

THE INFLUENCE OF FINTECH LENDING ON THE PROFITABILITY OF MSME IN BOGOR CITY

Ardiniati Putri¹, Renea Shinta Aminda², M. Zakie Hanifan³
Faculty of Economics and Business, Ibnu Khaldun University, Bogor, Indonesia.
Email : *ardiniati2001@gmail.com¹

ABSTRACT

Study This aim For know the influence of fintech lending on profitability of Micro, Small, and Medium Enterprises (MSMEs) in Bogor City. Fintech lending is innovation financing based technology that provides convenience access to capital for MSMEs without collateral. Profitability measured use Return on Assets (ROA) indicator, which reflects efficiency use asset in produce profit. Research This use method quantitative with approach descriptive. Population in study This is all MSMEs in North Bogor District that use fintech lending services, with sample as many as 10 MSME actors. The data collection technique was carried out through documentation, while data analysis was carried out using panel data regression test. Research results show that fintech lending has influence positive and significant to profitability of MSMEs in Bogor City. This show that access digital financing can become alternative strategic For increase performance MSME finances in general sustainable.

Keywords

Fintech Lending, Profitability, MSMEs, Bogor City

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are the main driving force of Indonesia's economic growth, as they are able to create inclusive jobs and optimally utilize local resources, contributing more than 61% to the national GDP and Encompassing nearly 97% of the total labor force within its domain of engagement (Lisnawati, 2023). In spite of the magnitude of their contributive influence, MSMEs still face obstacles in accessing conventional financing due to limited collateral and strict banking requirements. This problem was further exacerbated by The ramifications engendered by the COVID-19 pandemic phenomenon, which caused a significant decline in the number of MSMEs in Bogor City in the 2020–2022 period, although there was a recovery in the following years. This gap hampers the growth and improvement of MSME financial performance.

In this context, the emergence of financial technology (fintech), particularly peer-to-peer (P2P) lending, has become an innovative solution offering easy access to digital financing, without collateral, and with a fast and efficient process (Firdausya & Ompusunggu, 2023). This innovation encourages financial inclusion, especially for MSMEs in areas with limited financial services access, such as Bogor City. Government support for digital financial inclusion and the increasing trend of fintech lending, which reached IDR 36.48 trillion in September 2024, demonstrate the urgency of this study (Kumpulan Data Fintech P2P Lending Di Indonesia Sepanjang, 2024).

However, the actual impact of fintech lending on the profitability of MSMEs locally remains rarely studied. Some of the challenges faced include low digital literacy among business actors and uneven internet infrastructure. Previous studies (Jurnal & Mea, 2024) Demonstrated that peer-to-peer lending mechanisms alongside payment gateway systems exert a substantive influence in augmenting the financial efficacy of MSME

operations. (Putu & Devi, 2024) found that fintech positively impacted financing decisions and MSME profitability in Denpasar, while Darmawan (2023) demonstrated the significant influence of fintech on financial indicators such as ROA in the banking sector (Kusbianto et al., 2024). However, (Kerja et al., 2021) showed that although financing increased working capital and sales revenue, there was no significant effect on net profit.

Given the limited empirical studies on the impact of fintech on MSME profitability in Bogor City, This scholarly inquiry aspires to bridge the existing void while delivering both conceptual enrichment and applicative value for the advancement of MSMEs, fintech service providers, and policymakers. The research is entitled "The Impact of Fintech Lending on MSME Profitability in Bogor City."

This study aims to address this gap by analyzing the relationship between fintech P2P lending and MSME profitability in Bogor City, using the Return on Assets (ROA) indicator. The research questions include the implementation of fintech lending, the level of MSME profitability, and the extent of fintech lending's influence on that profitability. This investigation is anticipated to enrich the corpus of scholarly discourse on digital financial management from a theoretical standpoint, while simultaneously yielding pragmatic advantages for the sustainability and advancement of MSMEs, fintech providers, and policymakers.

Theoretically, this research is based on financial management theory which includes: (1) Investment Decision Making: determining the allocation of funds to assets to support operations and increase profits; including evaluating the needs and effectiveness of assets, (2) Funding Decisions: choosing the best source of funds (debt or equity) with the lowest cost to support investments and maintain financial health, and (3) Asset Management: manage assets efficiently and sustainably through coordination between departments to ensure optimal use (Nurhayati, 2017).

The Pecking Order Theory, as postulated by Myers and Majluf (1984), elucidates that corporate entities exhibit a predilection toward utilizing internally generated funds as their primary financing source, then debt, and finally equity in financing their businesses (Matias Vikman, 2025). Meanwhile, Signaling Theory states that capital structure decisions can signal a company's prospects to investors (Matias Vikman, 2025). In the context of profitability, the ROA indicator was chosen as the primary measure because it is considered the most representative in evaluating the efficiency of asset use by MSMEs.

According to Law No. 20 of 2008, MSMEs are classified based on annual income and net assets, consisting of: (1) Micro Enterprises: Managed by individuals or small entities with income \leq Rp300 million/year and net assets \leq Rp50 million (excluding land and business buildings). (2) Small Enterprises: Have income of Rp300 million–Rp2.5 billion and net assets of Rp50 million–Rp500 million. (3) Medium Enterprises: Income of Rp2.5 billion–Rp50 billion with net assets of Rp500 million–Rp10 billion (Fitriani et al., 2025).

MSMEs still face serious challenges such as limited funding and low digital literacy. Fintech lending, through platforms like Modalku and KoinWorks, has become a popular financing alternative due to its fast, collateral-free, and flexible loan application process. However, risks such as data protection, overlending, and immature regulations remain concerns. Previous research largely indicates that fintech can improve MSME efficiency and profitability, although in some cases the impact on net profit has not been significant. Based on the developed framework, this study hypothesizes that the use of fintech lending has a significant impact on MSME profitability, which in this study is measured by the ROA indicator.

2. METODE

This study uses a descriptive quantitative approach with a causal associative design to determine the effect of fintech lending on the profitability of MSMEs in Bogor City. This approach was chosen to objectively and measurably examine The intervariable associative linkage. The subjects of this study were MSMEs registered in North Bogor District, Bogor City. Based on data from the Bogor City Cooperatives and MSMEs Office (2020–2024), there were 1,791 MSME units in the target population.

The sampling methodology employed adhered to a purposive sampling approach, with the following criteria: (1) MSMEs that are officially registered and have a business permit for the 2020–2024 period, (2) Have used fintech peer-to-peer (P2P) lending services, (3) Have a business age of at least five years, (4) Experienced turnover growth during the observation period. From these criteria, 10 MSMEs were obtained as samples, with a total observation period of five years (2020–2024), so that the total panel data was 50 observations.

This study involves two main variables, namely: (1) Independent variable (X): Use of Fintech P2P Lending, (2) Dependent variable (Y): Profitability of MSMEs measured using the Return on Assets (ROA) indicator. The dataset utilized constitutes secondary information sourced from the archival documentation of MSMEs' annual financial statements, public reports from the OJK, BPS, and data from the Bogor City Cooperatives and MSMEs Office.

3. RESULT RESEARCH FINDINGS

Before conducting classical assumption tests and hypothesis tests, the most appropriate panel data estimation model is first determined through three testing stages: The Chow diagnostic, the Hausman specification assessment, and the Lagrange Multiplier (LM) evaluation:

Chow Test

Table 1. Chow Test Results

Effect Test	Statistics	Prob.
Cross-section F	2.242328	0.0396
Cross-section Chi-square	20.851902	0.0133

Source: results of processing eviews 12 output data

The Chow diagnostic serves as an analytical instrument to contrast the CEM with the FEM. Based on the outcomes presented in the preceding table, the p-value obtained is 0.0396 (<0.05). Given that the significance threshold falls below 0.05, the null hypothesis (H_0) is conclusively rejected, thereby designating the Fixed Effect Model as the more suitable framework relative to the Common Effect Model.

Hausman test

Table 2. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Prob.
Random cross-section	0.309182	0.5782

Source: results of processing eviews 12 output data

The Hausman specification test functions as a statistical apparatus to determine the preferable choice between the FEM and the REM. Referring to the results displayed in the aforementioned table, the p-value obtained is 0.5782 (>0.05). As the significance measure

surpasses the 0.05 threshold, the null hypothesis (H_0) is retained, thereby establishing the REM as the most suitable analytical framework.

Lagrange Multiplier (LM) Test

Table 3. LM Test Results

	Cross-section	Time	Both
Breusch-Pagan	2.934477 (0.0867)	0.007968 (0.9289)	2.942446 (0.0863)

Source: results of processing eviews 12 output data

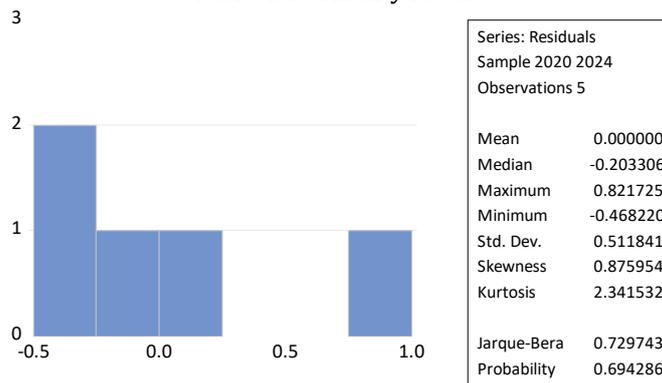
The test was employed as a comparative analytical tool to evaluate the CEM against the REM. Based on the outcomes illustrated in the preceding table, a p-value of 0.0867 (>0.05) was obtained. Given that the significance metric exceeds the 0.05 threshold, the null hypothesis (H_0) is dismissed, signifying that the CEM constitutes a more suitable methodological choice than the REM.

Based on a series of model selection tests: (1) Chow test \rightarrow FEM is better than CEM, (2) Hausman test \rightarrow REM is better than FEM, (3) LM test \rightarrow CEM is better than REM. So the best model used in this study is the Random Effect Model (REM).

In relation to the selection of the simple linear regression method, the Classical Assumption Test was carried out with the following steps:

Normality Test

Table 4. Normality Results



Source: results of processing eviews 12 output data

A normality test was performed to determine whether the residual data was normally distributed, an important requirement in classical regression. The test was performed using the *Jarque-Bera* (JB test), yielding a probability value of 0.6942.

Because the significance value is greater than 0.05, the residuals are normally distributed. This means the regression model does not violate the normality assumption, and the data is suitable for further analysis.

Linearity Test

Table 5. Linearity Test Results

	Value	Df	Probability
t-statistic	1.34367	2	0.31119
F-statistic	1.80545	(1, 2)	0.31119
Likelihood ratio	3.21644	1	0.0729

Source: results of processing eviews 12 output data

The linearity test aims to determine whether there is a linear relationship between the independent and dependent variables. The test results indicate that the relationship between fintech lending (X) and ROA (Y) is linear, based on the output results above, indicating an *F-statistic* probability value of 0.3112 $>$ 0.05.

The regression model meets the linearity assumption, so the use of a panel linear regression model is appropriate and correct to explain the relationship between variables.

Heteroscedasticity Test

Table 6. Heteroscedasticity Test Results

F-statistic	1.466787	Prob. F(1,3)	0.3126
Obs*R-squared	1.641881	Chi-Square Prob.(1)	0.2001
Scaled explained SS	0.758959	Chi-Square Prob.(1)	0.3837

Source: results of processing eviews 12 output data

the chi-square probability value was 0.2001, exceeding the 0.05 significance level.

Because the significance value is greater than 0.05, there is no heteroscedasticity, meaning the residual variance is constant (homoscedastic). The regression model passes this test and is considered valid.

Autocorrelation Test

Table 7. Autocorrelation Test Results

F-statistic	0.425469	Prob. F(1,3)	0.735
Obs*R-squared	2.298667	Chi-Square Prob.(1)	0.3168
Variables	Coefficient	t-Statistic	Prob.
ROA (Y)	-4.522331	-0.262211	0.8367
P2P (X)	0.250452	0.265391	0.8349
RESID(-1)	-0.90371	-0.837089	0.5563
RESID(-2)	-0.304174	-0.283846	0.8239
R-squared	0.459734		
Adjusted R-square	-1.161066		
F-statistic	0.283646		
Prob(F-statistic)	0.842938		
Durbin-Watson stat	1.563504		

Source: results of processing eviews 12 output data

Autocorrelation was tested using the Durbin-Watson Test, with the result of the Durbin-Watson value = 1.5635 lies between -2 and +2. The DW value is close to 2 and the Breusch-Godfrey method shows a chi-square probability value of 0.3168 > 0.05, indicating no autocorrelation between the residuals. Thus, the model does not violate the assumption of residual independence.

The hypothesis test aims to determine whether the independent variable (fintech lending) significantly influences the dependent variable (MSME profitability), as measured by ROA. The test was conducted using a predetermined panel data regression model, REM.

t-test (Partial Significance Test)

Table 8. t-Test Results

Variables	Coefficient	t-Statistic	Prob.
ROA (Y)	-28.65635	-2.296813	0.1053
P2P (X)	1.617810	2.374675	0.0981

Source: results of processing eviews 12 output data

A t-test was conducted to measure the partial effect of fintech lending on MSME profitability. The t-test results in the REM model showed a fintech lending coefficient of 1.6178, with a t-statistic of 1.669 and a p-value of 0.0981.

Since the p-value of 0.0981 < 0.10, at the 10% significance level, the fintech lending variable is proven to have a positive and partially significant effect on MSME ROA. This means that any increase in financing through fintech lending contributes to increased MSME profitability, assuming other factors remain constant.

Coefficient of Determination (R²) Test

R ² Test Results	
R-squared	0.652741
Adjusted R-square	0.536988
F-statistic	5.639083
Prob(F-statistic)	0.098088

Source: results of processing eviews 12 output data

The R-squared (R²) value of the REM model is 0.653, or 65.3%. This value indicates that 65.3% of the variation in MSME profitability can be explained by fintech lending as an independent variable in the model. The remaining 34.7% is explained by other factors not included in the model, such as operational strategy, cost efficiency, or external economic factors.

Simple Linear Regression Test

Table 10. Simple Linear Test Results

Variables	Coefficient	t-Statistic	Prob.
ROA (Y)	-28.65635	-2.296813	0.1053
P2P (X)	1.617810	2.374675	0.0981
R-squared	0.652741		
Adjusted R-square	0.536988		
F-statistic	5.639083		
Prob(F-statistic)	0.098088		

Source: results of processing eviews 12 output data

A simple linear regression test was used to determine the effect of the independent variable Fintech Lending (X) on the dependent variable Profitability of MSMEs (Y) as measured by Return on Assets (ROA). This model was chosen because the study only involved one independent variable. (1) The constant (0.2553) indicates that if the value of fintech lending is zero, then the average ROA value of MSMEs is 0.2553%. (2) The Regression Coefficient (1.6178) means that every increase in fintech lending by one unit (Rp1 million) will increase ROA by 1.6178 percentage points, assuming other variables remain constant.

4. CONCLUSION

(1) Implementation of fintech lending for MSMEs in Bogor City using P2P lending fintech services as an alternative source of financing for MSMEs in Bogor City who have limited access to conventional financing. This service provides convenience in the loan application process, time and cost efficiency, and does not require collateral. (2) Analysis of MSME profitability in Bogor City shows that several MSMEs experienced an increase in ROA along with the use of P2P fintech financing, which indicates a positive impact on the efficiency of asset use and profit growth. (3) Fintech lending has an effect on the profitability of MSMEs in Bogor City partially contributing as much as 65.3 percent, while the rest is influenced by other factors outside the research model. Fintech lending in this study plays a role as a non-conventional financing instrument that is able to increase the profitability of MSMEs.

5. REFERENCE

- Darmawan, J. (2023). *Pengaruh Financial Technology (Fintech) Terhadap Profitabilitas Perbankan di Indonesia*.
 Firdausya, L. Z., & Ompusunggu, D. P. (2023). *Usaha Mikro Kecil Dan Menengah (Umk)*

- Di Era Digital Abad 21. *Tali Jagad Journal*, 1(1), 16–20.
- Fitriani, B., Islam, U., Abdurrahman, N. K. H., Pekalongan, W., Mursid, M. C., Islam, U., Abdurrahman, N. K. H., & Pekalongan, W. (2025). *Analisis Dampak Fintech terhadap Efisiensi Operasional dan Kinerja UMKM*. 2(1), 375–384.
- Jurnal, J., & Mea, I. (2024). *PENGARUH FINTECH P2P LENDING DAN PAYMENT GATEWAY JIMEA | Jurnal Ilmiah MEA (Manajemen , Ekonomi , dan Akuntansi)*. 8(2), 753–769.
- Kerja, M., Penjualan, O., Bersih, D. A. N. L., Studi, U. K. M., & Alami, P. (2021). *PENGARUH PEMBIAYAAN FINTECH SYARIAH TERHADAP*. 18(2), 1–9.
- Kumpulan Data Fintech P2P Lending di Indonesia Sepanjang*. (2024).
- Kusbianto, N., Groda, S. P., Veronica, L., Rihidima, C., Norisnita, M., Kurniasih, M., & Noeringtyas, B. P. (2024). *MEMPEROLEH TAMBAHAN MODAL MELALUI PEER TO PEER*. 10(2), 93–100.
- Lisnawati. (2023). *Tantangan UMKM Di Tahun 2024. Isu Sepekan Bidang Ekkuinbang, Komisi VI DPR RI*, 1–2. [https://berkas.dpr.go.id/pusaka/files/isu_sepekan/Isu Sepekan---V-PUSLIT-November-2023-246.pdf](https://berkas.dpr.go.id/pusaka/files/isu_sepekan/Isu%20Sepekan---V-PUSLIT-November-2023-246.pdf)
- Matias Vikman. (2025). *HOW DEBT AFFECTS THE MARKET VALUE OF NORDIC-LISTED COMPANIES*. *Matias Vikman*.
- Nurhayati, S. (2017). *Peranan Manajemen Keuangan dalam suatu Perusahaan*. *Jbma*, IV(1), 85–94.
- Putu, N., & Devi, P. (2024). *FINANCIAL TECHNOLOGY*. 7, 8556–8564.