Saving propensity	Change of yearly national saving	SP	$SP_t = (NS_t - NS_{t-1})/NS_{t-1}$
11	Stocks' total risk	Yearly Standard Deviation	SD	$SD = DSR * \sqrt{YTD}$
12	COVID-19 Pandemic	Dummy variable	CVD	CVD: 0 if year < 2020; 1 if otherwise

Note: RWA = Risk Weighting Asset; UC = Unperformed Credit; II = Interest Income; IE = Interest Expense; NII = Non-Interest Income; NIE = Non-interest Expense; DSR= Daily Stock Return Deviation; YTD = Yearly Trading Day

In this research, we use panel data regression for estimation. The equation of the panel data base on defined variables are:

$$DEPT_{it} = a_0 + a_1CAR_{it} + a_2NPL_{it} + a_3PBV_{it} + a_4EFF_{it} + a_5NIIP_{it} + a_6RIR_{it} + a_7SP_{it} + a_8SD_{it} + a_9CVD_{it} + \varepsilon_{it} \quad \dots\dots\dots (1)$$

$$DEBT_{it} = b_0 + b_1CAR_{it} + b_2NPL_{it} + b_3PBV_{it} + b_4EFF_{it} + b_5NIIP_{it} + b_6RIR_{it} + b_7SP_{it} + b_8SD_{it} + b_9CVD_{it} + \varepsilon_{it} \quad \dots\dots\dots (2)$$

$$TPIRS_{it} = c_0 + c_1CAR_{it} + c_2NPL_{it} + c_3PBV_{it} + c_4EFF_{it} + c_5NIIP_{it} + c_6RIR_{it} + c_7SP_{it} + c_8SD_{it} + c_9CVD_{it} + c_{10}DEPT_{it} + c_{11}DEBT_{it} + \varepsilon_{it} \quad \dots\dots (3)$$

RESULTS AND DISCUSSION

This research result will explain the causalities in the panel data model. While estimating the panel data, we transform some variables to pass classical tests (multicollinearity, heteroscedasticity, autocorrelation, and normality) and model selection tests (Chow, Hausman, and Breusch-Pagan LM Test). Based on iteration in estimating panel data, Table 2 shows selected transformed variables. The Generalized Least Squared Fix Effect Model (GLS-FEM) is selected based on the combination of the test results. Table 3 shows the estimation result of panel data.

Table 2. Transformed of some variables

Variable	Transformed Var.	Formula	Direction
TPIRS	TPIRS _x	$TPIRS_x = -10^{-TPIRS \cdot 3}$	Inline / Positive
DEPT	DEPT _x	$DEPT_x = -10^{-DEPT \cdot 0.3}$	Inline / Positive
DEBT	DEBT _x	$DEBT_x = -10^{-DEBT \cdot 0.3}$	Inline / Positive

Table 3. Panel data estimation result with GLS-FEM

Variables	DEPT _x			DEBT _x			TPIRS _x		
	Coef.	Prob.	Sig	Coef.	Prob.	Sig	Coef.	Prob.	Sig
C	-0.86207	0.0000	***	-0.88485	0.0000	***	-0.91257	0.0000	***
CAR	-0.03369	0.7862		-0.12372	0.1907		0.40267	0.0000	***
NPL	-1.89142	0.0000	***	-2.09445	0.0000	***	-0.09826	0.7041	
PBV	-0.00390	0.4447		-0.00732	0.1469		0.00511	0.0876	*
EFF	-0.04961	0.0001	***	-0.07103	0.0000	***	-0.06919	0.0000	***
NIIP	-0.21900	0.0344	**	0.11083	0.2243		0.03434	0.5745	
RIR	-0.37745	0.2782		0.51188	0.0800	*	0.37965	0.0916	*
SP	0.69622	0.0000	***	0.65085	0.0000	***	0.72088	0.0000	***
SD	0.00979	0.2071		0.00362	0.6234		-0.01756	0.0003	***
CVD	-0.00279	0.8107		-0.04173	0.0000	***	-0.03225	0.0000	***
DEPT _x							0.14301	0.0007	***
DEBT _x							-0.35842	0.0000	***
Weighted Statistics									
R-squared	0.457189			0.651617			0.876071		
F-statistic	7.254329			16.10960			56.76724		

Prob (F-statistic)	0.000000	0.000000	0.000000
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(Source: Processed from researcher data)

Mediation Analysis

The mediation process is possible if DEPTx, DEBPx, and TPIRSx models have been set seen in Table 3. The meditation process is based on Manurung (2024) and use the standard deviation, XY (δ_{XY}). Mood et al. (1974) formulate the Variance (VAR_{XY}) as:

$$VAR_{XY} = \bar{Y}^2 * VAR_X + \bar{X}^2 * VAR_Y + VAR_X * VAR_Y$$

$$\delta_{XY}^2 = \bar{Y}^2 * \delta_X^2 + \bar{X}^2 * \delta_Y^2 + \delta_X^2 * \delta_Y^2$$

$$\delta_{XY} = \sqrt{\bar{Y}^2 * \delta_X^2 + \bar{X}^2 * \delta_Y^2 + \delta_X^2 * \delta_Y^2} \quad \dots\dots\dots (4)$$

$$C_{XY} = C_{XM} * C_{MY} \quad \dots\dots\dots (5)$$

$$Z = \frac{C_{XY}}{\delta_{XY}} \quad \dots\dots\dots (6)$$

Where $\bar{X}$ is the average of X, δ_X is the standard deviation of X, C_{XY} is the coefficient of XY, C_{XM} is the coefficient of X from M estimation, C_{MY} is the coefficient standard of M from Y estimation. If $|Z| > \pm 1,96$ then the mediation effect is statistically significant.

Based on equations (4), (5), and (6) and the average and deviation standard of TPIRSx are -0.588789 and 0.121502, the result of the mediation process can be seen in Tables 4 and 5.

Table 4. Effect of variables on TPIRSx mediated by DEPTx (significant only)

Variables	Mean	Standard Deviation	Est. Coef. DEPTx	Mediation Test		Significant?
				Coef.	Z	
NPL	0.028091	0.016472	-1.89142	-0.27049	-25.82	Yes
SP	0.116397	0.042915	0.69622	0.09957	3.38	Yes

(Source: Processed from researcher data)

Table 5. Effect of variables on TPIRSx mediated by DEBTx (significant only)

Variables	Mean	Standard Deviation	Est. Coef. DEBTx	Mediation Test		Significant?
				Coef.	Z	
NPL	0.028091	0.016472	-2.09445	0.75070	71.67	Yes
SP	0.116397	0.042915	0.65085	-0.23328	-7.93	Yes

(Source: Processed from researcher data)

Direct Effect

Based on the estimation result in Table 4, Partial causality interpretation for significant effect only (with a 5% significant level) variables are below:

CAR has a significant and positive effect on TPIRSx. Because TPIRSx and TPIRS have the same direction, capital adequacy significantly positively affects third-party interest rate spread. No previous research found this direct causality. When we use the interest rate spread

(IRS), capital adequacy has a significant and positive effect on interest rate spread (IRS) (Kiptui, 2014; Nabende et al., 2019; Wijaya et al., 2020). The result of this research matches our hypothesis. If capital adequacy increases, the bank is considered secure by customers, and customers will increase their deposits even with a lower deposit interest rate. Lowering the deposit interest rate will increase the third-party interest rate spread.

NPL negatively affects DEPTx. Because DEPTx and DEPT have the same direction, unresolved credit negatively affects Depositor Trust. No previous research found this direct causality. When we use third-party funds, unresolved credit (NPL) negatively affects third-party funds (Karolina, 2020; Ridwan & Mahardika, 2019; Thao & Thanh, 2021). The result of this research matches our hypothesis. If unresolved credit increases, the bank is considered unsecured, and customers will reduce their deposits.

NPL has a significant and negative effect on DEBTx. Because DEBTx and DEBT have the same direction, unresolved credit negatively affects debtor trust. This result matches that unresolved credit negatively affects credit growth (Ivanovic, 2016). This result has the same direction if we use similar variables in nature. Unresolved credit negatively affects credit distributions (Pratama & Putri, 2022; Sudaryanti et al., 2021; Wiriya et al., 2023) and total credit (Rabab'ah, 2015). The result of this research matches our hypothesis. If unresolved credit increases, the bank is considered unsecured, and the management will increase its credit interest rate. With higher credit interest rates, the customer will reduce their credit.

EFF negatively affects DEPTx. Because DEPTx and DEPT have the same direction, operational inefficiency negatively affects depositor trust. No previous research found this direct causality. This research matches our hypothesis. If operational inefficiency increases (less efficient), the bank is considered unsecured, and customers will reduce their deposits.

EFF negatively affects DEBTx. Because DEBTx and DEBT have the same direction, operational inefficiency negatively affects debtor trust. Although the variable in the previous research is different from the variable used as a proxy, this result is similar to the research result that the Operational Expense to Operational Income Ratio negatively affects credit distribution (Haryanto & Widiyarti, 2017; Panuntun & Sutrisno, 2019; Suastika & Herawati, 2023). The result of this research matches our hypothesis. If operational inefficiency increases (less efficiency), the bank's management will increase its credit interest rate. With higher credit interest rates, the customer will reduce their credit.

EFF negatively affects TPIRSx. Because TPIRSx and TPIRS have the same direction, operational inefficiency negatively affects third-party interest rate spread. No previous research found this direct causality. This research matches our hypothesis. If operational inefficiency increases (less efficient), the bank is considered unsecured, and customers will reduce their deposits. The bank's management will increase deposit interest rates to attract customers. An increased deposit interest rate will decrease the third-party interest rate spread.

NIIP negatively affects DEPTx. Because DEPTx and DEPT have the same direction, The portion of non-interest income negatively affects depositor trust. No previous research found this direct causality. This research matches our hypothesis. If the portion of non-interest income increases, the bank is considered secured from interest rate fluctuation and reduces the deposit interest rate. In this situation, customers will reduce their deposits.

SP positively affects DEPTx. Because DEPTx and DEPT have the same direction, saving propensity positively and significantly affects depositor trust. No previous research was found for this causality. This research result matches our hypothesis. An increased saving propensity will increase customers' deposits in the banks.

SP positively affects DEBTx. Because DEBTx and DEBT have the same direction, saving propensity positively and significantly affects debtor trust. No previous research found this direct causality. This research matches our hypothesis. Although proxy uses different variables, this result is similar to the research result that national saving positively affects credit distribution (Sari, 2005). The results of this research match our hypothesis. If saving propensity increases, the bank has more deposits. In this situation, the management will decrease their credit interest rate, and the customer will increase their credit.

SP positively affects TPIRSx. Because TPIRSx and TPIRS have the same direction, saving propensity positively and significantly affects third-party interest rate spread. No previous research found this direct causality. This research matches our hypothesis. If saving propensity increases, customers will increase their deposits in the bank. If saving propensity increases, the bank has more deposits. In this situation, the management will decrease their deposit interest rate, and the third-party interest rate spread will increase.

SD significantly and negatively affects TPIRSx. Because TPIRSx and TPIRS have the same direction, the total risk of stock significantly and negatively affects the third-party interest rate spread. No previous research found this direct causality. The results of this research match our hypothesis. If the total risk of stock increases, the bank is considered unsecured, and customers will reduce their deposits. The bank's management will increase deposit interest rates to attract customers. An increased deposit interest rate will decrease the third-party interest rate spread.

CVD significantly and negatively affects DEBTx. Because DEBTx and DEBT have the same direction, the COVID-19 pandemic significantly and negatively affects debtor trust. This result is similar to another research. The COVID-19 pandemic significantly and negatively affects credit growth (Le Hoang et al., 2022; Pham, 2022). The COVID-19 pandemic significantly and negatively affects MSM (micro, small, and medium) enterprises of credit demand (Sitanggang et al., 2021). The result of this research matches our hypothesis. If the COVID-19 pandemic happens, the customer will reduce their consumption only for essentials and take less consumer's credit to consume. In this situation, the bank's credit will decrease.

CVD significantly and negatively affects TPIRSx. Because TPIRSx and TPIRS have the same direction, the COVID-19 pandemic significantly and negatively affects third-party interest rate spread. No previous research has been found yet for this direct causality. The result of this research matches our hypothesis. If the COVID-19 pandemic happens, the customer will reduce their consumption only for essentials and take less consumer's credit to consume. In this situation, management will decrease credit interest rates to attract customers. The third-party interest rate spread will decrease when the COVID-19 pandemic occurs.

DEPTx significantly and positively affects TPIRSx. Because (1) DEPTx and DEPT have the same direction, and (2) TPIRSx and TPIRS have the same direction, depositor trust significantly and positively affects third-party interest rate spread. No previous research has found this direct causality. The result of this research matches our hypothesis. If depositor trust

increases, banks will decrease their deposit interest rate, and third-party interest rate spread will increase.

DEBTx significantly and negatively affects TPIRSx. Because (1) DEBTx and DEBT have the same direction, and (2) TPIRSx and TPIRS have the same direction, debtor trust significantly and negatively affects third-party interest rate spread. No previous research has been found yet for this direct causality. The result of this research matches our hypothesis. If debtor trust increases, banks will increase their deposit interest rate to avoid liquidity risk, and third-party interest rate spread will decrease.

Indirect Effect

Based on estimation results in Tables 5 and 6, causality interpretation only for significant effect variables are below:

NPL mediated by DEPTx significantly and negatively affects TPIRSx. Because (1) DEPTx and DEPT have the same direction, and (2) TPIRSx and TPIRS have the same direction, unresolved credit mediated by depositor trust significantly and negatively affects third-party interest rate spread. No previous research has been found yet for this causality. The result of this research matches our hypothesis. The third-party interest rate spread will increase if the customer increases their bank's deposit even with a lower deposit interest rate. When an unresolved credit increases in the bank, the customer will decrease trust. In this situation, the management of banks will increase their deposit interest rate, and third-party interest rate spread will decrease.

NPL mediated by DEBTx significantly and positively affects TPIRSx. Because (1) DEBTx and DEBT have the same direction, and (2) TPIRSx and TPIRS have the same direction, unresolved credit mediated by debtor trust significantly and positively affects third-party interest rate spread. No previous research has been found yet for this causality. The result of this research matches our hypothesis. The third-party interest rate spread will decrease if the customer increases their credit in the bank. When an unresolved credit in the bank increases, the customer will reduce their trust. In this situation, the bank's management cannot increase the credit interest rate, but it decreases their deposit interest rate, and the third-party interest rate spread will rise.

SP mediated by DEPTx significantly and positively affects TPIRSx. Because (1) DEPTx and DEPT have the same direction, and (2) TPIRSx and TPIRS have the same direction, saving propensity mediated by depositor trust significantly and positively affects third-party interest rate spread. No previous research has been found yet for this causality. The result of this research matches our hypothesis. The third-party interest rate spread will increase if the customer increases deposits in the bank. But when saving propensity increases, banks have more deposits. In this situation, management will reduce the deposit interest rate, and third-party interest rate spread will rise.

SP mediated by DEBTx significantly and positively affects TPIRSx. Because (1) DEBTx and DEBT have the same direction, and (2) TPIRSx and TPIRS have the same direction, saving propensity mediated by debtor trust significantly and positively affects third-party interest rate spread. No previous research has been found yet for this causality. The result of this research matches our hypothesis. Third-party interest rate spread will reduce if customers increase their credit in the bank. When saving propensity increases, banks have more deposits. In this situation, the bank's management will decrease their credit interest rate for more credit distribution, and third-party interest rate spread will decrease.

Novelties

Based on this result and previous research, we found some novelties, variables (or proxies used), and relationships between variables. Variables found as novelties are third-party interest rate spread and saving propensity. While relationships between variables found as novelties are:

1. The effect of unresolved credit, operational inefficiency, portion of non-interest income, and saving propensity on depositor trust
2. The effect of saving propensity on debtor trust
3. The effect of capital adequacy, operational inefficiency, saving propensity, stocks' total risk, the COVID-19, depositor trust, and debtor trust on third-party interest rate spread
4. The effect of unresolved credit and saving propensity are mediated by depositor trust on third-party interest rate spread

The effect of unresolved credit and saving propensity mediated by debtor trust on third-party interest rate spread

CONCLUSION

The interest rate spread is one indicator used for performance measurement. The management cannot make a policy to determine the interest rate spread for both third-party and related parties differently because the interest rate spread is a combination of third-party and affiliated parties. In this research, we use third-party interest rate spread for more specific. Besides performance, banks also should sustain. The banks would sustain depending on customers' trust and satisfaction regardless of global conditions. Customers' trust is usually studied using primary data by conducting an interview or survey periodically. In this research, we use customer trust as a mediating variable. We define two types of customer trust: (1) depositor trust is customer trust that is given to the bank to save their money, and (2) debtor trust is customer trust that is given to the bank to take credit. According to measurements of the depositor and debtor trust, this research used a different approach. It uses secondary data. Depositor trust is proxied by deposit growth, and debtor trust is proxied by credit growth.

This research found that (1) unresolved credit, operational inefficiency, portion of non-interest income, and saving propensity affect depositor trust significantly, (2) unresolved credit, operational inefficiency, saving propensity, and the COVID-19 pandemic affect debtor trust significantly, (3) capital adequacy, operational inefficiency, saving propensity, stocks' total risk, the COVID-19 pandemic, depositor trust, and debtor trust affect third-party interest rate spread significantly, (4) depositor trust as a mediating variable successfully mediated unresolved credit and saving propensity to influence third-party interest rate spread, (5) debtor trust as a mediating variable successfully mediated unresolved credit and saving propensity to influence third-party interest rate spread.

This research has novelties such as two variables (third-party interest rate spread and saving propensity) and 16 relationships between variables.

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