

Integrating Banking Fundamental Factors with Financial Technology in Reducing Banking Risk

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ARTICLE INFO

Keywords: Fintech, Banking Risk, Non-Performing Loan

Received : 21, July

Revised : 22, August

Accepted: 26, September

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ABSTRACT

Fintech has been successful in producing new models in financial services, and creating solutions. Fintech is able to improve risk handling capabilities and reduce the possibility of risks. This research is a quantitative research that measures how Fintech can moderate banking fundamental factors in reducing banking risk. This study uses secondary data sourced from the Financial Services Authority and Bank Indonesia from April 2020 to April 2023. This research used Ordinary Least Square (OLS) to determine the magnitude and significance effect of fintech on non-performing loan rate. The result showed that Fintech can reduce banking risk and Loan to Deposit Ratio (LDR) can increase banking risk.

INTRODUCTION

Fintech has pushed for creating new products for banking services as well as developing existing products. Fintech has succeeded in carrying out an intermediary process between financial service providers and consumers through the products they produce and develop. Fintech has also built a digital security infrastructure to reduce various possible risks that will occur (Murinde et al., 2022). Fintech's success is not only in producing new products and models in financial services, but Fintech has been successful in creating solutions (Gomber et al., 2017).

In carrying out the intermediary process between service providers and fintech finance, it has succeeded in facilitating easy access to services provided by financial services and affordability access obtained by consumers and customers (Bollaert et al., 2021), fintech has achieved efficiency in reducing costs associated with the intermediation process (Lee et al., 2021) (Chen, 2020), both are operational and commercial costs (Lisin et al., 2021). Therefore regarding this matter fintech is able to encourage increased banking performance (Mustapha, 2018) through efficiency in increasing quality credit financing (Junarsin et al., 2023).

Besides being able to improve banking financial performance, Fintech is able to improve risk handling capabilities (Li et al., 2022) and reduce the possibility of risks such as default risk (Nie et al., 2023) or bad credit risk (Cheng & Qu, 2020). The risk referred to can also be in the form of bank bankruptcy risk such as the Z-Score, commercial bank risk in the form of the asset-capital ratio, and the savings-financing ratio (Li et al., 2022). In the capital market sector, Fintech has also helped reduce the risks faced by investors in terms of concealing bad news by management (Wang et al., 2023).

Based on preview background of study, this research aims to analyze how Fintech can moderate banking fundamental factors in reducing risk.

LITERATURE REVIEW

Fintech is a transformation of financial services. The development of the digital economy, the sophistication of smartphones, internet penetration, and the ability to analyze big data has driven innovation in the financial sector. Fintech is expected to create new players with new business models to increase competition, meet unmet customer needs, reduce inefficiencies and change the way financial institutions deal with financial services to consumers (Mnoghithnei et al., 2019).

Fintech is an acronym for Financial Technology which combines the ability of banks and other financial institutions to manage their assets through a technological approach. Activities in financial institutions supported by Fintech are financing, payment, asset management, transfers, blockchain, capital market investment, fundraising, and financial service security (Milian et al., 2019).

Fintech is a combination of various disciplines, namely Finance, Technology, Management, and Innovation Management. Thus fintech can be interpreted as an innovative idea that improves the process of financial services by proposing technological solutions according to business situations or can even become a new business model (Leong & Sung, 2018).

Research on Fintech has been carried out by many experts. The most dominant fintech sector discussed is investment and financing (Milian et al., 2019). The fintech indicators used in research are also very diverse. Some use the number of fintech companies as an indicator of fintech development (Phan et al., 2020). In addition, the amount of investment in the Information Technology (IT) sector is also a proxy for fintech (Takeda et al., 2021). Investment in the Technology sector is also a reflection of the Fintech Index (Wu, 2021).

Several previous studies regarding the correlation between Fintech and risk explained how Fintech can reduce bank non-performing loans (Cheng & Qu, 2020) (Nie et al., 2023) (Li et al., 2022). Fintech is able to assist banks in increasing quality credit financing (Junarsin et al., 2023). Thus the hypothesis regarding this research is that increasing fintech financing will encourage a decrease in bank non-performing loans.

METHODOLOGY

This research is a quantitative research that measures how Fintech can moderate banking fundamental factors in reducing banking risk. This study uses secondary data sourced from the Financial Services Authority and Bank Indonesia from April 2020 to April 2023. The variables that serve as research indicators are fintech and fundamental of banking as the independent variable, and non-performing loan rate as the dependent variable. Meanwhile, the analysis technique that will be used is Ordinary Least Square (OLS) to determine the magnitude and significance effect of the fintech on non-performing loan rate which is shown through the following equation below;

$$\begin{aligned} \text{NPL} &= \alpha + \beta_1 \text{ROA} + \beta_2 \text{NPM} + \beta_3 \text{CAR} + \beta_4 \text{BOPO} + \beta_5 \text{LDR} + \beta_6 \text{FINTECH} \\ \text{NPL} &= \alpha + \beta_1 \text{ROA} + \beta_2 \text{NPM} + \beta_3 \text{CAR} + \beta_4 \text{BOPO} + \beta_5 \text{LDR} + \beta_6 \text{FINTECH} + \\ &\quad \beta_7 \text{FINTECH} * \text{BOPO} + \beta_8 \text{FINTECH} * \text{LDR} + \beta_9 \text{FINTECH} * \text{CAR} + \\ &\quad \beta_{10} \text{FINTECH} * \text{ROA} + \beta_{11} \text{FINTECH} * \text{NPM} + \varepsilon \end{aligned}$$

NPL = Non Performing Loan (%)

ROA = Return on Asset (%)

NPM = Net Profit Margin (%)

CAR = Capital Adequacy Ratio (%)

BOPO = Operating Expenses to Operating Income Ratio (%)

LDR = Loan to Deposit Ratio (%)

FINTECH = Fintech Lending by Banking (%)

RESULTS AND DISCUSSION

Based on the results of research using the OLS model through the 2 regression equations, it can be explained that Fintech is one of the factors that can reduce banking risk. Besides that, one of the fundamental banking factors, namely LDR, can positively influence banking risk. This means that Fintech financing must also be limited to a certain number, so that banking stability can be achieved.

Tabel 1. Summary Statistics of OLS Output

	Model 1		Model 2	
	Coefficients	P-Value	Coefficients	P-Value
Intercept	6.2270	0.087	14.269	0.174
ROA	-0.2253	0.172	-0.302	0.558
NPM	0.5533	0.111	0.950	0.278
CAR	-0.0884	0.177	-0.200	0.237
BOPO	-0.0001	0.991	-0.025	0.546
LDR	-0.0320	0.094**	-0.092	0.058**
FINTECH	-0.0202	0.000*	-0.422	0.230
FINTECH*BOPO			0.001	0.360
FINTECH*LDR			0.005	0.031
FINTECH*CAR			0.004	0.431
FINTECH*ROA			0.009	0.714
FINTECH*NPM			-0.043	0.362

In recent years, fintech has shown very good trends in Indonesia and has started to play an important role in the banking industry. Fintech has been stated to be able to improve the quality of bank credit financing (Junarsin et al., 2023) so that it can reduce banking risk (Cheng & Qu, 2020) and improve banking performance (Mustapha, 2018). The role of Fintech is clearly seen in that it is able to moderate the increase in banking performance and reduce banking risk by improving the quality of internal controls (He et al., 2023).

CONCLUSIONS AND RECOMMENDATIONS

The role of technology in the financial sector is able to have a significant impact on reducing risk, especially the risk of non-performing loans. Technology is able to bring efficiency in managing bank credit financing. Technology can assist banks in improving the quality of control over credit financing. The ability of banks to adopt technology and develop it will determine how a bank performs in managing the risks it faces.

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