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Determinant Factors of Financial Stability of Fintech Companies in Indonesia

Dwi Fitrizal Salim[1], Gianola Kheistilara Wadana[2] and Farida Titik Kristanti[3]

Abstract

The company's financial stability is impacted by the fintech industry development, therefore it requires supervision to manage the risks that arise. The purpose of this study is to analyze the factors that affect the financial stability of fintech Peer-to-Peer lending companies in Indonesia. The independent variables used are the number of Peer-to-Peer, firm size, Cost-to-Income Ratio, Loan to Total Assets, Non-Interest Income to Total Assets, Equity to Asset Ratio, and Non-Performing Loans. The data used comes from the statistical reports of fintech P2P lending companies published by Financial Services Authority Indonesia with the time span used, from May 2021 to March 2024. The dependent variable used is the Z-score Equity to Total Assets to measure financial stability. Research conducted on Peer-to-Peer lending fintech companies in Indonesia. This study applies the OLS analysis method through classical assumption and hypothesis testing. The regression analysis used shows some significant findings related to the factors that impact the financial health of the company. The outcomes show that Cost-to-Income Ratio is also an important factor, where firms higher cost ratios are associated with lower profitability and less financial stability. Loan to Total Assets and Equity to Asset Ratio, also have a significant impact on the financial health of the company. The findings highlight the importance of total assets, operating expense ratio, loan ratio and firm equity for the stability of peer-to-peer lending fintech firms since they have the potential to make the financial system more stable.

Keywords: *Financial, Fintech, Peer-to-peer lending, Stability, Z-score Equity to Total Assets.*

INTRODUCTION

The use of fintech is increasing due to the ease of transactions (Fathiya et al., 2022). Therefore, the banking and fintech industry faces its own challenges with the advancement of fintech. This is related to the readiness of technology and human resources, because the latest technology will not provide good results if human resources are not ready (Santoso et al., 2021). The Financial sector has been greatly impacted by technology businesses. Peer-to-peer lending is one instance of how technology is being used to make loans online (Alamsyah & Syahrir, 2023). This transformation not only impacts the way people access financial services, but also impacts the financial stability of the fintech companies themselves, creating new challenges and opportunities. The development of fintech, especially P2P lending, has provided innovative and affordable financial solutions to the public.

The growth of fintech in Indonesia in recent years has also experienced rapid growth. With this rapid growth comes new challenges related to the financial stability of peer-to-peer fintech companies in Indonesia. These challenges include high levels of non-performing loans that can threaten the liquidity of the company. Therefore, it is important to conduct a thorough analysis of the financial stability of P2P lending fintech companies in Indonesia. This analysis includes various variables that affect the stability of the company. By analyse these variables, companies can improve the resilience and sustainability of their operations.

LITERATURE REVIEW

One way to see how financially stable a company is is to look at the amount of assets it has. This includes current assets, such as cash, receivables, and taxes, as well as fixed assets, such as property, equipment, and other long-term investments. An increasing amount of assets may indicate that the business is growing.

Note: in Trillion

[1] School of Economics and Business, Telkom University, Indonesia, Email: dwifitrizalslm@telkomuniversity.ac.id

[2] School of Economics and Business, Telkom University, Indonesia, Email: wadanagia@gmail.com

[3] School of Economics and Business, Telkom University, Indonesia, Email: farida_titik@yahoo.com

Figure 1. Total assets held by peer-to-peer fintech companies in Indonesia, according to OJK data from May 2021- March 2024

This research has initial thoughts about examining the factors that influence P2P lending financial stability rather than only focusing on credit risk fintech companies in Indonesia. These factors include independent variables such as P2P, firm size (SIZE), Cost-to-Income Ratio (CTI), Loan to Total Assets (LTA), Non-Interest Income to Total Assets (NON), Equity to Asset Ratio (EAR), and Non-Performing Loans (NPL). These factors are often used to assess the financial health of Indonesian banks, in line with study conducted in the US (Yudaruddin et al., 2023; Goetz, 2018).

This study uses ZEQTA as the dependent variable to examine the stability of the P2P lending fintech business in Indonesia. A higher Z-score value indicates better stability and lower risk to financial institutions (Hsieh et al., 2013). Agoraki and Delis (2011) found that the Z-score provides a more complete image of bank risk than just credit risk. A lower probability of bankruptcy is indicated by a higher Z-Score index (Lepetit & Strobel, 2015).

Variable P2P lending is a platform by linking lenders and borrowers online. Based on (Patwardhan, 2018) P2P lending platforms use technology to facilitate the distribution and lending process. In this study, P2P is measured by the number of P2Ps from each month. Firm size or SIZE in this study, can be assessed by various methods. In this study, consider the size of the company measured by its total assets. Larger businesses can diversity their sources of income, which makes them more stable than smaller businesses (Yudaruddin, 2022).

Companies that obtain a large amount of assets usually have more resources to innovate, expand, and invest in new technologies, which in turn can support economic growth (Sornette, D., 2017). The variable Cost to Income Ratio or CTI of operating costs (non-interest) or expenses to all income (Bikker & Bos, 2008). A low CTI signifies that the company can generate higher revenues than operating costs. Companies with low CTI also tend to have stable risks due to their ability to manage risks effectively against their resources (Sornette, D., 2017).

The variable LTA or loan to asset ratio is measured by total loans to total assets of the company, most studies show that increased bank instability (Nguyen, 2021). Companies with higher loan-to-asset ratios tend to rely more heavily on income from loans and investments. Banks with lower ratios may have a competitive advantage when interest rates are low or during periods of tight credit, as well as during economic downturns. So based on (Defung & Yudaruddin, 2022). Minh (2020) states that if Non-Interest Income to Total Assets (NON) as a percentage of total assets increases, banks will be able to minimize risk and maximize profits. In contrast to interest income, which comes from more conventional banking operations (Dahidyat, 2012), non-interest revenue comes from more unconventional sources. Research suggests that increasing noninterest revenue, particularly in small businesses, tends to reinforce bank stability (Demirgüç-Kunt & Huizinga, 2010).

The Equity to Asset Ratio (EAR) variable includes ratios that show what proportion of a company's assets are financed from its owner's funds and is used to compare the financial health of various companies (Hillier et al., 2018). Based on (Miah, 2019) the increase in the ratio of equity to bank assets has a substantial impact effect on the financial stability of banks, as shown by statistical analysis. NPLs are loans that are considered "bad", "doubtful", or "substandard" according to accounting standards and banking regulations, pose a high risk of loss and threaten the financial health of the bank (Koskei, 2020). A key indicator of credit risk in the banking system and one of the basic metrics for a bank's health and stability is non-performing loans.

This study obtained initial thoughts about the effect of P2P, SIZE, CTI, LTA, NON, EAR, and NPL on the ZEQTA of P2P lending fintech companies in Indonesia. This study is supported by study (Defung & Yudaruddin, 2022), (Yusgiantoro et al., 2019), (Miah et al., 2019), and (Koskei, 2020) which have similar topics and variables regarding ZEQTA in fintech companies and the factors that influence it. Variable X_1 is the peer-to-peer, the greater the P2P lending fintech institutions, both sharia and conventional, in channeling loans to the public, the lower the liquidity risk that will be borne by the company. As in study (Yudaruddin, et al., 2023) which explains if there is a bad and significant link between P2P and the financial stability of fintech companies (ZEQTA) in Indonesia.

Variable firm size (SIZE) of Indonesian P2P lending organizations, while ZEQTA is the financial stability of fintech enterprises in that country. A company's total assets are shown by the SIZE ratio. The results demonstrate that bigger bank have worse stability, according to the Z-score model (Ali & Puah, 2018). The greater total assets (ZEQTA) of larger businesses provide a greater risk of collapse, which might impact the financial stability of fintech enterprises. Variable peer-to-peer, the greater the P2P lending fintech institutions, both sharia and conventional, in channeling loans to the public Cost-to-Income Ratio (CTI) of P2P lending fintech companies impacts the financial stability of fintech companies (ZEQTA) in Indonesia. A low operating cost ratio (CTI) can increase company profitability due to relatively low operating costs compared to high revenues. Based on (Yusgiantoro et al., 2019) CTI is positive for bank stability.

Variable peer-to-peer, the greater the P2P lending fintech institutions, both sharia and conventional, in channeling loans to the public Loan to Total Assets (LTA) of P2P lending fintech companies impacts the financial stability of fintech companies (ZEQTA) in Indonesia. An increase in the lending ratio can reflect an excessive increase and increase bank credit risk. In study (Defung & Yudaruddin, 2022) LTA has a substantial impact negative effect on the financial stability of fintech companies (ZEQTA) in Indonesia. Variable Non-Interest Income to Total Assets (NON) fintech companies impact higher NON can reflect good risk management strategies and increase profitability, which can contribute positively to ZEQTA. The outcomes of study conducted by (Altunbas, Manganelli, & Marques-Ibanez, 2011) show that higher NON tends to strengthen financial stability.

Variable Equity to Asset Ratio (EAR) P2P lending fintech companies impact the financial stability of fintech companies (ZEQTA) in Indonesia. An increase in the equity ratio outcomes in a large rise in the Z-score and a considerable drop in the ratio of debt to assets, according (Miah, 2019). This suggests that there is a positive association between equity and stability. This signifies that a rise in the equity-to-assets ratio significantly impacts the financial soundness of financial institutions. Fintech businesses in Indonesia (ZEQTA) are impacted by NPL (Non-Performing Loans), which is changeable X_7, the ratio of liquid assets to total assets and the ratio of liquid assets to long-term liabilities are two measures by which NPL may measure the effect on a bank's stability and liquidity (Kozaric & Žunić Dželihodžić, 2021).

This research highlights the exixtence of several contradictions in the literature review, related to the impact of loans to total assets and non-interest income on financial stability. Further research is needed to explore these aspects and find better ways to improve the financial stability of P2P lending fintech companies in Indonesia.

The purpose of this study was to determine the effect of determinant factors P2P, firm size (SIZE), CTI, Loan to Total Assets (LTA), NON, Equity to Asset Ratio (EAR), and Non-Performing Loans (NPL) for financial stability of peer-to-peer lending fintech companies (ZEQTA) in Indonesia. Based on the literature review, a hypothesis can be concluded as follow:

H_1: The total of P2P companies affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_2: firm size (SIZE) affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_3: Cost-to-Income Ratio (CTI) affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_4: Loan to Total Assets (LTA) affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_5: Non-Interest Income to Total Assets (NON) affects the Z- score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_6: Equity to Asset Ratio (EAR) affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_7: Non-Performing Loans (NPL) affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

H_8: P2P, SIZE, CTI, LTA, NON, EAR, and NPL affects the Z-score Equity to Total Assets (ZEQTA) of fintech companies in Indonesia.

METHODOLOGY

This study examines the elements impacting the financial stability of Indonesian P2P fintech businesses using statistical data of these organizations released by OJK from May 2021 to March 2024. According to the current study, there are a few factors that impact the financial stability of Indonesian P2P fintech companies. These factors include the size of the company, the number of P2P companies, the ratio of operating expenses to revenue, the ratio of loans to total assets, the ratio of NON to total assets, the ratio of equity to total assets, and the ratio of NPL to total loans. The ZEQTA is one measure of financial stability. In this investigation, following estimations were made:

Collected data from statistical reports of P2P lending fintech companies issued by OJK from May 2021 to March 2024.

Collecting financial data of P2P fintech companies measured by ZEQTA from May 2021 to March 2024. The formula used to estimate the ZEQTA value is as follows:

ZEQTA=(MROA +EQTA)/SDROA

Information:

ZEQTA = Z-score equity to total assets

MROA = Average return on assets

EQTA = Equity to total assets

SDROA = standard deviation (std. dev) returns on assets

Calculating the value of variables used number of P2P companies, SIZE, CTI, LTA, NON, EAR, and NPL of P2P lending fintech companies in Microsoft Excel.

Perform multiple linear statistical data processing using Ordinary Least Squares (OLS) using e-views.

〖ZEQTA〗_t=α+β_1 〖P2P〗_t+〖Size β〗_2 t+β_3 〖CTI〗_t+β_4 〖LTA〗_t+β_5 〖NON〗_t+β_6 〖EAR〗_t+β_7 〖NPL〗_t+ε

RESULT

The study was conducted to analyse the effect of independent variables, namely the number of P2P companies, firm size, CTI, Loan to Total Assets, NON, Equity to Asset Ratio, and Non-Performing Loans on the dependent variable, namely ZEQTA (Z-score Equity to Total Assets). Data used from May 2021- March 2024.

Table 1. Multiple Linear Statistics

Variable	Coefficient	Probability
C	59.74968	0.0000
P2P	0.008449	0.5310
SIZE	-6.292823	0.0000
CTI	-3.534232	0.0083
LTA	0.046063	0.0000
NON	5.726515	0.4442
EAR	14.97609	0.0000
NPL	-57.44617	0.4530
Heteroscedasticity		0.1426

Autocorrelation (DW)		2.006742
Normality		1.529254

Note: Sig ***1%, **5%, *10%

The independent variable is said to be significant to the dependent variable if the probability value is below 5%. As demonstrated in table 1, the variables that impact financial stability are four variables, namely, firm size (SIZE), Cost-to-Income Ratio (CTI), Loan to Total Assets (LTA), and Equity to Asset Ratio (EAR). P2P, Non-Interest Income to Total Assets (NON), and Non-Performing Loans (NPL) variables do not impact the financial stability of P2P lending fintech. Model:

〖ZEQTA〗_t=59.74968+0.008449 〖P2P〗_t-6.292823 〖Size〗_t-3.534232 〖CTI〗_t+0.046063 〖LTA〗_t+5.726515 〖NON〗_t+14.97609 〖EAR〗_t-57.44617 〖NPL〗_t+ε

Based on table 1, P2P has increased by 0.008449 with a probability value of 0.5310, which means that even though the P2P value increases, it has no significant effect on ZEQTA or financial stability. SIZE decreased by -6.292823 with a substansial impact effect on ZEQTA of 0.0000. The CTI variable has decreased by -3.534232 which has a substansial impact effect on ZEQTA financial stability of fintech in Indonesia by 0.0083.

The LTA variable increased by 0.046063 with a substansial impact effect on ZEQTA of 0.0000. NON has increased by 5.726515 with a probability value of 0.4442 but has no significant effect on ZEQTA. Conversely, EAR has increased by 14.97609 which has a substansial impact effect on ZEQTA fintech financial stability. The NPL variable decreased by -57.44617 and the probability value of 0.4530 did not have a substansial impact effect on ZEQTA financial stability of fintech companies in Indonesia.

The heteroscedasticity test is conducted to check whether there is a difference in the variance of the residuals between one observation and another. A good regression model should show homoscedasticity, namely the similarity of the variance of the residuals in each observation. In this study, the method used is the Breucsh-Pagan test. If the Chi-square probability value is less than 5% then there is a heteroscedasticity problem. The result of the heteroscedasticity test in this study is 0.1426 which means there is no heteroscedasticity problem. The autocorrelation test uses the Durbin-Watson test if the value du < DW < 4-du is free of autocorrelation. The calculation result that the DW value of 2.006747 lies between the du and (4-du) values of 1.9674 and 2.0326 (du < DW < 4-du), therefore, it may be said that this study does not contain autocorrelation.

This model's dependent and independent variables are checked for normalcy using the normality test. If the data follows a normal distribution, we say that they are relatively average. In this inquiry, the Jarque-Bera approach is used. There will be irregular data dissemination if the likelihood value is below 5%. A normalcy result of 1.5292 signifies that the data in this investigation follow a normal distribution.

Table 2. Partial Hypothesis Test

Hypothesis	Probability	Result
H1 (P2P)	0.5310	Rejected
H2 (SIZE)	0.0000	Accepted
H3 (CTI)	0.0083	Accepted
H4 (LTA)	0.0000	Accepted
H5 (NON)	0.4442	Rejected
H6 (EAR)	0.0000	Accepted

H7 (NPL)	0.4530	Rejected

Each the influence of the independent variabel on the dependent variabel was tested using partial hypothesis testing in this study. Based on the study's premise, the independent variables P2P, firm size (SIZE), CTI, Loan to Total Assets (LTA), NON, Equity to Asset Ratio (EAR), and Non-Performing Loans (NPL) influence the financial stability of fintech businesses that engage in P2P lending. An independent variable is considered to have a large effect on the dependent variable if its probability value is less than 5%.

Based on table 2, the second, third, fourth, and sixth hypotheses are accepted because the resulting probability value is smaller than 5%, namely, the SIZE of 0.0000, CTI of 0.0083, LTA of 0.0000, and EAR of 0.0000. This means that SIZE, CTI, LTA, and EAR have a substansial impact effect on the financial stability of P2P lending companies in Indonesia.

Table 3. Simultaneous Hypothesis Test

Hypothesis	Result
F-Statistic	0.000000
Adjusted R-squared	0.943488

The F test is used to ascertain if each independent variable influences the dependent variable. If we accept the outcomes of the F test, we may say that the independent variables impact the dependent variable in the aggregate. The F test is accepted if the probability is less than 5%. based on table 3, the F test is 0.000000, which means less than 5%, so the eighth hypothesis in this study is accepted. This shows that the independent variables (P2P, SIZE, CTI, LTA, NON, EAR, and NPL) simultaneously impact the financial stability of fintech companies in Indonesia.

The coefficient of determination test is used to assess the model's ability to explain the data. How much the independent variables influence the dependent variable is shown by the R-squared score of this test. The higher the R-squared number, the more the independent variable explains the dependent variable. The independent variables explain 94% of the dependent variable, according to Table 3, and the corrected R-squared value is 0.943488. The remaining 6% is attributable to other variables that were not included in this study.

DISCUSSION

Multiple linear statistical data analysis using the OLS approach is used to understand the relationship and impact of independent variables on the dependent variable (Kerimov, 2023). The goal of this study is to determine what factors, such as the amount of P2P lending, firm size (SIZE), Cost-to-Income Ratio (CTI), Loan to Total Assets (LTA), Non-Interest Income to Total Assets (NON), Equity to Asset Ratio (EAR), and Non-Performing Loans (NPL)., impact the financial stability of ZEQTA (fintech enterprises).

The outcomes of study on the number of P2P companies show a positive relationship but no significant effect on the stability or ZEQTA of the company. The emergence of P2P lending makes lenders (investors) as well as loan recipients (borrowers) more attractive by eliminating banks as intermediaries and replacing them with platforms as more efficient intermediaries, but there is no certainty whether the borrower uses the borrowed money in accordance with the agreement, in this case there is no difference between P2P and small banks (Kafer, 2018). Therefore, there is no guarantee that P2P can improve the financial stability of fintech, as P2P is also full of uncertainties.

Although large companies have lower leverage compared to small companies, it is possible that they have an "unhealthy" type of leverage (Alfaro et al., 2019). Therefore, stakeholders must consider the right combination of the company's asset structure in assessing the company's financial stability (Ujam et al., 2023). This result supports the findings of (Joudar et al., 2023) and (Köhler, 2015) but contradicts the findings of (Ibrahim, 2017).

There is strong evidence that the cost-to-income ratio has a detrimental effect on financial stability. A higher Cost to Income Ratio is associated with lower profitability and an unstable financial position, according to the study's findings (Tran et al., 2022). A higher Cost to Income Ratio is a better measure of operational efficiency for banks, as shown by Hamid's (2017) findings, which are supported by this conclusion. This is measured as a ratio of operating expenses (including administrative costs, salaries, property costs and others) leading to lower financial stability. Sarmiento and Galán (2017) further point out that lower cost efficiency caused by increased costs of monitoring and managing NPL is a potential indicator of banks having riskier assets.

This study's findings corroborate those of previous studies that came to similar conclusions (Rashid et al., 2017; Pham et al., 2021). Since loans have traditionally been a substantial revenue generator for financial institutions like banks, the positive and statistically significant impact of LTA on bank stability makes sense. According to Daoud and Kammoun (2020), LTA has a negative impact on financial stability.

There is no correlation between the NON ratio and the profitability of fintech companies, according to the study. Mkadmi et al. (2021) and Ozili (2018) both found similar outcomes, so these findings support their conclusions. Shahriar et al. (2022) found a favorable association between financial stability and the NON ratio; nonetheless, this conclusion varies with their outcomes. Data from (Maudos, 2017) and others indicate that increasing the proportion of NON ratio raises risk and reduces profitability.

Banks with more capital are better able to safeguard it by assuming lower levels of risk, which in turn improves financial stability (Tran et al., 2022). Mirzaei et al. (2013) states that this suggests that bigger equity companies have more opportunities than smaller ones. Banks that have a higher level of equity capital may help keep the financial system stable by reducing the chances of adverse shocks (Andersen and Juelsrud, 2024).

Finally, the high and low NPL of the company does not have an impact on the financial stability of Indonesia fintech firms, this is due to in general fintech companies in Indonesia do not experience problems with their NPL ratio. The outcomes of previous study state different outcomes (Huljak et al., 2022), corporate strategies regarding NPLs are needed to ensure financial stability and sustainability amid changing economic dynamics, while according to (Bacchiocchi, 2022) policies related to NPLs can impact banking stability.

The result of this study is important because they can provide new contributions related to financial stability for P2P lending fintech companies, first, research conducted on P2P lending fintech companies in Indonesia is still rare. In addition, there are additional variables used in this study, such as EAR and NPL. second, there has been no research with similar titles on peer-to-peer lending fintech companies in Indonesia, third, the results of this study can be important input because it turns out that in practice it is not always the same as theory as in total assets it turns out to have a negative effect on financial stability, NPLs which are thought to significantly affect the stability of financial stability have no effect.

CONCLUSION

The regression analysis conducted shows some significant findings related to the factors impacting corporate financial health. The outcomes show that firm size (SIZE) has a strong influence, where firms with larger size tend to have lower financial stability. In addition, the CTI is also an important factor, where firms with higher cost ratios are associated with lower profitability and less financial stability. A company's financial health is heavily impacted by its LTA and EAR ratios. These findings are in line with previous studies that highlight the importance of these factors in determining a firm's financial performance and demonstrate the importance of good management in managing a firm's assets and resources to achieve optimal financial stability.

In general, the findings of this study demonstrate the financial health of fintech firm by measuring the stability of peer-to-peer lending fintech firms in Indonesia, which may have important implications for investors. The result of this study highlights the importance of total assets, operating expense ratio, loan ratio, and corporate equity for the stability of peer-to-peer lending fintech companies as they may help to a more stable financial system. In addition, this study only uses independent variables such as the number of P2P, SIZE, CTI, LTA, NON, EAR, and NPL. Future research can add other financial stability variables such as ROA which measures how efficient management is in using assets to generate profits, and ROA which is how effective it is in generating profits from equity, by combining these variables gain better insight into the financial health and long-term stability of peer-to-peer lending fintech companies.

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