



The Influence of Third-Party Funds, Non- Performing Loan, Inflation, and Loan Interestrate on The Distribution of Msme Business Loan by Commercial Banks in West Kalimantan in The 2015-2025 Period

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ABSTRACT

MSME credit distribution is an important instrument in supporting economic growth in West Kalimantan. This study analyzes the relationship between Third-Party Funds (TPF), MSME Non-Performing Loans (MSME NPL), inflation, and lending interest rates and MSME credit distribution by commercial banks in West Kalimantan during 2015–2025. The study uses quarterly secondary data and applies the Engle-Granger Error Correction Model (ECM) to distinguish short-run dynamics from the long-run relationship. The results show that TPF, MSME NPL, inflation, and lending interest rates are not statistically significant in the short run. The long-run estimation indicates a positive and statistically significant relationship between TPF and MSME credit distribution, while MSME NPL, inflation, and lending interest rates are not statistically significant. The Error Correction Term (ECT) is negative and statistically significant at the 10 percent level, indicating an adjustment mechanism toward long-run equilibrium. These findings suggest that MSME credit distribution in West Kalimantan is more closely associated with the availability of bank funding in the long run than with short-run changes in credit risk, inflation, or lending interest rates.

Keywords: *Third-Party Funds, MSME NPL, Inflation, Lending Interest Rate, MSME Credit, Engle-Granger ECM, West Kalimantan*

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) occupy an important position in the Indonesian economy because they support economic growth, employment, and the circulation of economic activity. MSMEs contribute approximately 61.07 percent to national gross domestic product and absorb around 97 percent of national employment. Their broad contribution makes the continuity of MSME activity closely related to economic stability. One of the main instruments supporting MSME continuity is access to financing, particularly bank credit, which can be used for working capital, inventories, labor payments, distribution, equipment, and production expansion. Therefore, the availability of MSME credit is not only a banking issue but also an important component of regional economic development (Kementerian Keuangan Republik Indonesia, 2022).

The importance of financing is reinforced by the intermediation function of commercial banks. Funds collected from the public through current accounts, savings, and deposits provide the resources that banks can allocate to productive assets, including credit. However, credit distribution is not determined by funding availability alone. Credit quality, credit risk, macroeconomic conditions, and lending rates also influence banking decisions. In West Kalimantan, the difference between Third-Party Funds and MSME credit has remained evident: TPF increased from Rp44,090 billion in the fourth quarter of 2015 to Rp88,200 billion in the fourth quarter of 2025, whereas MSME credit increased from Rp14.71 trillion to Rp29.76 trillion over the same period. This indicates that increasing banking liquidity has not necessarily been followed by a proportional increase in MSME credit distribution.

West Kalimantan is selected as the research setting because its economic structure is strongly connected with MSME activity. Approximately 60 percent of the province's GRDP is associated with around 1.2 million MSME units, while major economic sectors such as agriculture, manufacturing, trade, and construction are important components of regional activity. In the third quarter of 2025, the provincial economy grew by 5.31 percent year-on-year. At the same time, the region still faced a gap between financial access and financial inclusion: financial literacy reached 51.95 percent, above the national figure of 49.68 percent, while financial inclusion reached 84.16 percent, slightly below the national figure of 85.10 percent. These characteristics make West Kalimantan a relevant regional context for examining the determinants of MSME credit distribution.

Previous studies have not produced fully consistent evidence regarding the relationships between banking funding, credit risk, inflation, lending rates, and credit distribution. Studies by Anggraini and Haryadi (2020) and Nurfajri and Mirati (2024) report a positive relationship between TPF and credit distribution, whereas Sari et al. (2021) find no significant effect of MSME NPL. Inflation has also been reported to have an effect that is not statistically significant on MSME credit distribution (Biasmara, 2022). Lending interest rates show further inconsistency: Anisfujianti (2021) finds a negative and significant effect, while Rodhiyah et al. (2024) and Sari et al. (2021) report no significant effect. These differences may reflect variations in research objects, periods, types of credit, and regional characteristics. The present study addresses this gap by examining West Kalimantan with quarterly observations covering pre-pandemic, pandemic, and recovery periods and by explicitly separating short-run and long-run relationships.

Based on the observed gap, this study examines whether TPF, MSME NPL, inflation, and lending interest rates influence MSME credit distribution differently in the short and long run. The study contributes to the literature by providing regional evidence on the banking intermediation process in an MSME-intensive province and by using the Engle-Granger ECM to capture both short-run dynamics and long-run equilibrium. The findings are expected to support banking strategy and policy discussions concerning MSME financing, particularly for commercial banks, Bank Indonesia, the Financial Services Authority, and the West Kalimantan regional government. Specifically, this study aims to analyze the effects of TPF, MSME NPL, inflation, and lending interest rates on MSME credit distribution by commercial banks in West Kalimantan during 2015–2025, both in the short run and in the long run.

LITERATURE REVIEW

Credit Supply Theory

BCredit Supply Theory explains credit distribution from the supply side of banking. Melitz and Pardue, as discussed in Insukindro (1993), emphasize that bank credit supply is affected by the bank's funding capacity, lending interest rates, opportunity costs, and deposit costs. This framework implies that the greater the funds available to banks, the greater their capacity to provide credit, subject to liquidity and reserve constraints. The theory therefore provides a basis for considering TPF and lending interest rates as determinants of credit supply.

Bernanke and Blinder (1988) further distinguish bank loans from bonds and show that bank deposits constitute an important funding source for loan supply. In their banking balance-sheet framework, deposits available after required reserves can be allocated to productive assets, including loans. Accordingly, an increase in deposits expands the potential capacity of banks to supply credit. The theory also indicates that lending rates can affect portfolio allocation because they represent the return on loans from the bank's perspective, although the demand-side response may differ.

Blundell-Wignall and Gizycki (1992) extend the credit-supply perspective by incorporating funding, bank capitalization, lending-rate margins, risk, and expected inflation. Their framework suggests that credit supply depends on both internal banking conditions and external economic conditions. In this study, the framework supports the inclusion of TPF, MSME NPL, inflation, and lending interest rates as factors potentially associated with MSME credit distribution.

Third-Party Funds and MSME Credit Distribution

TPF represents funds collected by commercial banks from the public through current accounts, savings, and deposits. From a credit-supply perspective, larger TPF increases the pool of funds that can be allocated to productive assets. Empirical evidence by Anggraini and Haryadi (2020) and Nurfajri and Mirati (2024) supports a positive relationship between TPF and credit distribution. However, the effect may not occur immediately because banks must assess liquidity, creditworthiness, risk, and the availability of bankable MSME borrowers. This provides a basis for expecting a positive long-run relationship between TPF and MSME credit distribution.

MSME NPL and MSME Credit Distribution

MSME NPL measures the proportion of problematic MSME loans relative to total MSME credit and represents an indicator of credit risk. Higher NPL can encourage banks to adopt more cautious lending standards because expected losses and repayment uncertainty increase. Anggraini and Fathurrahman (2018) identify credit risk as an important internal and external factor in bank lending, while Sari et al. (2021) find that MSME NPL does not significantly affect credit distribution. The theoretical expectation is therefore negative or restrictive, although the empirical direction can depend on the risk conditions and period observed.

Inflation and MSME Credit Distribution

Inflation affects both borrowers and banks. Higher prices can increase production costs, reduce purchasing power, and weaken borrowers' repayment capacity. From the banking perspective, inflation can increase uncertainty regarding credit risk and economic conditions. Consequently, higher inflation may reduce the willingness of banks to expand credit. Biasmara (2022) finds that inflation does not significantly affect MSME credit distribution, suggesting that the effect may depend on the intensity and persistence of inflation and on other banking considerations.

Lending Interest Rate and MSME Credit Distribution

Lending interest rates have a dual interpretation. From the borrower's perspective, a higher rate increases financing costs and can reduce credit demand. From the bank's perspective, however, a higher lending rate can increase the potential return from lending. The empirical evidence is mixed: Anisfujianti (2021) reports a negative significant relationship, while Rodhiyah et al. (2024) and Sari et al. (2021) find no significant relationship. The direction observed in the present study is therefore interpreted primarily in the context of the credit-supply mechanism described by Credit Supply Theory.

Research Framework

The research framework positions MSME credit distribution as the dependent variable and TPF, MSME NPL, inflation, and lending interest rates as explanatory variables. The framework is derived from credit-supply theory and the empirical literature reviewed above.

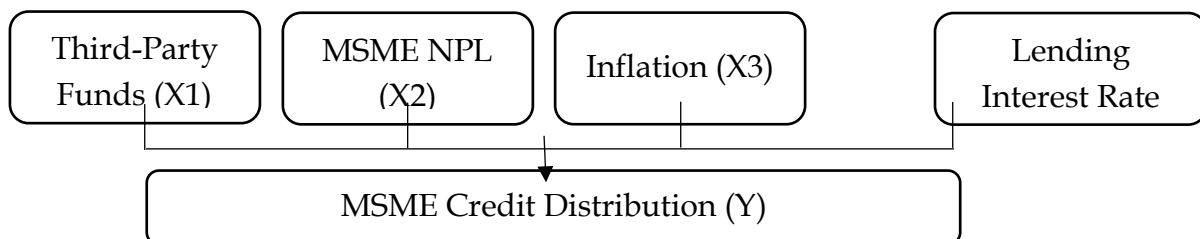


Figure 1. Research Framework

Source: Author (2026)

Hypothesis Development

The Effect of Third-Party Funds (TPF) on MSME Credit Distribution

Bernanke and Blinder (1988) explain that deposits constitute an important basis for bank credit supply after required reserves are taken into account. Therefore, the greater the TPF collected by banks, the greater the funds available for MSME credit distribution. TPF is also consistent with the Loanable Funds Theory because public savings provide funds that can be allocated to parties requiring financing, including MSMEs. Empirical research in Indonesian banking finds that TPF has a positive and significant effect on credit volume because higher liquidity increases the availability of funds that can be distributed to the real sector, including MSMEs (Mahanani et al., 2021). In other words, an increase in TPF signals a greater capacity of banks to expand credit distribution..

This relationship is supported by previous research. Mahanani et al. (2021) found that Third-Party Funds have a positive and significant effect on credit distribution because an increase in liquidity provides greater funds for banks to distribute credit to the real sector, including MSMEs. Nurfajri and Mirati (2024) also found a positive relationship between TPF and MSME credit distribution. Therefore, an increase in TPF is expected to increase the capacity of commercial banks to distribute MSME credit.

H1: Third-Party Funds (TPF) have a positive effect on MSME credit distribution.

The Effect of Credit Risk/MSME NPL on MSME Credit Distribution

Non-Performing Loan is the ratio of non-performing loans to total loans distributed by banks. Credit Supply Theory also emphasizes the importance of portfolio risk in credit distribution decisions. In the Bernanke and Blinder model, credit supply is influenced by lending rates, market interest rates, and credit allocation risk. Credit allocation risk has a negative relationship with credit supply. In this study, MSME NPL is used as a proxy for credit allocation risk because MSME NPL indicates the level of problematic loans in the bank's portfolio (Amelia et al., 2016). Blundell-Wignall and Gizycki also explain that portfolio risk is one of the factors affecting credit supply. When portfolio risk increases, banks become more cautious in distributing new credit. Banks may tighten debtor assessment, increase collateral requirements, or limit credit expansion. Therefore, MSME NPL is expected to have a negative effect on MSME credit distribution (Blundell-Wignall & Gizycki, 1992).

Previous research shows mixed results, but theoretically MSME NPL has a negative effect on MSME credit distribution because higher risk encourages banks to become more cautious. An empirical study of People's Business Credit (KUR) distribution at Bank Rakyat Indonesia found that an increase in MSME NPL had a negative and significant effect on the volume of KUR distributed. Higher MSME NPL increases credit risk and reduces bank income, encouraging banks to restrain KUR expansion to maintain portfolio health and asset quality. Therefore, higher credit risk reflected by MSME NPL is expected to suppress credit distribution to MSMEs (Prihartini & Dana, 2018).

H2: Credit risk reflected by MSME NPL has a negative effect on MSME credit distribution.

The Effect of Inflation on MSME Credit Distribution

Inflation is a general increase in the prices of goods and services over a certain period (BI, 2020). The Blundell-Wignall and Gizycki model emphasizes that high inflation is associated with asset prices and

the allocation of real resources, causing banks to become more cautious in extending credit. Higher inflation increases cash-flow uncertainty and default risk, particularly for MSMEs with limited financial capacity. Excessive or volatile inflation can therefore encourage banks to tighten lending standards and reduce financing expansion (Vansteenberghe, 2026). Conversely, moderate and relatively stable inflation can support credit distribution because banks and businesses can forecast prices, costs, and revenues with greater certainty.

The negative relationship between inflation and MSME credit distribution is supported by previous research. Sari et al. (2021) found that inflation has a negative effect on MSME credit distribution in Indonesia, indicating that when price pressures increase, credit growth tends to weaken because banks adopt a more conservative approach to lending. Firmansyah et al. (2024), using an Error Correction Model, also found that inflation affects credit distribution, particularly because high inflation can increase economic uncertainty and the real cost of borrowing, encouraging banks to tighten credit standards. Therefore, higher inflation is expected to reduce MSME credit distribution.

H3: Inflation has a negative effect on MSME credit distribution.

The Effect of Lending Interest Rates on MSME Credit Distribution

Lending interest rates are the interest rates charged by banks to borrowers on credit received. These rates are related to the Cost of Loanable Funds, overhead costs, and the bank's profit margin (Bank Indonesia, 2021). Theoretically, lending interest rates can be explained from both the credit-supply and credit-demand sides. In the Melitz and Pardue model, lending interest rates can be viewed from the bank's supply side. An increase in lending rates can increase the potential return to banks from credit distribution. Thus, the relationship between lending rates and credit supply may be positive when banks view higher lending rates as higher credit income. From the Loanable Funds Theory perspective, however, interest rates are the price of loanable funds. For debtors, higher lending rates increase borrowing costs and may reduce MSME demand for credit.

The positive relationship is supported by recent empirical research. Ramadhani et al. (2025) found that lending interest rates have a positive and significant effect on credit distribution. This finding indicates that an increase in lending interest rates can be associated with an increase in credit distribution, particularly when credit remains demanded and banks obtain greater potential returns from lending. Therefore, based on Credit Supply Theory and the empirical findings, lending interest rates are expected to have a positive effect on MSME credit distribution.

H4: Lending interest rates have a positive effect on MSME credit distribution.

METHOD

This study employs a quantitative associative approach using quarterly secondary time-series data covering 2015Q1–2025Q4, resulting in 44 observations. The research focuses on MSME credit distribution by commercial banks in West Kalimantan. MSME credit distribution (Y) is measured as the total value of MSME credit distributed in each quarter in billion rupiah. Third-Party Funds (TPF/X1) are measured as the total value of current accounts, savings, and deposits collected by commercial banks. MSME Non-

Performing Loans (MSME NPL/X2) are measured as the ratio of problematic MSME loans to total MSME credit. Inflation (X3) is measured using the quarterly inflation rate in West Kalimantan, while lending interest rates (X4) are measured using the quarterly lending interest rate.

The data were obtained from official publications and statistical reports of Bank Indonesia, the Financial Services Authority, and Statistics Indonesia. The analysis was conducted using EViews 13. The empirical procedure consists of the Augmented Dickey-Fuller (ADF) unit-root test, optimum lag selection, Engle-Granger residual-based cointegration testing, long-run estimation, and Error Correction Model (ECM) estimation. The ADF test determines the order of integration of each variable. The Engle-Granger procedure then estimates the long-run relationship and uses the resulting residual as the basis for the Error Correction Term (ECT). The residual is tested for stationarity using the ADF test. A stationary residual at level indicates cointegration among the variables and justifies the estimation of the ECM.

The ECM is used to estimate short-run changes and the speed of adjustment toward long-run equilibrium. Statistical significance is evaluated using a 10 percent significance level, consistent with the estimation framework and interpretation used in this study. Diagnostic tests include multicollinearity and Breusch-Pagan-Godfrey heteroskedasticity testing. A serial-correlation test is also required to assess whether the ECM residuals exhibit autocorrelation..

RESULTS AND DISCUSSION

Data Characteristics

The study uses 44 quarterly observations from 2015Q1 to 2025Q4. The data are secondary time-series observations rather than respondent-level survey data; therefore, respondent characteristics are not applicable. The descriptive focus is the behavior of the variables over the observation period. MSME credit increased from Rp14.71 trillion in 2015Q4 to Rp29.76 trillion in 2025Q4, while TPF increased from Rp44,090 billion to Rp88,200 billion. MSME NPL in the third quarter of 2025 was 3.20 percent, compared with 3.43 percent in the previous quarter. Lending rates generally declined from around 13 percent in early 2015 to around 8.7–9.3 percent during 2022–2025.

Data Analysis Results

The Augmented Dickey-Fuller test indicates that all variables are non-stationary at level and become stationary after first differencing. The level p-values for MSME credit, TPF, MSME NPL, inflation, and lending interest rates are 0.7647, 0.9475, 0.8546, 0.2519, and 0.3230, respectively. After first differencing, the corresponding p-values are 0.0000, 0.0000, 0.0000, 0.0005, and 0.0166. Thus, all variables are integrated of order one, I(1).

Table 1. Augmented Dickey-Fuller Stationarity Test

Variable	Level t-stat.	Level p-value	First-difference t-stat.	First-difference p-value
MSME Credit (Y)	-0.9429	0.7647	-7.7989	0.0000
TPF (X1)	-0.0576	0.9475	-6.9458	0.0000

MSME NPL (X2)	-1.3740	0.8546	-10.2118	0.0000
Inflation (X3)	-2.6750	0.2519	-4.7301	0.0005
Lending Interest Rate (X4)	-1.9137	0.3230	-3.3978	0.0166

Source: Primary Data Processing (2026)

Lag selection identifies lag 1 as the optimum because LR, FPE, AIC, SC, and HQ all select the first lag. The LR value is 340.6204, FPE is 3.38e+09, AIC is 36.12083, SC is 37.37466, and HQ is 36.57741. The Engle-Granger residual test then produces an ADF statistic of -5.009622 with a probability of 0.0002, below the 5 percent significance level. The residual is therefore stationary at level, indicating cointegration and a long-run equilibrium relationship among MSME credit, TPF, MSME NPL, inflation, and lending interest rates.

The Engle-Granger procedure begins with the estimation of the long-run relationship between MSME credit distribution and the explanatory variables. The estimated long-run equation is obtained from the regression of the lagged dependent variable on the lagged explanatory variables

$$Y_t - 1 = \beta_0 + \beta_1 X_{1t} - 1 + \beta_2 X_{2t} - 1 + \beta_3 X_{3t} - 1 + \beta_4 X_{4t} - 1 + u_t$$

The estimated coefficients are 0.372495 for TPF, -130.7352 for MSME NPL, 40.60455 for inflation, and 38.69053 for lending interest rates. The residual (u_t) from this long-run equation is subsequently used to construct the Error Correction Term (ECT). The ECT represents the deviation of the observed value of MSME credit distribution from its estimated long-run equilibrium.

The residual-based ADF test produces an ADF statistic of -5.009622 with a probability value of 0.0002. The statistic is lower than the 5 percent critical value of -2.933158. Therefore, the null hypothesis that the residual contains a unit root is rejected. The residual is stationary at level, indicating the existence of a long-run equilibrium relationship among MSME credit distribution, TPF, MSME NPL, inflation, and lending interest rates

Table 2. Engle-Granger Cointegration Test

Test	Statistic	Probability	Conclusion
ADF residual test	-5.009622	0.0002	Residual stationary at level
5% critical value	-2.933158	—	ADF statistic is lower than critical value

Source: Primary Data Processing (2026)

Error Correction Model Estimation

The estimated ECM is: $\Delta Y_t = 8520.932 - 0.023227\Delta X_{1t} + 51.20548\Delta X_{2t} + 107.1166\Delta X_{3t} - 526.5973\Delta X_{4t} - 0.040487X_{1t-1} - 233.4245X_{2t-1} + 62.36757X_{3t-1} - 465.8559X_{4t-1} - 0.321331ECT_{t-1} + e_t$. The Error Correction Term is negative and significant, with a coefficient of -0.321331 and probability 0.0641. This indicates that approximately 32.13 percent of short-run disequilibrium is corrected toward long-run equilibrium in the following period.

Table 3. ECM Estimation Results

Variable	Coefficient	t-statistic	Probability	Significance
C	8520.932	2.087	0.0446	Significant at 10%
Δ TPF	-0.023227	-0.297	0.7680	Not significant
Δ MSME NPL	51.20548	0.318	0.7527	Not significant
Δ Inflation	107.1166	0.953	0.3475	Not significant
Δ Lending Interest Rate	-526.5973	-0.865	0.3934	Not significant
TPF(-1)	-0.040487	-1.822	0.0775	Significant at 10%
MSME NPL(-1)	-233.4245	-1.213	0.2336	Long-run calculation
Inflation(-1)	62.36757	0.972	0.3383	Long-run calculation
Lending Interest Rate(-1)	-465.8559	-1.987	0.0553	Long-run calculation
ECT(-1)	-0.321331	-1.916	0.0641	Significant at 10%

Source: Primary Data Processing (2026)

The ECM results indicate that changes in TPF, MSME NPL, inflation, and lending interest rates are not statistically significant in the short run. The probability values of Δ TPF (0.7680), Δ MSME NPL (0.7527), Δ Inflation (0.3475), and Δ Lending Interest Rate (0.3934) are all above the 10 percent significance level.

The ECT coefficient is -0.321331 with a probability value of 0.0641. The negative coefficient indicates that deviations from long-run equilibrium are followed by an adjustment toward equilibrium. The coefficient suggests that approximately 32.13 percent of the previous period's disequilibrium is corrected in the following period. Because the probability value is below 0.10 but above 0.05, the ECT is statistically significant at the 10 percent level but not at the 5 percent level.

Long-Run Coefficients and Hypothesis Testing

Table 4. Long-Run Coefficients

Variable	Calculation		Decision
X1 (-1)	$(\beta_1 + \alpha_s) / \alpha_s$	$(-0,040487 + (-0,321331)) / -0,321331$	1,126
X2 (-1)	$(\beta_2 + \alpha_s) / \alpha_s$	$(-233,4245 + (-0,321331)) / -0,321331$	727,430
X3 (-1)	$(\beta_3 + \alpha_s) / \alpha_s$	$(62,36757 + (-0,321331)) / -0,321331$	-193,091
X4 (-1)	$(\beta_4 + \alpha_s) / \alpha_s$	$(-465,8559 + (-0,321331)) / -0,321331$	1.450,770
Konstanta	$(\beta_0 + \alpha_s) / \alpha_s$	$(8520,932 + (-0,321331)) / -0,321331$	-26.516,616

Source: Primary Data Processing (2026)

In the short run, none of the four explanatory variables significantly affects MSME credit distribution. The probability values of Δ TPF, Δ MSME NPL, Δ Inflation, and Δ Lending Interest Rate are all above the 10 percent significance level. The joint short-run probability of the F-statistic is 0.318162, which is also above 0.10. Thus, the short-run dynamics indicate that changes in funding, credit risk, inflation, and

lending interest rates are not associated with an immediate statistically significant change in MSME credit distribution.

In the long run, the manually calculated coefficients indicate different directions of association between the explanatory variables and MSME credit distribution. TPF has a positive coefficient of 1.126, indicating a positive long-run association between third-party funds and MSME credit distribution. MSME NPL has a positive coefficient of 727.430, indicating a positive long-run association with MSME credit distribution. Inflation has a negative coefficient of -193.091, indicating a negative long-run association with MSME credit distribution. Meanwhile, lending interest rates have a positive coefficient of 1,450.770, indicating a positive long-run association with MSME credit distribution.

Relationship between Variables

Third-Party Funds and MSME Credit Distribution. The positive long-run relationship between TPF and MSME credit distribution is consistent with the credit-supply perspective. Public funds collected by banks increase the resources available for productive lending. The absence of a short-run effect does not contradict this mechanism because banks do not necessarily transform newly collected funds into credit within the same quarter. Liquidity management, credit assessment, portfolio quality, and prudential considerations can delay the transmission from funding growth to MSME lending. This finding is consistent with the evidence that TPF is an important source of banking credit capacity (Anggraini & Haryadi, 2020; Nurfajri & Mirati, 2024) and is also consistent with the banking balance-sheet mechanism described by Bernanke and Blinder (1988).

MSME NPL and MSME Credit Distribution. MSME NPL is positive but statistically insignificant in the long run and insignificant in the short run. The positive direction does not mean that higher credit risk necessarily encourages lending; rather, it indicates that the observed variation in MSME NPL was not strong enough to produce a statistically reliable restrictive response in the sample. The relatively controlled credit-risk condition in West Kalimantan may have allowed banks to maintain lending activity while managing problematic loans. This result is compatible with previous findings that NPL does not always significantly determine credit distribution (Sari et al., 2021), although it differs from the theoretical expectation that higher credit risk should encourage greater lending caution.

Inflation and MSME Credit Distribution. Inflation is negative but statistically insignificant in the long run and insignificant in the short run. This suggests that changes in regional prices during the observation period did not generate a sufficiently strong or persistent effect on MSME credit distribution. MSMEs may continue to require financing for routine operating needs even when prices change, while banks may simultaneously consider a broader set of indicators when making lending decisions. The finding is consistent with Biasmara (2022), which reports that inflation does not significantly affect MSME credit distribution, while the negative direction remains consistent with the theoretical concern that higher inflation can increase costs and repayment risks.

Lending Interest Rates and MSME Credit Distribution. Lending interest rates do not significantly affect MSME credit distribution in the short run but have a positive and significant long-run relationship. This positive long-run direction is more consistent with the credit-supply interpretation than with a purely demand-side interpretation. From the bank's perspective, a higher lending rate can increase potential interest

income and maintain incentives to supply credit as long as credit risk remains manageable. In the short run, however, MSME borrowing decisions can be driven more by immediate liquidity needs, loan-processing speed, and accessibility than by quarterly changes in lending rates. The result differs from studies emphasizing the negative demand-side effect of interest rates and therefore illustrates the importance of distinguishing credit demand from credit supply.

Overall, the evidence indicates that MSME credit distribution in West Kalimantan is more strongly connected with bank funding capacity and the long-run credit-supply mechanism than with short-run movements in credit risk and inflation. The significant adjustment mechanism also shows that temporary deviations are gradually corrected toward the long-run equilibrium.

Classical Assumption Diagnostics

The multicollinearity diagnostic indicates that the lagged TPF and lagged lending interest rate have VIF values above 10, with values of 13.248 and 13.698, respectively. These results indicate the presence of relatively high multicollinearity among the lagged level variables in the ECM specification. However, the VIF values of the differenced variables and the other lagged variables remain below 10. The lagged TPF and lending interest rate variables are retained in the model because they represent theoretically relevant determinants of MSME credit distribution and are required to capture the long-run relationship within the ECM framework. Therefore, the relatively high VIF values are acknowledged as a diagnostic limitation and should be considered when interpreting the estimated coefficients.

The Breusch-Pagan-Godfrey test indicates no evidence of heteroskedasticity, as the probability of the Obs*R-squared statistic is 0.6848, which is above the 10 percent significance level. Thus, the null hypothesis of homoskedasticity is not rejected, indicating that the residual variance does not exhibit statistically significant heteroskedasticity based on this diagnostic test.

Table 5. Multicollinearity Diagnostic

Variable	VIF
Δ TPF	1.209
Δ MSME NPL	2.405
Δ Inflation	1.547
Δ Lending Interest Rate	1.427
TPF(-1)	13.248
MSME NPL(-1)	2.453
Inflation(-1)	2.389
Lending Interest Rate(-1)	13.698
ECT	1.300

Source: Primary Data Processing (2026)

Table 6. Breusch-Pagan-Godfrey Heteroskedasticity Test

Statistic	Probability
F-statistic	0.657823
Obs*R-squared	0.6848
Scaled explained SS	0.7571

Source: Primary Data Processing (2026)

CONCLUSION AND SUGGESTIONS

Conclusion

This study concludes that TPF, MSME NPL, inflation, and lending interest rates do not significantly affect MSME credit distribution in the short run. The significant and negative Error Correction Term confirms a valid adjustment mechanism from short-run disequilibrium toward long-run equilibrium. In the long run, TPF has a positive and significant effect, while MSME NPL has a positive but insignificant effect and inflation has a negative but insignificant effect. Lending interest rates have a positive and significant long-run effect. These findings indicate that MSME credit distribution in West Kalimantan is primarily associated with bank funding capacity and the long-run credit-supply mechanism.

Suggestion

Commercial banks should strengthen the transmission of collected public funds into MSME financing by developing more structured MSME credit products and procedures while maintaining prudent risk assessment. Bank Indonesia, the Financial Services Authority, and the regional government should support an ecosystem that allows bank liquidity to reach productive MSME sectors more effectively. Regional policies can also strengthen credit guarantees and financing support so that MSME financing remains accessible across changing economic conditions. Future research should consider additional variables such as regional economic growth, the number of MSME units, People's Business Credit (KUR), Loan to Deposit Ratio, Capital Adequacy Ratio, and MSME financing policies.

Implications

The findings imply that improving MSME credit distribution cannot rely solely on short-run changes in macroeconomic variables. From a banking perspective, strengthening the funding base and improving the mechanisms that convert funds into productive MSME lending are important for long-run intermediation. The positive long-run relationship between lending rates and credit distribution also suggests that policy transmission through interest rates should be accompanied by measures that preserve bank incentives to serve MSMEs while keeping financing costs and credit risk manageable.

Limitations

The study uses only four explanatory variables—TPF, MSME NPL, inflation, and lending interest rates—so other determinants of MSME credit distribution are not captured. The research focuses on West Kalimantan, meaning the findings cannot automatically be generalized to all Indonesian provinces. In

addition, the linear ECM framework does not explicitly capture possible non-linear relationships, structural changes, or specific effects associated with the pandemic and economic recovery period.

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