Journal of Islamic Accounting and Finance Research
ISSN 2715-0429 (print); 2714-8122 (online)
Vol. 5 No. 1 (2023), 65-86; DOI: https://dx.doi.org/10.21580/jiafr.2023.5.1.13745
Received 2022-12-06 Accepted 2023-07-08

Does fintech threaten Islamic banking performance in Indonesia?

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Abstract

Purpose - This study aims to examine the impact of P2P Lending on both conventional and Islamic banking performance in Indonesia.

Method - It uses a panel data regression method with a random effect model, with a sample of 63 conventional banks and 12 Islamic banks in Indonesia during the 2016-2020 period. The dependent variable is ROA, while the independent variable is the number of P2P Lending companies.

Result - The study found that Fintech P2P Lending does not affect the conventional banks' performance and has a minimal effect on the aggregate banks' performance in Indonesia. However, interestingly, Fintech has a significant positive impact on the Indonesian Islamic banks' performance. The result is consistent when GMM is used in the robustness model.

Implication - The findings indicate the importance of supporting the development of Fintech, especially Sharia P2P Lending, and collaboration between Fintech and banks to optimize the performance of Indonesia's financial sector.

Originality - This research is amongst a few studies that examine the relationship between Fintech and banking performance, particularly Islamic banking performance in Indonesia.

Keywords: fintech; P2P lending; bank performance; Islamic bank performance

Journal of Islamic Accounting and Finance Research

Introduction

Financial digitalisation is one of the most essential features in the financial scene today, especially since the eruption of the Covid-19 pandemic in early 2020 and in emerging countries (Kasri et al., 2022). Financial digitalisation has encouraged the development of financial technology (herewith Fintech) and allows individuals to access accounts, run businesses, and obtain information about financial products and services faster, cheaper and more efficiently (Ozili, 2022). In the USA, for example, McKinsey reported that 82% of the society used digital payments in 2021, an increase from 78% in 2020 and 72% five years before (Goel et al., 2021). Meanwhile, in India, 33% of India's society used digital payments more than before the pandemic (Keelery, 2020). Not surprisingly, according to Boston Consulting Group, Fintech revenues are projected to grow sixfold from $245 to $1.5 trillion by 2030. The Fintech sector is also estimated to grow up to 7% annually (BCG, 2023). These highlight the growing significance of the Fintech sector in the global financial landscape.

There are many types of Fintech, from lending, payment, and money transfer to personal finance (Gomber et al., 2017). Amongst the different types of Fintech, Fintech Peer-to-Peer (P2P) Lending is prevalent and very quickly attracts many customers. This popularity is primarily because of its ability to offer more accessible and faster loan processes to lenders and borrowers, especially the youth, small enterprises and self-employed individuals (Ichwan & Kasri, 2019). Studies have also shown that such borrowers significantly impact the economy, but they need help to obtain loans from the traditional banking industry (Gao et al., 2018).

While Fintech P2P Lending provides many benefits and rapidly growing, there are uncertainties regarding its impact on the traditional business banking model, which also lends money to borrowers. According to PwC (2016), 83% of financial institution companies believe that the growth of Fintech start-up companies, including P2P Lending, will carry risks in disrupting their business activities (Lines, 2016). This condition makes

Fintech companies a severe threat to financial institutions that still rely on traditional methods to run their operations, such as traditional banks, and have yet to start a wave of change and development (Gomber et al., 2017). However, there is also a perception suggesting that Fintech can strengthen banks. This condition could happen if there is a cooperation between commercial banks and Fintech companies, such that the commercial banks will be encouraged to improve their technology, innovate their business, and optimise their services (Liem et al., 2022). As such, existing studies appear inconclusive regarding the impact of Fintech P2P Lending on bank performance.

Notably, the impact of Fintech P2P Lending is not only felt by conventional banking but also by Islamic banking. According to Ali et al. (2019), Fintech growth has a negative impact on the Islamic banking and finance industry in Malaysia and Brunei. However, the study noted that the response and reaction of the Islamic finance industry to the emergence of Fintech and its negative impact on Islamic finance is smaller than that of conventional banking. In their research, Almulla & Aljughaiman (2021) also stated that Fintech companies would negatively impact the performance of Islamic banking.

In Indonesia, P2P Lending is also the most popular Fintech (OJK, 2019b). It dominates 50% of all Fintech companies in Indonesia compared to other Fintech business models. It also has a great potential to be developed because many people still need funds but have yet to be served by banks. Currently, only 49% of Indonesian adults have access to a bank account. Among the unbanked population, 69% own a mobile phone. This condition makes them a potential use of Fintech (AFTECH, 2020). Therefore, P2P Lending can be an alternative solution to serve people who still need to be served by banks and helps solve financial inclusion problems in Indonesia. Moreover, in the legal aspect, P2P Lending is already supported by government regulations such as the POJK No. 77/FSAR.01/2016 on

Technology-Based Borrowing-Lending Services. Applicable regulations increase public confidence and the use of Fintech (Otoritas Jasa Keuangan, 2016).

With the perspective above, this study aims to determine the effect of P2P Lending on banking performance in Indonesia. As Indonesia adopted a dual banking system in which conventional banks operate in parallel with Islamic banks, this study also examines the impact of P2P Lending on two banking systems in Indonesia. The results are expected to answer the research questions above and provide critical insight and practical implications for industry players and government/regulators.

To answer the research question, this study uses samples from 75 banks consisting of 63 conventional commercial banks and 12 Islamic commercial banks. The secondary data was obtained from the Bank's Annual Financial Report Data and OJK. The research period was 2016-2020. This former year represents the time when the first Fintech regulation was issued, while the latter refers to the year when Fintech was still operating normally before the Covid-19 pandemic widely spread in Indonesia.

Following the introductory section, the second section reviews several literatures and develops relevant hypotheses from the literature. Section three explains the research method. Section four discusses the findings and analysis of the study. The final section concludes and provides implications of the study.

Literature Review

Fintech could be defined as all forms of financial services, such as banking, insurance, and stocks, that use electronic means or the Internet as a medium (I. Lee & Shin, 2018). It can also be interpreted as a company with a new business model that promises more flexibility, security, efficiency, and opportunities than established financial services (Gomber et al., 2017). Fintech companies entering the financial service gain ground in the financial

sector and seize customers traditionally served by established providers. There are reasons for this to happen. First, Fintech companies offer new products and solutions that fulfil customers' needs previously not covered by banks to continue to access financial services. Second, Fintech companies have created new opportunities for selling products and services through the application of new technologies and concepts (S. Lee, 2015).

There are many types of Fintech in the financial market today. Gomber et al. (2017) classify the functions of Fintech as follows: (1) Digital financing, for example, Crowdfunding and P2P Lending; (2) Digital investment, for example, Forex; (3) Digital money, for example Cryptocurrency and Bitcoin; (4) Digital payments, for example, e-money and e-wallet; (5) Digital insurance; and (6) Digital advisors, for example Robo-advisors. Among the different Fintech types, Fintech Peer-to-Peer (P2P) Lending is the most widely used primarily due to its ability to offer more accessible and faster loan processes to lenders and borrowers, especially the youth, small enterprises, and self-employed individuals (Ichwan & Kasri, 2019).

Fintech P2P Lending is called 'marketplace lending' because peers, rather than conventional banks, supply funds (Najaf et al., 2022). P2P Lending provides consumer loan services and business capital loans that enable individuals and businesses to obtain loans (FintechNews, 2021). As such, P2PL enters the credit market and competes with banks for market share (Ozili, 2022). However, P2P Lending is different from banks because, technically, the P2P Lending platform itself does not interfere in lending. The role of the P2P Lending platform is to bring together lenders and borrowers and determine and collect fees from their use (OJK, 2019a).

Fintech's growth and development significantly impact banking (Petralia et al., 2019). According to Apostolik et al. (2009), banks as intermediary institutions that bring together owners of capital who have excess funds and borrowers who lack funds have a role related to the collection of deposits, payment of transactions, credit, and distribution of funds in the form of loans. As loans are one of the banks' main activities, Fintech's existence will also influence the existence and performance of banks. This situation implies that

intermediation theory suggests that banks as intermediary institutions will compete with P2P Lending as disintermediation institutions in several aspects (A. V Thakor, 2020).

Furthermore, disruptive innovation theory states that new, more innovative services will disrupt existing services by attracting underserved customer segments (Christensen et al., 2006). In consumer theory, consumers decide where their money is spent according to their preferences. According to this theory, customers can adjust their preferences, whether to switch to using new products, use them together, or stay with old products (Aaker & Keller, 1990). Fintech companies can expand their influence and turn many banking services into services that use technology for speed, convenience and low cost. These features of Fintech companies are considered an attractive factor for bank customers, which can weaken the customer's use of bank services and reduce bank profitability.

Literature has examined the relationship between Fintech and banks (Cole et al., 2019; Hodula, 2022; Li et al., 2017; Phan et al., 2020; Y. Wang et al., 2021). However, existing studies appear inconclusive regarding the impact of Fintech P2P Lending on bank performance. While some studies suggest that P2P Lending could hurt banking performance, others suggest the opposite. Indeed, banks' services could act as complementary and/or substitute for Fintech services.

Hypotheses Development

R. Wang et al. (2021) conducted a study about the effect of Fintech development on bank risk-taking in China over the 2011-2018 period. His study found that Fintech developments harm banking performance because Fintech companies operate at lower prices and with high efficiency. They can also attract consumers from traditional financial institutions, thus reducing banks' profits and stimulating banks to accept higher risks. Furthermore, Phan et al. (2020) and Almulla & Aljughaiman (2021) argue that the growth of Fintech companies will have a negative impact on banking performance

because Fintech companies provide more innovative services that disrupt the balance of banking.

However, research by Cole et al. (2019) and Li et al. (2017) found a positive and complementary relationship between Fintech and banks. This result happens because consumers can choose which products or services they use according to their preferences. Thus, a new service will act as a compliment if it is used with the old service and will function as a substitute if it can replace the old service by satisfying the exact needs. In this case, Fintech services are complementary to banks' services. In addition, Hodula, (2022) suggests that Fintech platforms can act both as a complement and a substitute for traditional banks. Banks' services could complement Fintech services when the banking sector is less concentrated, more liquid and more stable. However, it could act as a substitute when the banking sector is less stable and highly concentrated.

Moreover, according to R. T. Thakor & Merton (2018), banks have an advantage over P2P loans because they are believed to be able to provide good loans. In addition, P2P Lending rates are higher than banks due to asymmetric information between lenders and loan recipients in the P2P Lending platform (Santoso et al., 2020). These imply that P2P Lending has been unable to influence banks and compete with banks. However, on the other hand, Liem et al. (2022) suggest that Fintech certainly competes with banks as well as strengthens banks. Cooperation between commercial banks and Fintech companies could encourage them to upgrade their technology, innovate their business, and optimise their services.

Based on the literature above, it could be concluded that Fintech services could have a positive or negative impact on the financial performance of banks. Therefore, the study proposes the following research hypothesis:

H_1: Fintech P2P Lending affects banking performance in Indonesia.

In Indonesia and some other Muslim countries, as explained earlier, the banking industry is divided according to its operating system into conventional and Islamic banking. Fintech companies that have emerged by providing banking services with ease and speed significantly impact conventional and Islamic banks. However, previous research related to Fintech and Islamic banking is still little studied (Ali et al., 2019; Almulla & Aljughaiman, 2021). Almulla & Aljughaiman (2021) show that the growth of Fintech companies has a negative effect on the financial performance of conventional banks but does not significantly impact the performance of Islamic banks. Ali et al. (2019) suggest that the reaction and response of the Islamic banking industry to the emergence of Fintech and its potential impact may be slower than conventional banking. This condition is mainly due to the different business models that Islamic banks use in their operations. Islamic banks must comply with Sharia principles, and their ability to modify and implement new financial services is limited and must be approved by the Sharia supervisory board. The complicated lending and borrowing process in Islamic banking is one of the reasons Islamic bank customers are more interested in the convenience of Fintech.

Monika et al. (2021)examined the influence of P2P Lending on the profitability of Islamic commercial banks in the 2017-2019 period. The study found that the impact of Fintech on Islamic bank performance is negative. However, when testing the results based on banks' ownership, Fintech has a negative effect on state-owned Islamic banks and a positive effect on private Islamic banks. This result is probably because private Islamic banks are more able to adapt quickly to the emergence of Fintech. Similarly, Yudaruddin (2023) investigated the impact of Fintech on the performance of Islamic and conventional banks in Indonesia. He finds that Fintech hurts bank performance in aggregate. However, Fintech P2P Lending has a positive influence on the performance of Islamic banks. In addition, it is suggested that Fintech improve the performance of Islamic banks in both normal and crisis periods. Based on this literature, the following hypotheses are derived:

H_2: Fintech P2P Lending has a positive effect on conventional banking performance

H_3: Fintech P2P Lending has a positive effect on Islamic banking performance

Research Methods

This study examines the impact of P2P Lending on both conventional and Islamic banking performance in Indonesia. It uses a panel data regression method with a random effect model. The samples in this study were conventional banks and Islamic banks in Indonesia, which consisted of 75 banks, including 63 conventional commercial banks and 12 Islamic commercial banks. The data taken is bank financial report data. The data is in the form of secondary data obtained from the Bank's Annual Financial Report Data. The research period is 2016 – 2020.

Table 1. Research Variables

Variable	Symbol	Description
Dependent variable		
Return on Asset	ROA	$\frac{Net\ profit}{Total\ assets}$
Independent variable		
Fintech P2PLending company	P2PL	Number of Fintech P2P Lending companies
Control variable		
Bank Size	Size	ln $(Total\ assets)$
Bank Offices Branch	Branch	ln $(Number\ of\ bank\ branches)$
Capital Ratio	Cap	$Equity/total\ assets$
Loan Size	Loan	$Total\ loans/total\ assets$
Loan Provisic Loss	LLP	Loan loss provisions/total loans

Table 1 summarises the research variables. The dependent variable is bank performance. The bank's financial performance ratio refers to the research of Ky et al. (2019) and Almulla & Aljughaiman (2021), namely the profitability ratio. The profitability ratio is an important aspect of a company, including banks. One of the company's goals in running its business is to maximise profits. This objective shows that the activities carried out by the company aim to maximise the profits obtained by the company (Rose & Hudgins, 2008). A bank is a profit-oriented company. The profitability ratio used in this study is ROA, where ROA is the return on assets which is a comparison of net income and total assets, which shows the company's ability to generate profits with assets owned.

The independent variable used in this research is the number of Fintech P2P Lending companies in Indonesia registered with the OJK. The selection of this variable refers to the research of Almulla & Aljughaiman (2021) and Phan et al. (2020), which uses the number of Fintech companies as an independent variable. The control variables used in this study are bank characteristics which consist of 5 bank-specific variables: bank size (Size), which is measured using the natural logarithm of total assets; bank branch (Branch), measured using the natural logarithm of the number of branch office networks including regional offices, branch offices, sub-branches, and cash offices; capital ratio (Cap) which is measured by comparing total capital and total assets; the size of bank loans (Loan) is measured by total loans to total assets; loan loss provision (LLP) is measured by dividing the loan loss provisions by the total loan.

Size is used to take into account the economies of scale or diseconomies that exist in the market. Smirlock (1985) found a positive and significant relationship between bank size and performance. Banks with a larger size can diversify more in their products and services, thereby reducing the level of risk and resulting in higher operational efficiency and performance (Djalilov & Piesse, 2016). In addition, larger banks can obtain relatively cheap capital to be more profitable (Short, 1979). Flamini et al. (2009) also stated that

larger banks with significant market share enjoy higher profits than smaller banks.

The number of branch offices indicates that the bank is expanding its customers and improving its performance (Shihadeh & Liu, 2019). However, adding branch offices will also lead to higher agency costs, marketing levels, operational and bureaucratic costs, and high management costs, which result in a negative relationship with bank performance (Pasiouras & Kosmidou, 2007). Banks with high capital ratios will have a low need for external funds to improve bank performance and provide a signal to the market for better prospects (Berger, 1995; Dietrich & Wanzenried, 2011; Saona, 2016).

Banks must establish a reserve for impairment losses (also known as loan loss provision) to anticipate default so that banks can minimise the risks. Loan loss provision to total loan is used to overcome credit risk with a higher ratio indicating lower credit quality, which in turn leads to lower performance (Athanasoglou et al., 2008; Dietrich & Wanzenried, 2011; Trujillo-Ponce, 2013). The ratio of loans to total assets is used as a proxy for the level of liquidity. Banks can maintain their cash flow capability if they meet current liabilities as they fall due (Sufian & Habibullah, 2010). Bourke (1989) also states a positive relationship between liquidity and performance.

Table 2. Correlation Matrix

	P2PL	Size	Branch	Cap	Loan	LLP
P2PL	1					
Size	0.0370	1				
Branch	-0.0044	0.8022	1			
Cap	-0.0122	-0.2159	-0.2553	1		
Loan	-0.0404	-0.0379	-0.0411	-0.0092	1	
LLP	-0.0445	0.1415	0.0271	0.1454	-0.0718	1

This research will use the panel data regression method with a random effect model. The research model is used to see the effect of bank performance as the dependent variable, which is measured in ROA as the ratio of profitability to the number of existing P2P Lending companies as follows:

$$ROA_{i,} = \alpha + \beta_1 P2PL_{it} + \beta_2 \ln\_Size_{it} + \beta_3 \ln\_Branch_{it} + \beta_4 CAR_{it} + \beta_5 Loan_{it} + \beta_6 LLP_{it} + \varepsilon_{it} \quad (1)$$

Where ROA is bank performance; α is constant; P2PL is number of Fintech P2P Lending companies; Branch is number of bank branches; Size is bank size (in total assets); Cap is the ratio of bank capital (equity to total assets); Loan is the size of bank loans (total loans to total assets); LLP is the bank's loan loss provision (provision for loan losses to total loans); $\boldsymbol{\varepsilon}$ is error term.

Prior to running the regression analysis, this study conducted a multicollinearity test to detect the multicollinearity problem. The problem can be seen from the correlation analysis carried out between variables. If a relationship between two variables is close to 1, then a multicollinearity problem causes the regression results to be biased. In this respect, the results of the correlation analysis generally show that the correlation between the variables is relatively low and mostly between 0 and 0.25 (except for the branch and size variable, which has a higher correlation). Therefore, the panel data regression model could be conducted, and the results could be reliable.

Results and Discussion

Table 3 reports the descriptive statistic of the variables used in the model. It can be seen that the average ROA value is 1.67%, suggesting that the rate of return on assets obtained by the Indonesian banking sector in the 2016-2020 period reached 1.67%. For the independent variable, the number of Fintech P2P Lending companies has an average value of 112.6, which indicates that the number of Fintech P2P Lending companies in Indonesia annually amounts to more than 112 companies.

Table 3. Descriptive Statistics

Variable	Mean	Median	Std. Dev	Min	Max
ROA	0.116	0.119	0.134	-0.074	0.943
P2PL	112.06	135	49.868	27	164
Size	31.379	30.996	13.078	29.332	34.952
Branch	5.035	4.913	13.711	1.946	8.919
Cap	1.034	1.012	0.333	0.384	2.947
Loan	0.443	0.449	0.544	2.414	5.477

In the control variable, the mean value of the size variable is 31.379, which indicates that the total assets of commercial banks in Indonesia in the 2016-2020 period were 31.379 trillion rupiah. The highest bank size value came from BRI (Bank Rakyat Indonesia) in 2020 at 34.95 trillion rupiah. Next, the average number of bank branch offices in Indonesia is 5.035. Again, the largest number of the banks' branches came from BRI in 2017, with a value of 8.919. Furthermore, the capital ratio of banks in Indonesia has a mean value of 14.89%. Meanwhile, the average size of bank loans in Indonesia is 63.8% of total assets, and the average size of loan loss provision is 1.59% of total assets.

Table 4 reports the results of the random effect model. For model A (aggregate model with all samples), it is found that the P2P Lending variable had a positive impact on banking ROA, albeit the significance is relatively weak (i.e. significant at 10%). The estimated coefficient is 0.0157, suggesting that adding one Fintech P2P Lending company will increase the Indonesian aggregate banking performance by 1.57%. Thus, the first hypothesis is accepted. In addition, size and capital are found to influence ROA positively. At the same time, LLP has a negative effect on bank performance in the aggregate model.

For the conventional bank's model (model B), the estimation result found that the coefficient of the P2P Lending coefficient is not significant. Thus, the second hypothesis is rejected. It can then be concluded that the existence of P2P Lending has no impact on the bank's performance. Moreover, the size variable is found to be significant and positive, while the LLP variable is found

to be significant and negative. These imply that only size and loan loss provision variables determine conventional banking performance.

As for the Islamic bank's model (Model C), the study found a significant and positive relationship between P2P Lending and ROA with a coefficient of 0.057. This result implies that additional P2P Lending will increase Islamic banking performance by 5.7%. Thus, the third hypothesis is accepted. Furthermore, size and loans significantly and positively influence the ROA. Meanwhile, the bank's branch and LLP negatively affected the bank's ROA.

Taken together, the estimation results suggest that P2P Lending has a positive but small effect on the overall banking performance in Indonesia. However, when the types of banks are considered, only Islamic banks are positively and significantly influenced by P2P Lending. Thus, it can be concluded that the existence of P2PL only significantly affects the performance of Islamic banking in the 2016-2020 period.

Table 4. Random Effect Model

Variables	Model A (All samples)	Model B (Conventional Bank)	Model C (Islamic Bank)
P2P Lending	0.0157*	0.012	0.057***
	(0.08)	(0.169)	(0.000)
Size	0.008***	0.005***	0.034***
	(0.000)	(0.004)	(0.000)
Branch	-0.005**	-0.002	-0.035***
	(0.007)	(0.173)	(0.000)
Cap	0.015*	-0.003	0.015
	(0.069)	(0.791)	(0.64)
Loan	-0.009	-0.006	0.044***
	(0.337)	(0.51	(0.016)
LLP	-0.387***	-0.417***	-0.603***
	(0.000)	(0.000)	(0.000)
Observation	380	320	60
R-squared	0.5679	0.5564	0.8505
F-statistic (prob)	0.0000	0.0000	0.0000

Note: The values in brackets indicate the probability value of each coefficient. The sign*, ** and *** indicate a significant level of 10%, 5% or 1%, respectively.

The interesting result could be explained both theoretically and empirically. In general, theoretically speaking, the result of a positive relationship between Fintech P2P Lending and banking performance is consistent with the consumer theory proposed by Aaker & Keller (1990), in which new services will act as complementary services whenused with other services and can replace old services that meet the same needs. Furthermore, empirically, this result is consistent with the finding of Monika et al. (2021) and Yudaruddin (2023), which revealed that Fintech P2P Lending positively impacts the profitability of Islamic banks.

Furthermore, in the Indonesian context, this result might be influenced by the conditions of the financial ecosystem in Indonesia. Many productive businesses in Indonesia, especially MSMEs, have difficulty getting bank financing or loans. The Minister of Cooperatives and Small and Medium Enterprises, Teten Masduki, once said bank credit financing for Micro, Small, and Medium Enterprises (MSMEs) was only 19.97% (Tempo, 2021). Because of this, most P2P Lending in Indonesia targets MSMEs and business groups who still have difficulty accessing banking products/services (FintechNews, 2021). They also target the youth who tend to have similar problems, as has been found by Ichwan & Kasri (2019). As such, P2P Lending can be seen as a complement to existing financial services, traditional banks, and not being a 'predator', which reduces the market share and profitability of banking (Tang, 2019).

The complementary relationship can also be seen in the collaboration between Islamic banks and Islamic P2P Lending to increase the inclusion and competitiveness of the two institutions. One example is the collaboration of Bank Syariah Mandiri (BSM) with Alami Fintech Syariah (ALAMI) in distributing Islamic financing for MSMEs. Moreover, BRI Syariah also collaborated with a Fintech called Investree to provide loans for MSMEs. Such collaboration is consistent with the Islamic economic values and principles of *taawun* (cooperation) reflected in the *syirkah* (partnership) mode of financing provided to borrowers. This partnership will increase both parties' profitability and help develop Indonesia's more robust Islamic financial

ecosystem. This result also indicates the efforts of P2P Lending and Islamic banking to improve Islamic finance, which positively impacts the national economy.

This study also conducted a robustness test to strengthen the above results. By using the dynamic panel data Generalised Method of Moment method developed by Arellano & Bond (1991) and suggested by Roodman (2009) to eliminate endogeneity in the data, it was found that the P2P Lending variable did not significantly affect ROA in conventional banks. However, the estimation results for the Islamic banks found that the P2P Lending variable positively affected the ROA of Islamic banks.

Table 5. Results of Generalised Method of Moment (GMM)

Variables	Model A (All samples)	Model B (Conventional Bank)	Model C (Islamic Bank)
ROA (-1)	0.0898	0.1319	-0.0445
	(0.5392)	(0.1939)	(0.7494)
P2PL	0.000003	0.00004	0.0004**
	(0.8010)	(0.2799)	(0.0223)
Size	-0.0152	-0.0216*	-0.0637**
	(0.6501)	(0.0803)	(0.0407)
Branch	0.000002***	0.0104*	-0.026*
	(0.0120)	(0.0641)	(0.0599)
Cap	0.013	-0.0104	-0.0231
	(0.5837)	(0.6237)	(0.2842)
Loan	-0.01	-0.0223	0.009
	(0.8309)	(0.2357)	(0.9214)
LLP	-0.4599***	-0.2978***	-0.4898***
	(0.0002)	(0.0000)	(0.0011)
Observation	225	189	36
Sargan Test	0.5471	06205	0.8558

Note: The values in brackets indicate the probability value of each coefficient. The sign*, ** and *** indicate a significant level of 10%, 5% or 1%, respectively.

These results are consistent with the results of research using the panel data model random effects model, which shows that P2P Lending has a positive but insignificant effect on banking performance. While viewed from the two banking systems, namely conventional banks and Islamic banks, P2P Lending has no significant effect on the performance of conventional banks. However, it has a positive effect on Islamic banks.

Conclusion

This study examines the impact of P2P Lending on both conventional and Islamic banking performance in Indonesia. It uses a panel data regression method with a random effect model, with a sample of 63 conventional banks and 12 Islamic banks in Indonesia during the 2016-2020 period. The dependent variable is ROA, while the independent variable is the number of P2P Lending companies. From the estimation and analysis results, it can be concluded that Fintech P2P Lending does not affect conventional bank performance and has a minimal effect on the aggregate banks' performance in Indonesia. However, interestingly, P2P Lending has a significant positive impact on the Indonesian Islamic bank's performance. The result is consistent when GMM is used in the robustness model. Further analysis and observation suggest a collaboration and complementary relationship between Fintech P2P Lending and Islamic banks in Indonesia. The cooperation is primarily conducted in terms of funding distributions to MSMEs. It is argued that such collaboration is based on the Islamic principle of *taawun* (cooperation) reflected in the partnership *(syirkah)* mode of financing provided to borrowers. Even with the results above, this study has several limitations. Due to data limitations and using some previous research as a reference, it uses the number Fintech of P2P Lending companies as the measure for the Fintech sector in Indonesia for the period 2016-2020. Furthermore, it only includes micro banking as the independent variable. Future studies could make improvements by extending the data set, using a better proxy for the existence of P2P Lending (such as the amount of financing disbursed) and adding macroeconomic and institutional variables (such as GDP, inflation, and regulation) to the empirical model.

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