








“The impact of fintech peer-to-peer lending and Islamic banks on bank performance during COVID-19”

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THE IMPACT OF FINTECH PEER-TO-PEER LENDING AND ISLAMIC BANKS ON BANK PERFORMANCE DURING COVID-19

Abstract

This study delves into the influence of Peer-to-Peer (P2P) Fintech lending on bank performance in Indonesia, with a specific focus on its effects on Islamic banks both before and during the COVID-19 pandemic. Employing a fixed-effects model, unbalanced panel data from 121 banks, including 16 Islamic banks, were analyzed. The findings unveil a significant and positive impact of growth loan disbursement to borrowers from P2P lending on bank performance, particularly in terms of return on assets. Additionally, Islamic Banks exhibit a significant and favorable effect on overall bank performance. Conversely, the joint interaction between P2P lending and Islamic Banks demonstrates a negative and significant influence on Islamic bank performance, suggesting that while P2P lending may benefit conventional banks, it adversely affects Islamic banks. Furthermore, this negative impact is exacerbated during the COVID-19 period. These outcomes underscore the importance of collaboration or strategic alliances between P2P lending platforms and Islamic banks, particularly in the context of the COVID-19 pandemic.

Keywords

financial technology, Islamic bank, COVID-19, bank performance

JEL Classification

O31, E51, G20, G21, H12

INTRODUCTION

The COVID-19 pandemic has undeniably exerted substantial pressure on the global economy, leaving a lasting impact on various aspects of financial systems worldwide. This effect transcended industry boundaries, affecting financial institutions, including banks, at their core, as highlighted in the April 2020 edition of *The World Economic Outlook* by the International Monetary Fund (IMF). The IMF projected a significant global economic downturn, anticipating a contraction of approximately 3% in the global economy, with emerging markets expected to contract by 1%. This global economic upheaval naturally reverberated within national borders, impacting Indonesia in no small measure.

This economic turbulence significantly impacted the Indonesian banking sector, notably reflected in the decline in the average net profit of banks in 2020. Even the country's four major banks, pillars of the domestic financial landscape, experienced substantial declines in net profits, ranging from 5% to a staggering 78.7% compared to the same period in 2019. This financial setback had far-reaching implications for Indonesia's financial sector, prompting an exploration into the elements that contributed to the resilience or vulnerability of the banking sector during these tumultuous times.

Amid this economic upheaval, a remarkable development was the substantial increase in cumulative financing disbursement by Fintech lending platforms, as indicated by information obtained in April 2020 from the Financial Services Authority Indonesia. The numbers tell a compelling story, revealing an impressive 186.54% year-on-year growth, culminating in a total disbursement of IDR 106.06 trillion. These Fintech lending platforms also witnessed significant growth in both lenders, totaling 647,993 accounts, and borrowers, numbering 24,770,305 accounts.

The relevance of examining the impact of Peer-to-Peer (P2P) Fintech lending on bank performance, particularly within the context of health crises such as the COVID-19 pandemic, cannot be overstated. P2P lending has emerged as a disruptive force in the financial sector, reshaping traditional banking practices and challenging established business models. This phenomenon holds paramount importance because it significantly influences bank profitability, risk management, and efficiency, shaping their strategies for survival and growth during challenging times. The ongoing COVID-19 crisis underscores the urgency of understanding how banks, particularly Islamic banks, navigate this dynamic landscape. The pandemic has spurred increased demand for digital financial services, underscoring the importance of banks, including Islamic banks, adapting quickly and effectively to evolving customer preferences and market dynamics. The resulting economic uncertainties, financial disruptions, and shifts in consumer behavior necessitate a thorough examination of how Islamic banks, grounded in distinct ethical principles, engage with P2P lending to sustain their performance and fulfill their socio-economic responsibilities during health crises.

Islamic banks, guided by Sharia principles that prohibit interest-based transactions and promote ethical and equitable financial practices, present a unique context in the realm of P2P lending. The convergence of innovative Fintech solutions with Islamic finance principles offers a promising avenue for financial inclusion and sustainable banking practices. However, this convergence raises complex questions about the compatibility of P2P lending with the ethical underpinnings of Islamic finance. Consequently, the study of the interaction between P2P lending and Islamic banks becomes even more significant in light of the COVID-19 pandemic.

1. LITERATURE REVIEW AND HYPOTHESES

The theoretical frameworks proposed by Thakor (2012), Christensen (1997), Aaker and Keller (1990), and Philippon (2015) offer valuable insights into the impact of FinTech companies on the performance of banks. Aaker and Keller's Consumer Theory (1990) suggests that innovative services introduced by FinTech startups, driven by consumer demand, may replace traditional banking services. Christensen's Disruptive Innovation Theory (1997) extends this, stating that FinTech startups leverage technology to offer convenient and cost-effective services, posing substantial competition to banks, especially in serving small businesses. Thakor's model (2012) demonstrates how financial technology advancements lower entry barriers, increasing financial system competitiveness but also raising risks. However, Philippon's work (2015) reveals that

financial innovation like FinTech does not necessarily decrease intermediation costs. Notably, businesses are willing to pay higher interest rates for FinTech loans, underscoring their dedication to superior service provision.

The impact of FinTech on the financial landscape is a multifaceted phenomenon, with implications for various aspects of banking and economic performance. Tang (2019) reveals that peer-to-peer lending tends to have a substitutional rather than complementary effect on traditional banking services. This trend is particularly pronounced among small non-urban commercial banks, which experience a loss in loan volume, pushing them towards riskier lending practices in response to the growing prevalence of peer-to-peer lending (Cornaggia et al., 2018).

The competitive pressure exerted by FinTech companies emerges as a significant driver of change within the banking sector, as highlighted by Jakšič

and Marinč (2019). This pressure is underscored by the research of Buchak et al. (2018), who identify that FinTech startups accounted for a substantial portion of shadow banking loans in the US mortgage market. These startups display superior performance in setting interest rates due to variations in prepaid returns among borrowers, a feature that sets them apart from non-FinTech intermediaries.

Moreover, Jagtiani and Lemieux (2018) report that FinTech startups, exemplified by the likes of Lending Club, have a dominant presence in areas devoid of traditional banking institutions, especially in concentrated markets. The study suggests that these startups also play a role in lending activities in regions with poor economic performance. This phenomenon is indicative of the potential for FinTech startups to challenge traditional banks' market share and performance (Chen et al., 2019; Jun and Yeo, 2016; Ozili, 2018; Navaretti et al., 2017).

However, the competitive dynamics introduced by FinTech does not solely lead to negative consequences. While Wang et al. (2020) note that FinTech startups can elevate bank risk levels as competitors, they simultaneously stimulate a sense of competition that promotes financial inclusion (Zhang et al., 2019). Particularly noteworthy is the role of FinTech startups in enabling technology companies to offer financial services across various sectors. This alignment of technology and finance also opens up new investment avenues, offering depositors greater convenience, speed, and cost efficiency (Ozili, 2018).

On the other hand, Phan et al. (2020) find that the advent of FinTech across diverse categories negatively impacts the performance of listed banks. The industry-wide impact of new competition is reflected in the banking sector's loss of potential customers and the resulting pressure on profit margins (Románova & Kudinska, 2016). The study by Katsiampa et al. (2022) offers valuable perspectives on the effects of fintech lenders' rise on the financial standing of Chinese banks. The results show that the profitability of traditional banks is negatively impacted by the entry of fintech companies into the lending market.

The implications of FinTech's influence extend beyond profitability. Li et al. (2022) employ textual analysis of annual reports to construct a fintech index for 36 Chinese commercial banks, uncovering

a mix of effects: technological advancements have a notably negative impact on bank performance, while electronic payment methods contribute positively. In addition, the study by Ky et al. (2019) investigates the effect of mobile money services on East African banks' performance. The findings of the study indicate a negative correlation between the two variables. Haddad and Hornuf (2023) focus on the quantity of fintech enterprises and how it affects the banking sector, finding a positive correlation with incumbent financial institutions' performance, although the effect has recently declined. Nguyen et al. (2022) delve into the complex connection between bank performance worldwide and fintech credit, revealing a nuanced pattern where fintech lenders chip away at incumbent banks' profits while contributing to enhanced stability.

Chen et al. (2019) delve into the importance of innovation in financial technology, highlighting its diverse impacts on the financial sector. While some innovations bring overall value, specific fintech advancements negatively affect certain financial industries. Lastly, Yoon et al. (2023) illustrate how investing in fintech innovation particularly benefits less developed countries, as seen in their analysis of the World Bank Global Findex Database across multiple years and countries.

Even though a number of studies demonstrate Fintech's disruptive innovation, a number of studies demonstrate the opposite. For instance, Juengerkes (2016) shows that collaboration between Fintech and Banks can increase customer confidence and provide a complementary effect. According to Li et al. (2017), there is a favorable correlation between the rise in transactions in FinTech companies and the stock returns of US-based incumbent retail banks. This finding suggests that increased investment has a comparable effect on both sectors. For small banks, strategic partnerships between FinTech firms and banks result in win-win transactions. In the meantime, the presence of FinTech startups merely replaces unstable, highly concentrated traditional banks (Hodula, 2021). For small banks, strategic alliances between Fintech and banks can generate profits. Therefore, Fintech can serve as a supplement to banks rather than as a replacement for them.

The research results highlight that Islamic banks exhibit relative strengths in efficiency, profitability,

risk management, and liquidity compared to conventional banks. Islamic banks have relative advantages in terms of efficiency, profitability, liquidity, and risk management, whereas conventional banks outperform them in terms of asset quality (Khan et al, 2017). According to the findings of Ledhem and Mekidiche (Ledhem & Mekidiche, 2020), Islamic banks often exhibit higher levels of capitalization, reduced risk profiles, and enhanced liquidity compared to their conventional counterparts. In addition, Majeed and Zainab (2021) discovered that state ownership significantly improves the performance of conventional banks in the GCC region, but not Islamic banks.

Numerous academic investigations have scrutinized the diverse ramifications of the COVID-19 pandemic on a multitude of financial and business facets. Langi, et al. (2023) showed that COVID-19 affects poverty and the welfare of a country. Deviyanti et al. (2023), Irwansyah et al. (2023), Nurlia et al. (2023), Paminto et al. (2023), and Defung et al. (2023) found that COVID-19 harmed financial performance. K. Heyden and T. Heyden (2020), Topcu and Gulal (2020), and Schell et al. (2020) found that COVID-19 harmed stock prices. Salisu and Vo (2020), He et al. (2020), Erdem (2020), and Narayan et al. (2020) discovered that emerging market stocks reacted negatively to the COVID-19 outbreak. In a similar vein, Al-Awadhi et al. (2020) discovered that daily COVID-19 cases and death growth harmed stock returns across all Chinese companies. The COVID-19 pandemic had substantial effects on small and medium-sized businesses (Riadi et al., 2022b; Surahman et al., 2023; Achmad et al. 2023a; Lestari et al., 2021; Achmad et al., 2023b; Zainurossalamia et al., 2022; Lestari et al., 2022; Riadi et al., 2023). Topcu and Gulal (2020) found that COVID-19 reduced emerging stock returns. Mazur et al. (2020) discovered that the pandemic had a negative impact on US stocks, particularly entertainment, petroleum, hospitality, and real estate.

Focusing on the banking sector, Rizwana et al. (2020) showed that COVID-19 increased financial systemic risk sharply. An out-and-down option model for bank equity by Li et al. (2020) found that COVID-19 reduced optimal bank interest margins and efficiency gains. Therefore, COVID-19 increased bank risk-taking, which

could threaten banking stability. Different conditions of COVID-19 affected stock returns, according to Demirguc-Kunt et al. (2020). Wu and Olson (2020) found that COVID-19 hurt state-owned and joint-stock banks more than small and medium-sized banks short term. Over time, COVID-19 increased credit risks. Riadi et al. (2022a), Yudaruddin (2023), Ozsoy et al. (2020), and Maria et al. (2022) found a negative effect of COVID-19 on bank stability.

Studies conducted amid the crisis have highlighted the performance disparities between Islamic and conventional banks. While Ariss (2010) and Alam et al. (2019) highlighted Islamic banks' reduced competitiveness and lower market power than conventional banks, the crisis further accentuated these differences. Islamic banks faced greater hurdles in maintaining profitability during the pandemic. Despite the absence of a significant performance gap during the global financial crisis, as observed by Beck et al. (2013), Islamic banks exhibited a substantial decline in profitability relative to conventional banks during the crisis, as reported by Olson and Zoubi (2017). This divergence in profitability dynamics during crises emphasizes the need for Islamic banks to adapt swiftly to evolving market conditions. In comparison to conventional banks, Islamic banks have poor performance (Yudaruddin, 2023b).

Overall, the main objective of this study is to investigate the impact of peer-to-peer (P2P) financial technology lending on bank performance. In addition, this study investigates the influence of peer-to-peer (P2P) Fintech lending on the performance of Islamic banks before and during COVID-19. There are actually two goals here. The present study aims to test the following hypotheses:

H1: Fintech has a negative impact on bank performance.

H2: Islamic banks have a positive impact on bank performance.

H3: Fintech has a negative impact on Islamic bank performance.

H4: Fintech has a negative impact on Islamic bank performance during COVID-19.

2. DATA AND METHODOLOGY

2.1. Data

This study investigates the impact of Peer-to-Peer (P2P) Fintech lending on bank performance in Indonesia. Furthermore, it specifically explores the effects of P2P Fintech lending on Islamic bank performance both before and during the COVID-19 period in Indonesia. This study focuses on analyzing 121 banks, including 16 Islamic banks. P2P Fintech lending is measured using the Growth Loan Disbursement to Borrowers of all P2P Fintech lending platforms in Indonesia. Data is collected from Fintech Lending Statistics available from the Financial Services Authority of Indonesia. Meanwhile, bank-specific variables are gathered from the annual financial reports of banks during the period 2016–2022. This study divides the data into two periods: the time period preceding the COVID-19 pandemic (2016–2019) and the time period following the COVID-19 pandemic (2020–2022). The COVID-19 period is based on the first confirmed COVID-19 case in Indonesia on March 2, 2020, as reported by the Indonesia Ministry of Health.

This study employs dependent, independent, and control variables. Two dependent variables reflecting bank performance are used. Following the methodology of Yudaruddin (2017, 2023c) and Defung et al. (2023), this study uses Return on Equity (ROE) and Return on Assets (ROA) to measure bank performance. Higher ROR and ROA indicate better bank performance. As for the explanatory variables of interest, Islamic Banks (IB) are used as an independent variable. Similar to existing literature, this study employs a dum-

my variable, which has a binary value of 1 if it is an Islamic Bank, and 0 if it is not (Yudaruddin, 2023c; Beck et al., 2013; Olson & Zoubi, 2017).

This study also examines several bank-specific control variables (Yudaruddin, 2017, 2023c; Defung et al., 2023). First, banking efficiency (EFF). Efficient banks tend to generate larger profits because they can control their operational costs effectively. Lower costs mean more income remains as net profit. Furthermore, efficiency can enhance a bank's competitiveness in the market. With lower costs, banks can offer products and services with more competitive interest rates or lower fees to their customers, which can increase their market share. Second, Bank Size (SIZE). Bank size can affect bank performance. Larger banks often have more resources, a broader customer base, and economies of scale, which can boost performance. However, they might face higher administrative costs and complexity, affecting efficiency. The relationship depends on how well the bank manages its resources and addresses challenges.

Third, Bank Capital (EQTA). Sufficient capital is essential for a bank's stability and resilience. It acts as a buffer against financial shocks, reducing the risk of insolvency. Additionally, well-capitalized banks tend to have better credit ratings and lower borrowing costs. However, excessively high capital levels can hinder profitability, as capital that could be used for more profitable activities remains idle. Thus, maintaining an optimal balance of capital is crucial for a bank's overall performance and risk management. Last, Bank Concentration (CR3). There is a complex relationship between bank concentration and bank performance. High concentration, with a few large

Table 1. Dependent, independent, and control variables

Variables	Abbreviation	Definition	Expectation Sign
Return on Asset	ROA	Net profit to total asset (%)	–
Return on Equity	ROE	Net profit to total equity (%)	–
Fintech Peer-to-Peer Lending	P2P	Growth Loan Disbursement to Borrowers	–
Islamic Banks	IB	A dummy variable whose value is 1 if the bank is an Islamic bank and 0 otherwise.	–
Efficiency	EFF	Ratio of income to operating expenses	–
Bank Size	SIZE	Log natural of total assets	+
Equity to Total Asset	EQTA	Equity to Total Assets	+
Bank Concentration	CR3	The proportion of total commercial banking assets held by the three main commercial banks	–/+

banks dominating the market, can have both positive and negative effects on bank performance. On the one hand, concentration can increase the stability of the banking sector, as large banks may be better able to cope with large economic pressures.

2.2. Methodology

In terms of the econometric methodology, the analysis is conducted in three stages. First, regressions are performed where Peer-to-Peer (P2P) Fintech lending is measured using variables such as Islamic Banks, Growth Loan Disbursement to Borrowers, and a set of control variables simultaneously, as shown in Equations (1) and (2). In the second stage, the study expands upon this regression by introducing new variables derived from the interaction between P2P Fintech lending and Islamic banks (Equations (3) and (4)). This process is repeated across all three stages, with the sample being divided between the periods before and during the COVID-19 pandemic. The following model was employed to predict bank performance:

$$ROA_{i,t} = \beta_0 + \beta_1 P2P_t + \beta_2 IB_{i,t} + \beta_3 EFF_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 EQTA_{i,t} + \beta_6 CR3_t + \varepsilon_{i,j}, \quad (1)$$

$$ROE_{i,t} = \beta_0 + \beta_1 P2P_t + \beta_2 IB_{i,t} + \beta_3 EFF_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 EQTA_{i,t} + \beta_6 CR3_t + \varepsilon_{i,j}, \quad (2)$$

$$ROA_{i,t} = \beta_0 + \beta_1 P2P_t + \beta_2 IB_{i,t} + \beta_3 P2P_t \cdot IB_{i,t} + \beta_4 EFF_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 EQTA_{i,t} + \beta_7 CR3_t + \varepsilon_{i,j}, \quad (3)$$

$$ROE_{i,t} = \beta_0 + \beta_1 P2P_t + \beta_2 IB_{i,t} + \beta_3 P2P_t \cdot IB_{i,t} + \beta_4 EFF_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 EQTA_{i,t} + \beta_7 CR3_t + \varepsilon_{i,j}, \quad (4)$$

where i represents a specific bank, t represents a year, and ROA and ROE are the dependent variables. IB and $P2P$ constitute the independent variable. EFF , $SIZE$, $EQTA$, and $CR3$ are industry- and bank-specific control variables, respectively. Additionally, i , t represent error terms at the bank level. In line with the approach of Maria et al. (2022), Yudaruddin (2017, 2023c), and Deviyanti et al. (2023), this study employs a panel-data re-

gression methodology. Panel data analysis encompasses the examination of both cross-sectional and time-series variations included in the dataset, effectively addressing various challenges such as multicollinearity, estimator bias, and heteroscedasticity (Wooldridge, 2010; Baltagi, 2008). The fixed effects model (FEM) using the least squares method was utilized. The suitability of employing FEM rather than an REM (random effects model) regression model was assessed through the Hausman test. The fixed-effect model provides consistent and unbiased estimates of coefficients by employing panel data (Wooldridge, 2010).

3. EMPIRICAL RESULTS

Table 2 provides a comprehensive overview of the key descriptive statistics for the variables examined in this study. These statistics offer valuable insights into the central tendencies, variabilities, and the range of values within the dataset. For instance, when considering Return on Assets (ROA), the mean stands at 1.2639, suggesting a positive average performance among the sampled banks. However, the standard deviation of 1.7320 indicates a considerable spread in ROA values, ranging from -5.4800 to 4.0800, revealing a notable variation in profitability. Similarly, ROE (Return on Equity) exhibits an average of 6.6691, indicating a generally favorable performance, but with a broad dispersion reflected in the standard deviation of 9.8353 and a range from -31.760 to 24.840. Other variables such as Peer-to-Peer (P2P) lending, Islamic Banks (IB), Efficiency (EFF), Size (SIZE), Equity to Total Assets (EQTA), and Concentration Ratio (CR3) are also presented, shedding light on their respective characteristics within the dataset. Overall, all variables can be used for estimation.

Table 2. Descriptive statistics

Variables	Obs.	Mean	Std. dev.	Max	Min
ROA	773	1.2639	1.7320	-5.4800	4.0800
ROE	773	6.6691	9.8353	-31.760	24.840
P2P	657	3.4813	3.0815	0.7500	8.2000
IB	773	0.1203	0.3255	0.0000	1.0000
EFF	773	87.082	19.085	53.270	180.25
SIZE	773	16.876	1.3236	14.059	19.543
EQTA	773	0.1715	0.0889	0.0644	0.5499
CR3	773	38.886	0.8753	37.868	40.421

Table 3, the correlation matrix, provides insight into the relationships between the variables under examination. Notably, the correlation coefficients appear to be generally low across the board, suggesting that there is no significant cause for concern regarding multicollinearity. For instance, when considering the correlation between Peer-to-Peer (P2P) lending and Islamic Banks (IB), it is nearly zero at -0.0047 . Similarly, the correlation between Efficiency (EFF) and Concentration Ratio (CR3) is also quite low at -0.0132 . These low correlation coefficients indicate that the examined variables are not strongly linearly related, reducing the risk of multicollinearity. Overall, this correlation matrix provides confidence that multicollinearity is not a substantial issue in this study, which enhances the robustness of the subsequent regression analyses.

Table 3. Correlation matrix

Variable	P2P	IB	EFE	SIZE	EQTA	CR3
P2P	1.0000	–	–	–	–	–
IB	-0.0047	1.0000	–	–	–	–
EFF	-0.0132	0.0952	1.0000	–	–	–
SIZE	-0.1262	-0.1332	-0.2504	1.0000	–	–
EQTA	-0.1139	0.0067	0.0425	-0.3964	1.0000	–
CR3	-0.7456	0.0095	0.0467	0.0562	0.0357	1.0000

In the first analysis stage, the effects of P2P lending were assessed, Islamic Banks (IB), and several control variables on bank performance were measured using ROA and ROE. The regression analysis in Table 4 reveals a significant and positive influence of growth loan disbursement to borrowers

from P2P lending on bank performance, particularly on return on assets (ROA), as indicated by the coefficient value of 0.0957 with a probability of 0.000. Therefore, these results do not support the first hypothesis (*H1*). Conversely, the Islamic Bank (IB) variable shows a positive and significant effect, with a coefficient of 1.0285 and 4.0020, suggesting that Islamic banks exhibit superior performance compared to conventional banks. This supports hypothesis 2 (*H2*). Control variables exhibit expected relationships, with coefficients aligning with the theoretical framework, although some variables are not statistically significant.

Table 5 shows the impact of independent and control variables on the dependent variables during COVID-19. The results reveal that the impact of growth loan disbursement to borrowers from P2P lending on bank performance is not significant, both before the COVID-19 pandemic (2016–2019) and during the pandemic (2020–2022). In contrast, the impact of Islamic Banks on bank performance tends to be more positive and significant before the COVID-19 period compared to during the pandemic.

Table 6 delves into the joint impact of P2P Fintech lending and Islamic Banks on bank performance. The results indicate a negative and significant influence on Islamic banks' performance, measured by both ROA and ROE. The negative results suggest that an increase in growth loan disbursement to borrowers from P2P lending tends to decrease Islamic banks' performance, supporting hypothesis 3 (*H3*).

Table 4. Peer-to-Peer fintech lending, Islamic bank and bank performance

Explanatory Variables	Dependent Variables					
	ROA			ROE		
	Coef.	Std. error	P > t	Coef.	Std. Err.	P > t
P2P	0.0957***	0.0263	0.000	0.2293	0.1900	0.228
IB	1.0285***	0.1634	0.000	4.0020***	1.1815	0.001
BOPO	-0.0681***	0.0017	0.000	-0.3175***	0.0123	0.000
SIZE	0.1071***	0.0409	0.009	1.0023***	0.2960	0.001
EQTA	3.4458***	0.6260	0.000	5.6946	4.5257	0.209
CR3	0.1758*	0.0959	0.067	0.0551	0.6932	0.937
CONS.	-2.5004	3.9651	0.529	12.304	28.668	0.668
F-Statistics	288.2	–	–	127.0	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7268	–	–	0.5397	–	–
Adj. R-squared	0.7243	–	–	0.5354	–	–
Number of Obs.	657	–	–	657	–	–

Note: *, **, *** indicate significance at 1, 5, and 10%, respectively.

Table 5. Peer-to-Peer fintech lending, Islamic bank and bank performance – Before vs during COVID-19

Explanatory Variables	Dependent Variables					
	ROA			ROE		
	Coef.	Std. err.	P > t	Coef.	Std. err.	P > t
P2P	0.0265	0.0642	0.680	0.2680	0.4199	0.524
IB	0.9950***	0.1897	0.000	2.2707*	1.2419	0.068
BOPO	-0.0953***	0.0030	0.000	-0.5375***	0.0198	0.000
SIZE	0.0321	0.0475	0.499	0.2481	0.3106	0.425
EQTA	4.7557***	0.9947	0.000	-7.7491	6.5105	0.235
CR3	0.0676	0.2283	0.767	0.4384	1.4942	0.769
CONS.	5.5666	9.1931	0.545	31.637	60.171	0.599
F-Statistic	195.2	–	–	142.5	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7802	–	–	0.7216	–	–
Adj. R-squared	0.7762	–	–	0.7166	–	–
Number of Obs.	337	–	–	337	–	–
P2P	-0.0482	0.9333	0.959	2.6953	7.0382	0.702
IB	1.1418	0.2422	0.000	6.2383	1.8262	0.001
BOPO	-0.0595	0.0020	0.000	-0.2559	0.0152	0.000
SIZE	0.0872	0.0642	0.175	0.7002	0.4840	0.149
EQTA	1.8761	0.7889	0.018	0.6098	5.9489	0.918
CR3	0.1254	0.1235	0.310	-0.4056	0.9312	0.663
CONS.	-0.5849	4.8830	0.905	28.616	36.823	0.438
F-Statistics	154.9	–	–	53.81	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7481	–	–	0.5078	–	–
Adj. R-squared	0.7432	–	–	0.4983	–	–
Number of Obs.	320	–	–	320	–	–

Note: *, **, *** indicate significance at 1, 5, and 10%, respectively.

Table 6. Joint impact of Peer-to-Peer fintech lending and Islamic banks

Explanatory Variables	Dependent Variables					
	ROA			ROE		
	Coef.	Std. Err.	P > t	Coef.	Std. Err.	P > t
P2P	0.1115***	0.0269	0.000	0.3641*	0.1941	0.061
IB	1.4880***	0.2427	0.000	7.9116***	1.7516	0.000
P2P · IB	-0.1331**	0.0522	0.011	-1.1326***	0.3765	0.003
BOPO	-0.0682***	0.0017	0.000	-0.3177***	0.0122	0.000
SIZE	0.1075***	0.0408	0.009	1.0057***	0.2942	0.001
EQTA	3.4182***	0.6234	0.000	5.4596	4.4986	0.225
CR3	0.1753*	0.0955	0.067	0.0506	0.6889	0.941
CONS.	-2.5350	3.9484	0.521	12.009	28.492	0.674
F-Statistics	250.1	–	–	111.5	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7296	–	–	0.5460	–	–
Adj. R-squared	0.7266	–	–	0.5411	–	–
Number of obs.	657	–	–	657	–	–

Note: *, **, *** indicate significance at 1, 5, and 10%, respectively.

Table 7 presents the joint impact between Peer-to-Peer Fintech lending and Islamic Banks, comparing the periods before and during COVID-19. The results reveal that the interaction between Peer-to-Peer Fintech lending and Islamic Banks is only significant during the COVID-19 period.

This indicates that the negative impact experienced by Islamic banks due to increased growth loan disbursement to borrowers from P2P lending reduces their performance, especially during COVID-19, supporting hypothesis 4 (*H4*).

Table 7. Joint impact of Peer-to-Peer fintech lending and Islamic banks – Before vs during COVID-19

Explanatory Variables	Dependent Variables					
	ROA			ROE		
	Coef.	Std. Err.	P > t	Coef.	Std. Err.	P > t
P2P	0.0425	0.0648	0.512	0.2847	0.4256	0.504
IB	1.7095***	0.4847	0.000	3.0199	3.1848	0.344
P2P · IB	-0.1218	0.0760	0.110	-0.1277	0.4996	0.798
BOPO	-0.0948***	0.0030	0.000	-0.5370***	0.0199	0.000
SIZE	0.0346	0.0474	0.465	0.2507	0.3112	0.421
EQTA	4.7596***	0.9924	0.000	-7.7450	6.5198	0.236
CR3	0.0700	0.2278	0.759	0.4408	1.4963	0.768
CONS.	5.2975	9.1729	0.564	31.355	60.266	0.603
F-Statistics	168.5	–	–	121.8	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7819	–	–	0.7217	–	–
Adj. R-squared	0.7773	–	–	0.7158	–	–
Number of Obs.	337	–	–	337	–	–
P2P	0.5347	0.9726	0.583	6.6986	7.3429	0.362
IB	5.7173**	2.2799	0.013	37.663**	17.212	0.029
P2P · IB	-5.2014**	2.5773	0.044	-35.724*	19.457	0.067
BOPO	-0.0601***	0.0020	0.000	-0.2598***	0.0153	0.000
SIZE	0.0874	0.0639	0.172	0.7013	0.4822	0.147
EQTA	1.9223**	0.7854	0.015	0.9274	5.9290	0.876
CR3	0.1317	0.1229	0.285	-0.3622	0.9280	0.697
CONS.	-1.3040	4.8722	0.789	23.677	36.783	0.520
F-Statistics	134.66	–	–	127.0	–	–
Prob. > F	0.0000	–	–	0.0000	–	–
R-squared	0.7513	–	–	0.5130	–	–
Adj. R-squared	0.7457	–	–	0.5021	–	–
Number of Obs.	320	–	–	320	–	–

Note: *, **, *** indicate significance at 1, 5, and 10%, respectively.

4. DISCUSSION

This study examines the impact of Peer-to-Peer (P2P) Fintech lending on Indonesian bank performance. In addition, it investigates the effects of P2P Fintech lending on Islamic bank performance in Indonesia before and during the COVID-19 period.

The positive and significant impact of growth loan disbursement to borrowers from P2P lending on bank performance, particularly return on assets (ROA), suggests that the adoption of P2P lending practices complements Islamic banks rather than disrupts them. Indeed, several banks in Indonesia have adopted collaboration strategies with P2P lending fintech to enhance their performance. This result aligns with prior research indicating the benefits of collaboration or strategic alliances between P2P lending and banks in boosting bank performance (Juengerkes, 2016; Li et al., 2017; Hodula, 2021).

Regarding Islamic Banks (IB), the positive and significant effect of Islamic Banks (IB) on bank performance, as reflected in the higher coefficients and probability values, indicates that Islamic banks outperform conventional banks in terms of profitability, potentially due to the alignment of Islamic banking principles with market demands. This finding reinforces previous studies with similar outcomes (Khan et al., 2017; Ledhem & Mekidiche, 2020; Majeed & Zainab, 2021).

The negative and significant impact of the joint interaction between P2P lending and Islamic Banks on Islamic bank performance suggests that while P2P lending may positively affect conventional banks, it has an adverse effect on Islamic banks. This implies that P2P lending practices may not be as suitable for the unique operational context of Islamic banks, possibly due to differences in risk management strategies or customer preferences. Furthermore, the significant interaction between

Peer-to-Peer Fintech lending and Islamic Banks, especially during the COVID-19 period, indicates that the adverse impact of increased growth loan disbursement from P2P lending on Islamic bank performance intensifies during economic uncertainty. This finding underscores the vulnerability of Islamic banks to external shocks and disruptions, such as those caused by the

COVID-19 pandemic, within the realm of P2P lending. These results align with previous research highlighting Islamic banks' reduced competitiveness and lower market power compared to conventional banks, with the crisis further accentuating these differences (Ariss, 2010; Alam et al., 2019; Beck et al., 2013; Olson & Zoubi, 2017; Yudaruddin, 2023b).

CONCLUSION

This study investigates the impact of Peer-to-Peer (P2P) Fintech lending on bank performance in Indonesia, focusing on Islamic banks both before and during the COVID-19 pandemic. Unbalanced panel data from 121 banks, including 16 Islamic banks, were analyzed using a fixed-effects model. The findings reveal a significant and positive effect of the growth distribution of funds to individuals who have borrowed money from peer-to-peer lending on bank performance, especially return on assets. In addition, Islamic banks have a significant and positive impact on the overall performance of banks. In contrast, the interaction between peer-to-peer lending and Islamic banks has a negative and significant effect on Islamic bank performance, suggesting that while peer-to-peer lending may benefit conventional banks, it is detrimental to Islamic banks. In addition, this negative impact is exacerbated during the period of COVID-19. In the context of the COVID-19 pandemic, these results highlight the significance of collaboration or strategic alliances between P2P lending platforms and Islamic banks.

The results of this study hold important policy implications for regulators and banks, especially Islamic banks, in Indonesia. Regulators should consider the need for comprehensive oversight and guidance regarding the collaboration between P2P lending platforms and banks, especially Islamic banks, to ensure responsible lending practices and risk management. Additionally, given the adverse impact of the interaction between P2P lending and Islamic Banks, especially during COVID-19, regulators should encourage Islamic banks to diversify their income sources and enhance their risk mitigation strategies. Islamic banks should proactively seek strategic alliances with P2P lending platforms to harness their potential for growth while fortifying their risk management frameworks. Overall, fostering collaboration between P2P lending and Islamic banks could help enhance financial resilience and stability, ultimately benefiting the broader economy.

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