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DOES START-UP FINTECH AFFECT THE PROFITABILITY RATIO OF ISLAMIC BANKS? CASE STUDIES OF THREE STATE-OWNED ISLAMIC BANKS

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ABSTRACT

The development of financial technology in the financial services sector provides benefits and conveniences, especially in the banking services sector. In overcoming this threat, the banking industry, especially Islamic banking, initiated a strategy by collaborating with financial technology. As banks controlled by the government, state-owned banks, namely Bank Mandiri Syariah, Bank Negara Indonesia Syariah, and Bank Rakyat Indonesia Syariah, took these steps to increase the company's profitability. This study aims to analyze the effect of Financial Technology (Fintech) on the profitability of the three banks. This research is a descriptive study with a quantitative approach by comparing the profitability ratios of banks for the 2015-2020 period that have collaborated with fintech. In this study, the data normality test and Paired T-Test were carried out to compare before and after seeing fintech start-ups. The results showed that based on the analysis of ROA, ROE, BOPO, and NPM at three banks, it was found that there was no significant difference after pressure with fintech.

Keywords: Fintech, Bank, Profitability Ratio, Different test

1. INTRODUCTION

Banks play an essential role in the economic conditions of a country. Banks act as institutions of public trust in determining the stability of economic conditions. In addition, banks also act as intermediary institutions for two parties, namely the government and the community, through the issuance of regulations related to monetary and other financial fields (Muchlish, 2016). In Indonesia, the banking system is divided into two opposing bases,

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namely conventional-based banks and Islamic-based banks. Although the existence of sharia-based banks in Indonesia is not earlier than conventional-based banks, sharia-based banks are still growing and continue to improve and show professional performance.

Islamic banking in Indonesia is increasingly proving its professionalism since it is considered one of the best and most comprehensive financial systems recognized internationally (Wiwit, 2020). According to data from the Financial Services Authority (OJK), until 2019, Indonesia had 189 Islamic banks consisting of 14 Sharia Commercial Banks (BUS), 20 Sharia Business Units (UUS), and 164 Sharia People's Financing Banks (BPRS). However, the Islamic banking industry in Indonesia still faces various challenges, both in realizing the trust of stakeholders and answering public doubts about Islamic banking in learning its sharia role as an intermediary institution to move the real sector. In addition, adaptation also needs to be done so that Islamic banking can continue to survive amid an increasingly advanced era into the digital age.

Since the emergence of financial technology in recent years, there has been a change in people's habits from using banks manually to using banks digitally. One of the government's roles in responding to the development of the financial sector in the digital era is to design regulations related to digitizing the financial industry and financial technology. So far, rules associated with the digitalization of the financial sector are contained in POJK No.13/POJK.02/2018 concerning Digital Financial Innovation in the Financial Services Sector. The financial services referred to include lending, personal finance, crowdfunding, remittances, and other technology-based financial services. Digital financial services allow the public to conduct transactions, communicate, and obtain information about the financial services sector through electronic media such as smartphones, tablets, and other electronic media. With this, the public's monetary transactions can be more efficient, fast, easy, and effective.

The current acceleration of digitization has impacted the increasing number of internet users in the 2016-2018 period in Indonesia. According to a survey conducted by the Association of Indonesian Internet Service Providers (APJII), internet users in Indonesia are increasing from year to year. Internet users in Indonesia in 2017 reached 143.26 million users. In the following year, internet users increased rapidly to reach 282 million users. The

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increase in internet users is considered to support the development of financial technology in Indonesia, thereby increasing the number of users of financial technology.

The development of financial technology in the financial services sector that provides benefits and convenience for its users can be a threat to the banking sector, especially Islamic banking. Compared to financial sector services through financial technology, funding services through the banking industry are considered more complicated. In addition, banking regulations are notoriously rigid and convoluted. As a result, the public is more interested in financial services offered by financial technology than funding services from banks.

To overcome this threat, the banking industry initiated a strategy. The strategy is to link banking, especially sharia, with financial technology. In integrating the Islamic banking industry with financial technology, Islamic banking needs to make developments in the technology sector while increasing the financing portfolio as a source of income for Islamic banks. Because banking digitalization will impact reducing margins and affecting the profitability of the bank itself (Yanuar, 2019). The increase in the bank's portfolio will also increase the profit for the bank. Then the rise in bank profits will also impact expanding opportunities for Islamic banks to have long-term investments, namely by using financial technology in other banking processes (Yulia, 2019).

The benefits of Islamic banking by collaborating with financial technology have been stated in research conducted by Bella Gita, Inayah Aulia, and Irma Muzdalifa (2018). The study explained that after collaborating with financial technology, Islamic financial institutions, Islamic banking will be able to expand business actors, especially MSMEs, in enjoying the financial services offered. In addition, MSME actors can also apply for financing and request capital directly in the broader scope, only by carrying out the process through electronic media, without attending the nearest bank branch office. In this way, MSMEs and other business actors who enjoy these financial services will increase financial inclusion and increase the professionalism of the Islamic banking industry.

Collaboration between Islamic banking and digital financial sector services (financial technology) will make it easier for the public to access the products served by Islamic banking. Then, customers will feel more comfortable and more consistent in conducting transactions using Islamic banking services. Thus, it is hoped that this

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collaboration will increase the number of Third Party Fund (DPK) customers and Islamic banking funding, thereby increasing the profitability of the Islamic bank (Ridwan, 2018).

Profitability or profitability is the most powerful thing for the banking industry to succeed or fail in banking itself. The ability of banks to generate profits at banks is assessed based on the profitability ratio (Sutrisno, 2015). If a bank's profitability shows a high percentage, then the bank is considered to have had a good performance as well. The bank's profitability ratios consist of Return On Assets (ROA), Return On Equity (ROE), Operating Expenses to Income (BOPO), and also Net Profit Margin (NPM).

Several Islamic banks have adopted and collaborated with financial technology start-ups in their performance, namely Bank Mandiri Syariah, BNI Syariah, and BRI Syariah. This study uses the object of Islamic banking to determine the effect of financial technology on the profitability of Islamic banking. This research contributes to increasing knowledge for both writers and readers in the rapid development of technology in the financial services sector.

2. LITERATURE REVIEW

2.1 Sharia Banking

Based on Law no. 21 of 2008 concerning Indonesian Islamic Banking, Islamic banks are banks that carry out their business activities based on sharia principles and by type consist of Sharia Commercial Banks and Sharia People's Financing Banks. Islamic Commercial Banks (BUS) is defined as Islamic banks that provide services in payment traffic in their activities. The Islamic People's Financing Bank is the opposite of BUS, i.e., there is no service in payment traffic.

Referring to the definition above, it is clear that the system or mechanism of Islamic banks in carrying out their business activities uses Sharia principles that have been regulated in Islamic law, namely the Qur'an and Hadith. According to (Iswari & Amanah, 2015), the principles of Islamic banking are Q.S An-Nisa paragraph 58 (Principles of Justice), the Principle of Peace, and the Principle of Equality. And according to Arifin, there are at least two principles of Islamic banking in carrying out financial activities intended for modern society, namely, the Al-Ta'awun Principle (please help in goodness) and the principle of avoiding Al-Ikhtinaz (withholding and idle money or funds and no transactions). that provide benefits to the broader community) (Azwa & Afriani, 2016).

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2.2 Financial Technology

Financial technology was born from the development of information and communication systems, thus demanding the financial industry innovate to create a product to facilitate financial services and increase effectiveness and efficiency. Bank Indonesia Regulation Number, 19/12/PBI/2017 concerning the Implementation of Financial Technology, defines financial technology as a combination of financial services and technology that ultimately changes the business from conventional to moderate, which initially spreads face-to-face and brings a certain amount of cash. , now transactions can be made by making payments through the help of technology that can be used anywhere and in seconds.

Financial technology, in general, can be divided into several types, namely, 1) Payment Channel/System is an electronic-based payment service that replaces demand deposits and currency with e-money or cards. 2) Digital Banking, namely banking based on digital technology, such as ATM, internet banking, phone banking, mobile banking, etc. 3) Peer to Peer (P2P) Lending is a digital financial service that acts as an intermediary between borrowers and lenders. 4) Online/Digital Insurance (Digital Insurance Service). 5) Crowdfunding, a means of collecting funds for investment or other digital-based social purposes (Prastika, 2019).

2.3 Islamic Banking Financial Technology

Financial technology (Fintech) brings many benefits, both in non-banking financial services and in banking. Among these benefits, fintech helps Islamic banks process product marketing data and business operations quickly and accurately and provides financial assistance (Prastika, 2019). In addition, the most significant impact for Islamic banking is that fintech can reduce transparency or asymmetric information to increase the efficiency of financial services at Islamic banks (Cupian & Akbar, 2020).

The financial technology (Fintech) services found in Islamic banking include; 1) ATM (Automated Teller Machine), an automatic banking transaction machine that can be used every day. 2) Internet Banking, banking services carried out through the internet network, for example, interbank transfers, purchases or payments, balance information, etc. 3) Mobile Banking, banking services via cellphone or cellular network. 4) SMS Banking,

banking services that can be accessed via SMS using codes, for example, account balance information, payments, and others. 5) Phone Banking, banking services customers can access via telephone (Prastika, 2019).

2.4 Banking Profitability

Profitability is one indicator to assess the performance of management in a company in managing wealth seen from the amount of profit earned. If the profitability is high, the management performance in a company can be said to be effective. If the profitability is low, it can be said that the company's management performance is not good enough (Puspawangi & Hendratno, 2020). According to Darsono, profitability is the ability of management to earn profits by increasing revenue and reducing the burden of income, expanding market share, and eliminating non-value-added activities (Prastika, 2019). In Islam, profitability is described in Q.S An-Nahl: 14.

To describe the ability of banks to earn a profit, a ratio is needed. The percentages used by banks in their profitability ratios are (Prastika, 2019):

a. Return On Assets (ROA)

Return On Assets (ROA) is a ratio to identify the bank's ability to manage the funds invested in the overall assets that generate profits. The formula for Return On Assets (ROA):

$$Return\ on\ Assets = \frac{Net\ Profit\ After\ Tax}{\text{Total Assets}}\ x\ 100\%$$

b. Return On Equity (ROE)

Return On Equity (ROE) is the ratio between net profit after tax and total equity. That means this ratio shows the company's ability to manage its capital and is used to describe the company's level of getting a return on investment based on the book value of shareholders. Formula:

$$Return\ On\ Equity = \frac{\text{Net Profit After Tax}}{\text{Equity}}\ x\ 100\%$$

c. Operational Expense and Operational Revenur (BOPO)

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The operating expense ratio is a comparison between operating expenses and operating income. In addition, it is also used to identify the level of efficiency and ability of the bank in carrying out its operations. BOPO formula:

$$BOPO = \frac{\text{Operational Expense}}{\text{Operational Revenue}}\ x\ 100\%$$

d. Net Profit Margin (NPM)

The Net Profit Margin ratio is used to identify the percentage of net profit on net sales to evaluate the efficiency of a company in controlling selling expenses. NPM formula:

$$NIM = \frac{\text{Net Profit After Tax}}{\text{Sales}}\ x\ 100\%$$

2.5 Previous Studies

There have been several studies that have examined the influence of fintech on the profitability of Islamic banking, including a journal written by Cupian and Farid Fauzy Akbar with the title "Analysis of Differences in Sharia Banking Profitability Level Before and After Cooperating with Financial Technology Companies (Fintech) (Case Study). of Bank BNI Syariah, Bank Syariah Mandiri, and Bank Mega Syariah)" in 2020. The study results stated that in 8 quarters, there were significant differences in the ROA, ROE, and BOPO ratios before and after collaborating with fintech. For the NIM ratio, there was no significant difference. Furthermore, a journal titled "The Influence of Financial Technology on Banking Profitability in Indonesia (Comparative Study of State-Owned Banks for the period 2017-2019)" was written by Ahmad Nor Solikhin in 2021. The study results are the ROA, ROE, NIM, and BOPO at state-owned banks in Indonesia. For the most part, Indonesia did not show a significant difference after collaborating with fintech start-ups.

The study entitled "Analysis of the Impact of Financial Technology (Fintech) on the Profitability of Islamic Banks (Study of Bank Syariah Mandiri, Bank BNI Syariah, and Bank BRI Syariah)" was written by Adam Ramadhon in 2021. The results showed that the ROA and ROE ratio at Bank Syariah Mandiri affected positively, and the NIM ratio was negatively impacted after collaborating with fintech start-ups. While at BRI Syariah Bank, the ROA, ROE, and NIM ratio does not have a significant effect. And for BNI Syariah Bank, there is no significant difference between ROA, ROE, and NIM ratios. Furthermore, a research conducted by Yulia Prastika in 2019 with the title "The Influence of Financial Technology

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(Fintech) on the Profitability of Islamic Banking (Comparative Study of Mandiri Syariah Banks, BNI Syariah and Mega Syariah Banks 2016-2018)". The study results stated that the ROA, ROE, and NIM variables of Bank Syariah Mandiri had a positive and significant effect.

In contrast, the BOPO variable had a negative and significant impact after collaborating with fintech start-ups. For BNI Syariah, the ROA, NIM, and BOPO variables do not have a considerable effect, and the ROE variable has a significant negative impact. Meanwhile, at Bank Mega Syariah, the BOPO variable has a positive and significant impact, and the ROA, ROE, and NIM variables have a negative and significant effect. And the following research entitled "The Influence of Fintech on Islamic Banking Financial Performance" was written by Ita Udi Wijaya in 2020. The study results prove that the research variables ROA, ROE, BOPO, CAR, and FDR significantly impact financial performance (Wijaya, 2020). The following journal was written by Sry Lestari, Winda Sari Siregar, and Nurul Madania Ayla with the title "The Influence of Fintech on Islamic Banking Financial Performance" in 2021, with research results showing that the ROA and BOPO variables have no difference either before or after the existence of fintech, while NPF has an influence significant (sustainable, Siregar, & Ayla, 2021). And the last journal, entitled "Fintech on the Financial Performance of Islamic Banking in Indonesia," was written by Tri Damayanti and Muhamad Syahwildan in 2022. The results of the study state that mobile banking, internet banking, and SMS banking have a significant influence on the financial performance of Islamic banking in Indonesia (Damayanti & Syahwildan, 2022).

3. RESEARCH METHODOLOGY

3.1 Nature and Type of Research

This research is descriptive. That is, it describes and describes the data that has been collected as it is without making a general conclusion. Furthermore, this study uses a quantitative approach by presenting data in numbers and then testing based on the established hypothesis (Sugiyono, 2017).

3.2 Data Source

This study uses secondary data sources obtained from records in the form of financial statements of several banks involved in this study and several published journals (Sujarweni,

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2015). Secondary data is used in financial ratios from the annual financial information obtained from each bank's official website. The data taken in this study is for five years, namely in 2016-2020. This period is considered sufficient to cover the development of Islamic banking profitability, influenced by the existence of Financial Technology, which continues to develop in Indonesia.

3.3 Population and Sample

The population in this study are financial statements that have been published by banks that have started to use and collaborate with Financial Technology, namely Bank Mandiri Syariah, Bank BNI Syariah, and Bank BRI Syariah. Then the sample in this study uses time-series data, and the technique in taking the model is purposive sampling, namely the determination of the sample with specific considerations. The criteria needed are 1) Sharia Commercial Banks that have implemented or adopted Fintech services such as ATM, Internet banking, Mobile banking, and Phone banking; 2) Banks that have collaborated with one of the Fintechs; 3) Complete financial reports for one year in a period of six consecutive years, namely from 2015-2020.

3.4 Methods and Data Analysis

This study aims to determine the level of bank profitability by comparing Return On Assets (ROA), Return On Equity (ROE), BOPO (Operational Expenses and Operating Income), and Net Profit Margin (NPM) before and after Bank Syariah Mandiri, Bank BNI Syariah, Bank BTN Syariah, Bank BRI Syariah, and Bank Mega Syariah cooperated with FinTech Start-Ups for five years, namely in 2016-2020 years. Statistical testing was carried out using SPSS, and data analysis was carried out by testing normality and testing paired samples (paired sample T-test). The normality test was conducted to determine whether the data were normally distributed or not. While the paired sample test aims to determine whether there are significant differences between the four financial ratios.

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3.5 Variable Operational Definition

Table 1. Operational definition of variables

Variable	Variable Definition	Indicator
Financial Technology	This innovation in financial services by adapting technological developments to facilitate financial benefits to be more effective and efficient.	Fintech services that have been implemented in Islamic banking such as ATM, Mobile Banking, SMS Banking, and phone banking Fintech startup collaboration in the form of shadow investors
Return on Asset (ROA)	Describes the bank's ability to manage the funds invested in the overall assets that generate profits	ROA : $\frac{\text{Net Profit After Tax}}{\text{Assets}} \times 100\%$
Retun on Equity (ROE)	Comparison between net profit after tax with total equity	ROE : $\frac{\text{Net Profit After Tax}}{\text{Equity}} \times 100\%$
BOPO	Comparison between operating costs and operating income	BOPO : $\frac{\text{Operating Expense}}{\text{Revenue}} \times 100\%$
Net Profit Margin (NPM)	Percentage of net profit on net sales	NPM : $\frac{\text{Net Profit After Tax}}{\text{Sales}} \times 100\%$

4. RESULT AND DISCUSSION

4.1 Result

Analyzing the profitability ratios used by assessing the profitability criteria before and after collaborating with fintech.

1. Assessment of Profitability Criteria Before Collaborating with Fintech Start-Ups.

Tables. 2 Assessment of bank profitability criteria before collaborating with fintech

Bank	Variable	Profitability Average	Criteria
Bank Mandiri Syariah	ROA	0,58%	Pretty good
	ROE	5,82%	Very good
	BOPO	94,45%	good
	NPM	4,97%	Not good

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Bank Rakyat Indonesia Syariah	ROA	0,74%	Pretty good
	ROE	5,90%	Very good
	BOPO	93,49%	Very good
	NPM	6,87%	Pretty good
Bank Negara Indonesia Syariah	ROA	1,39%	Healthy
	ROE	11,58%	Very good
	BOPO	88,04%	Very good
	NPM	10,46%	good

2. Assessment of Profitability Criteria After Collaborating with Fintech Start-Ups.

Tables. 3 Assessment of bank profitability criteria after collaborating with fintech

Bank	Variable	Profitability Average	Criteria
Bank Mandiri Syariah	ROA	4,07%	Very good
	ROE	12,97%	Very good
	BOPO	85,13%	Very good
	NPM	13,21%	good
Bank Rakyat Indonesia Syariah	ROA	0,52%	Pretty good
	ROE	3,03%	Very good
	BOPO	94,38%	good
	NPM	5,41%	Not good
Bank Negara Indonesia Syariah	ROA	1,52%	Very good
	ROE	11,35%	Very good
	BOPO	83,56%	Very good
	NPM	5,41%	Not good

Based on the table above, it can be seen that after collaborating with financial technology start-ups, each bank experienced a decrease and increase in certain variables. Bank Mandiri Syariah increased the ROA, ROE, and NPM variables and a reduction in the BOPO variable. Bank Negara Indonesia Syariah increased the ROA and NPM variables and a decrease in the ROE and BOPO variables. Meanwhile, Bank Rakyat Indonesia Syariah only experienced an increase in the BOPO variable, and other variables decreased.

The Shapiro-Wilk normality test was used to determine whether the research data were normally distributed or not.

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1. Normality Test Before and After collaborating with Fintech Start-Ups.

Tables. 5 Normality Test Before and After Collaborating with Fintech Start-Ups

Bank	Variable	Profitability Average
Bank Mandiri Syariah	ROA before	0,000
	ROA after	0,009
	ROE before	0,890
	ROE after	0,146
	BOPO before	0,967
	BOPO Sesudah	0,214
	NPM before	0,220
	NPM after	0,299
Bank Rakyat Indonesia Syariah	ROA before	0,850
	ROA after	0,443
	ROE before	0,702
	ROE after	0,496
	BOPO before	0,751
	BOPO after	0,475
	NPM before	0,239
	NPM after	0,985
Bank Negara Indonesia Syariah	ROA before	0,132
	ROA after	0,331
	ROE before	0,093
	ROE after	0,280
	BOPO before	0,168
	BOPO after	0,606
	NPM before	0,202
	NPM after	0,443

Based on the table above, it can be seen that all data are typically distributed except for data on the ROA variable at Bank Mandiri Syariah.

Paired Sample T-Test measures two data from the same subject on a specific effect or treatment used to compare the two means of two paired samples.

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2. Paired Sample T-Test Before and After in collaboration with Start-Up Fintech.

Table. 6 Paired Sample T-Test Before and After in collaboration with Start-Up Fintech.

Bank	Testing	Sig. (2 tailed)
Bank Mandiri Syariah	ROA Before – ROA After	0,285
	ROE Before – ROE After	0,099
	BOPO Before – BOPO After	0,072
	NPM Before – NPM After	0,090
Bank Rakyat Indonesia Syariah	ROA Before – ROA Sesudah	0,504
	ROE Before – ROE After	0,287
	BOPO Before – BOPO Sesudah	0,784
	NPM Before – NPM After	0,633
Bank Negara Indonesia Syariah	ROA Before – ROA After	0,408
	ROE Before – ROE After	0,824
	BOPO Before – BOPO After	0,806
	NPM Before – NPM After	0,250

Based on the table above, it can be seen that all the data shows that there is no significant difference between the two data with unequal treatment, which means that there is no effect after collaborating with fintech start-ups.

4.2 Discussion

Effect of Financial Technology on Return on Assets (ROA)

The study results found that there was an increase in the value of the ROA ratio of Bank Mandiri Syariah before and after collaborating with fintech start-ups, from 0.58% to 4.07%. That means Bank Mandiri Syariah increased net profit after collaborating with

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fintech start-ups. This is supported by research from Ridwan Muchlis (2018) that collaborating with Fintech will make it easier for banking services, especially in financing distribution, to be reached by the wider community, especially in the 3T area, and also minimize operational costs and marketing costs so that that profitability can increase. However, there is no significant difference after collaborating with Fintech, judging from the significance value of 0.285, more significant than 0.05. Research from Puspawangi and Hendratno (2020) states that not all fintech uses can have a substantial effect because Fintech is still a new technology for banking, so it is still adjusting to the banking ecosystem to maintain profitability and keep trying to keep up with technological developments.

At BRI Syariah, the results of the study state that the significance value is 0.504, where the value is more significant than 0.05. It can be concluded that there is no significant difference in the ROA ratio after collaborating with Fintech. Likewise, the ROA ratio analysis shows a decrease in net income after cooperating with Fintech, which is indicated by the average value of profitability before collaborating with Fintech, which is 0.74%, down to 0.52% even though the criteria are pretty healthy. This study is in line with the results of research from Ahmad Nor Solikhin (2021), which states that there is a decrease in the analysis value of the ROA variable, and there is no significant difference in BRI Syariah Bank after collaborating with Fintech. The same thing was also stated by Sinambela and Rohani (2017) that the existence of internet banking services at banks does not have a significant effect in terms of banking financial performance as measured by ROA and ROE, which are caused by, among others, the use of internet banking services for banking transactions is not optimal, as well as problems in security, long-term maintenance and the bank's ability to maintain internet banking.

For BNI Syariah, it is known that the value of the ROA ratio analysis has increased from 1.39% to 1.52% with very healthy criteria. This shows an increase in net profit at BNI Syariah after collaborating with fintech. And the results of the study also state that there is no significant effect on BNI Syariah after collaborating with fintech, seen from the significance value, which is 0.408, which is greater than the 0.05 level of significance. The results of this study are in line with the research of Irwan Moridu (2020), which states that SMS Banking, Internet Banking, and Mobile Banking partially do not affect increasing the number of BNI bank operating profits. And also, research from Sudaryanti et al. (2018) that

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Mobile Banking harms bank ROA. This is due to bank customers' incomplete use of mobile banking facilities.

Effect of Financial Technology on Return on Equity (ROE)

The study results found that at Bank Mandiri Syariah, the value of the ROE ratio analysis showed an increase from 5.85% to 12.97%. This means that banks can maximize their capital to obtain net profits and satisfy the interests of shareholders or investors after collaborating with fintech. As for the level of significance in the ROE ratio, it was found that there was no significant difference after the bank cooperated with fintech, indicated by a significance value of 0.099 greater than 0.05. It can be concluded that there is only a change or difference in the value of the ROE analysis. However, there is no significant difference after the bank cooperates with fintech. This is in line with Puspawangi and Hendratno's (2020) research, which states that fintech used by state-owned banks does not significantly impact the ROE ratio. There are only differences but no significant differences. Kristianti and Tulenan's (2021) research states that fintech is an innovation in banking, not a nuisance. For this reason, it needs to be used as an opportunity to develop fintech services to improve financial performance, especially to earn profits.

At BRI Syariah, the ROE ratio analysis value before collaborating with fintech was 5.90%, and after working with fintech, it was 3.03%. This indicates a decrease in the level of the ROE ratio. This means that BRI Syariah cannot maximize the equity in generating profits and is not concerned with investor satisfaction after collaborating with fintech. And the level of significance shows that there is no significant difference after collaborating with fintech. This aligns with Ahmad Nor Solikhin's (2021) research, which also stated no considerable difference after BRI Syariah collaborated with fintech. There was a decrease in the value of the ROE ratio. Likewise, Yohani and Dita (2019) study states that internet banking does not significantly influence financial performance because internet banking use is not yet maximized.

For BNI Syariah, the ROE ratio analysis shows a decrease in the ROE level, as evidenced by the ROE ratio value before collaborating with fintech, which was 11.58% to 11.35% after collaborating with fintech. And the influence of fintech on BNI Syariah is that there is no significant difference with a significance value of 0.824, which is greater than 0.05. This research is in line with Sinambela and Rohani's study (2017) that the existence of

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internet banking services at banks does not have a significant effect in terms of banking financial performance as measured by ROA and ROE. And research from Ahmad Nor Solikhin (2021) states that there is no significant difference after BNI Syariah cooperates with fintech, and there is a decrease in the value of the ROE ratio.

Effect of Financial Technology on Operating Expenses on Operating Income (BOPO)

At Bank Mandiri Syariah, the BOPO ratio analysis shows a decline, where the percentage of BOPO before collaborating with fintech reached 94.45%, decreasing to 85.13% after collaborating with fintech. And the effect of collaborating with fintech for Bank Syariah Mandiri is that there is no significant difference, seen from the significance value of 0.072, which is greater than 0.05. This explains that banks' efficiency and ability increase in their operations after collaborating with fintech, although there is no significant difference. The results of research from Yulia Prastika (2019) explain that a decrease in the level of the BOPO ratio identifies that the small group of the BOPO ratio explains that bank profitability increases because of the technology used to reduce operating expenses.

The BOPO ratio at Bank Rakyat Indonesia (BRI) Syariah in this study shows an increase in the percentage value of the BOPO ratio, from 93.49% to 94.38%. This means that the operating expenses incurred by the bank are getting bigger, thereby reducing the level of profitability. And there is no significant difference after collaborating with fintech, as evidenced by the significance value of 0.784, more significant than 0.05. This research is in line with Ahmad Nor Solikhin's (2021) study, which states that Bank Rakyat Indonesia (BRI), after collaborating with fintech, has no significant difference in the BOPO ratio.

The level of BOPO ratio for BNI Syariah shows a decline, as evidenced by the average BOPO ratio analysis before collaborating, which is 88.04% to 83.56%. This indicates an increase in the level of efficiency and the bank's ability in operational activities, so it has a good impact on increasing profitability because it can reduce operating expenses. And based on the significance value, it explains that there is no significant difference to BNI Syariah after collaborating with fintech, as evidenced by the significance value of 0.806, which is greater than 0.05. This research is in line with Yulia Prastika (2019), who explained that after collaborating with fintech, BNI has not been able to reduce operational costs, so there is no significant difference.

The Effect of *Financial Technology* on *Net Profit Margin* (NPM)

The results showed that the average NPM ratio at Bank Mandiri Syariah increased from 4.97% to 13.21% after collaborating with fintech. This is in line with Chiesa Utomo Sukmoto and Hendratno's (2018) research, which states that the increase in NPM positively impacts companies that implement information technology. And the influence of fintech on the NPM of Bank Mandiri Syariah is that there is no significant difference seen from the significance value of 0.090, which is greater than the 0.05 level of significance.

In BRI Syariah, the value of the NPM ratio analysis shows a decrease after collaborating with fintech, from 6.87% before teaming to 5.41% after collaborating. This research aligns with Ilhami and Marlius (2020) research, which states that NPM PT. BPR Jorong Kampuang Tangah has decreased, which means the ability of banks to earn profits has reduced. And there is no significant difference to the NPM of BRI Syariah, as evidenced by the significance value of 0.633, which is greater than 0.05.

For BNI Syariah, the analysis of the NPM ratio value shows a decrease from 10.46% before collaborating with fintech to 5.41% after collaborating with fintech. This research aligns with Ilhami and Marlius (2020) research, which states that NPM PT. BPR Jorong Kampuang Tangah has decreased, which means the ability of banks to earn profits has reduced. And there is no significant difference seen from the significance value of 0.250 greater than 0.05. That means bank management in obtaining profits through managing bank operational costs must be considered not to harm banks (Ilhami & Marlius, 2020).

5. Conclusion

Based on the testing and exposure above, it can be concluded that:

a. In the ROA ratio variable based on the analysis of the average value before and after collaborating with fintech, it was found that there was at Bank Mandiri Syariah and Bank Negara Indonesia (BNI) Syariah an increase in the percentage value of ROA. That means the existence of fintech has a positive impact on generating net profits for banks. And at Bank Rakyat Indonesia (BRI) Syariah, the analysis value of the average ROA has decreased, which is caused by one of them being the less optimal use of fintech services. In the three banks, it was found that there were no significant differences after collaborating with fintech.

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b. In the ROE ratio variable based on the analysis of the average value before and after collaborating with fintech, it is known that at Bank Mandiri Syariah, the ROE ratio increased after collaborating with fintech. This means that Bank Mandiri Syariah can optimize its capital to generate net profits and satisfy the interests of shareholders. Meanwhile, in BNI Syariah and BRI Syariah, the analysis of the average ROE value has decreased, which means that the bank cannot maximize capital to generate net profit and ignores the interests of investors. Of the three banks, there is no significant difference in the level of profitability of the ROE ratio after collaborating with fintech. For this reason, to optimize capital in generating net profit and investor satisfaction, banks need to take advantage of fintech and develop fintech services to maximize financial performance.

c. c. On the BOPO ratio variable based on the analysis of the average value before and after collaborating with fintech, it was concluded that Bank Mandiri Syariah and BNI Syariah experienced a decrease in the BOPO percentage level after collaborating with fintech. This indicates that banks' level of efficiency and ability in operational activities is increasing. It positively impacts profitability because banks can reduce their operating expenses. Meanwhile, at BRI Syariah, after working with fintech, the BOPO ratio level has increased due to increased operating expenses. The three banks showed no significant differences after collaborating with fintech. Banks need to take full advantage of fintech services to reduce operational costs.

d. In the NPM ratio variable based on the analysis of the average before and after collaborating with fintech, it is known that there is an increase in the NPM value at Bank Mandiri Syariah, which means that fintech has a positive impact on banks in generating profits. Meanwhile, at BRI Syariah and BNI Syariah, the percentage level of NPM has decreased. That means the ability of banks to generate profits also reduces. And it is known that the three banks do not have significant differences after collaborating with fintech. For this reason, banks must optimize fintech in managing operational costs to earn profits.

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