

Article

Is Profit–Loss-Sharing Financing Matter for Islamic Bank’s Profitability? The Indonesian Case

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Abstract: Financing is the main source of Islamic bank income as a financial intermediary that will contribute to the bank’s profitability. There are two financing schemes, namely profit–loss-sharing financing and non-profit–loss-sharing financing. The main purpose of this study is to analyze the impact of profit–loss-sharing financing on the Islamic bank’s profitability. We employ 31 Islamic commercial banks in Indonesia using quarterly data and spanning from 2016 Q1 to 2020 Q4. Dynamic panel regression using the two-step system GMM is applied. The results showed that profit–loss-sharing financing has a negative effect on profitability, suggesting that profit–loss financing discourages Islamic bank performance. Meanwhile, some control variables such as size and liquidity risk positively influence profitability and low efficiency, and financing quality negatively affects profitability. These findings have an important implication for Islamic banks. Islamic banks must conduct tight monitoring for PLS financing so that this ex-post scheme can encourage the performance of Islamic banks.

Keywords: Islamic bank; profitability; profit-sharing financing; Indonesia

JEL Classification: G21; G24; G28

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1. Introduction

The primary source of income for Islamic banks as a financial intermediary is financing, where the high financing leads to high income and in turn generates more profit. Two financing schemes provided by Islamic banks are profit–loss-sharing (PLS) and non-PLS (NPLS) financing. PLS financing is the main course of Islamic banks. PLS financing or equity financing consists of Musyarakah and Mudharabah. Mudharabah is a contract between the Islamic bank and its customer, whereby the latter can mobilize the funds from the former for its business activity within Islamic guidelines. Profits are shared between the two parties according to a mutually agreed ratio. Musyarakah is a contract between an Islamic bank and its customers, for which both parties provide capital and both may be active in managing the venture. Profit and losses are shared on the basis of how much capital has been contributed. However, Islamic banks around the world have less preference for providing PLS financing due to high risk (Warninda et al. 2019; Šeho et al. 2020). Indeed, the average PLS financing in Indonesian Islamic banks is relatively small, at around 11.91% of total financing during 2016–2020.

There are several reasons why PLS financing is minor financing. First, PLS contracts have complex procedures, because Islamic banks must know in detail the characteristics of customers (Abedifar et al. 2013). Second, PLS contracts also cause high transaction costs because Islamic banks must carry out well controlling and monitoring (Louhichi and Boujelbene 2016). Third, the PLS contract also poses a high financing risk due to agency

problems, causing asymmetric information and moral hazards (Beck et al. 2013). However, the PLS contract is a kind of fair contract between an Islamic bank and a customer due to the ex-post principle. Profits and losses will be shared according to the agreement, so this type of contract is expected to appeal to more customers to borrow money from Islamic banks (Risfandy et al. 2019).

Based on the above facts, this study investigates whether PLS financing, which stems from the main principle of Islamic banks, could harm or enhance the Islamic bank's performance. More exactly, our study explores whether PLS financing deteriorates or strengthens the Islamic bank's profitability in Indonesia. Our empirical study is important, since PLS financing is not the main choice of financing for Islamic banks. The selection of Indonesian Islamic banks is because the market share of Islamic banks in Indonesia is small, but PLS financing is the largest financing compared to other countries.

This study will contribute to the existing empirical study in some ways. First, although PLS financing is the core business of Islamic banks, research on the role of PLS financing on Islamic bank profits has not been widely carried out. Several studies examine the effect of PLS financing on nonperforming financing (Alandejani and Asutay 2017; Warninda et al. 2019). Second, PLS financing is the core business of Islamic banks, so this finding is expected to be important information for Islamic banks and policymakers in managing PLS financing.

The rest of the paper is organized as follows. Section 2 highlights the previous studies and develops the hypothesis. Section 3 presents the method and data. Section 4 provides the findings and discussion. Section 5 discusses the conclusion, implication, and limitations.

2. Literature Review and Hypothesis Development

2.1. Financing Schemes and Profitability

Islamic banks, in addition to having the goal of providing usury-free banking services to the public, must also be oriented to seeking profit, as in conventional banks, so that Islamic banking can grow and develop with other Islamic financial institutions (OJK 2020). Profitability is the company's ability to generate profits, which can be measured by several formulations such as return on assets (ROA), return on equity (ROE), return on investment (ROI), and profit margin (PM) (Van Horn and Wachowicz 2013). Profitability is widely proxied by ROA, because ROA shows the ability to earn profits with all assets owned. Profitability is very important for the company because it is an indicator of management performance that can affect the value of the company. Profitability shows the company is developing and growing, which allows the company to pay larger dividends (Ahmed 2015).

Sanmugram and Zahari (2009) revealed that financing in Islamic banks can be grouped into natural certainty contracts (NCC) and natural uncertainty contracts (NUC). NCC is a financing contract with a definite amount and time of return. The NCC comprises an NPLS scheme such as the Murabahah contract, because there is certainty about the amount and time of return, and this financing is low-risk and very easy to calculate. Meanwhile, NUC is a financing contract for which there is no certainty about the amount and time of payment because it depends on the benefits obtained by the customer. The NUC is a PLS scheme in which the financing installments depend on the customer's profits, which will be given in the form of profit sharing. The number of installments may not be determined at the beginning of the agreement. What may be determined at the beginning is the ratio or profit-sharing portion.

An Islamic bank prefers NPLS which are low-risk and easier to process. According to financing data, the portion of NPLS is much higher, which is more than 80% on average, compared to PLS, which averages less than 20%. Accordingly, the amount of financing provided through NPLS contracts has a positive effect on profitability due to low risk and ease of implementation (Warninda 2014; Belkhaoui et al. 2020). By contrast, equity

financing may result in a different impact on profitability. The Mudharabah contract leads to highly impaired financing and then lower profitability because it causes agency problems due to moral hazards and asymmetric information (Azmat et al. 2015). However, PLS contracts can increase profitability if an Islamic bank can monitor and manage well both the Musyarakah and Mudharabah contracts (Čihák and Hesse 2010; Danlami et al. 2022). Thus, the hypotheses can be expressed as:

H1. *PLS has either a negative or positive effect on the Islamic bank's profitability.*

2.2. Market Share

One theory that describes the link between a bank's profitability and market structure is the relative market power hypothesis (RMP). The RMP proposes that the profitability of a bank relies on the market share (Smirlock 1985). The large market share can generate various products to capitalize on market power and then can determine the high price and lead to high profits. Some previous studies documented that bank profitability is associated with high market share (Mirzaei et al. 2013; Sahile et al. 2015; Hamid 2017). Accordingly, the third hypothesis can be stated as follows:

H2. *Market share has a positive impact on the Islamic bank's profitability.*

2.3. Bank Size and Profitability

Bank size (SIZE) is the size of a bank that can be measured by total assets (Petria et al. 2015; Javaid and Alalawi 2018; Lohano and Kashif 2019). Banks with large sizes have a greater opportunity to diversify their portfolios, so they tend to generate higher profitability. With large assets, they have a great opportunity to provide financing. Bank management is required to manage assets effectively and efficiently so that they can contribute to profitability. This positive influence is possible because bank management can provide financing with prudent principles (Lohano and Kashif 2019). Size, therefore, is positively linked to the profitability of Islamic banks (Zarrouk et al. 2016) and conventional banks, and Jaouad and Lahsen (2018), in their research on conventional banking, found a significant and positive effect between size and profitability. Therefore, the proposed hypothesis is:

H3. *SIZE has a positive effect on the Islamic bank's profitability.*

2.4. Capital and Profitability

Capital for banks is very important. Therefore, the government regulates bank capital by setting a capital adequacy ratio (CAR), which is a comparison between equity and risk-weighted assets (Schoon 2016). The Financial Services Authority (FSA) in Indonesia sets a minimum CAR limit of 8%. Bank capital is very important, because capital functions as a reserve to cover bank losses. In addition, the amount of bank capital can also be used for financing so that the higher CAR will be able to increase profitability. Several results of research conducted on Islamic banks show a positive influence between CAR and profitability (Javaid and Alalawi 2018; Hossain and Khalid 2018). Similar findings are found in conventional banking (Durguti et al. 2020; Oleiwi et al. 2019; Lohano and Kashif 2019). Therefore, the hypothesis can be formulated as follows:

H4. *CAR has a positive effect on the Islamic bank's profitability.*

2.5. Liquidity Risk and Profitability

Liquidity problems in Islamic banks are more complicated than those of conventional banks, because the instrument for placing funds for Islamic banks is limited (Islam et al. 2017). Liquidity, apart from preparing funds to be used as reserves in the case of

withdrawal of funds from customers at any time, also relates to the bank's commitment to providing funds for financing. In this study, liquidity is measured by the financing-to-deposit ratio (FDR), namely the amount of financing provided by Islamic banks compared to customer deposits. The greater the FDR, the higher the financing and the higher the financing can increase income, which will ultimately increase profitability. The results of research on Islamic banks show a positive and significant effect between FDR and profitability (Widarjono et al. 2020). The same results were found from the results of research conducted on conventional banks (Sofyan 2019; Koroleva et al. 2021). Thus, the formulation of the hypothesis is:

H5. *FDR has a positive effect on the Islamic bank's profitability.*

2.6. Efficiency and Profitability

In operating, bank management is required to manage so that there is no waste that can lead to inefficiency. Bank profitability can be achieved if management can operate efficiently, so efficiency becomes one of the elements that make up profitability. Efficiency is measured by the comparison of operating expenses with operating income (OEIR). The lower the OEIR, the more efficient it will be and will be able to increase profitability, because profit is derived from operating income minus operating costs (Hossain and Khalid 2018). Operational costs must be reduced in such a way that they cannot be greater than operating income so that the bank can make a profit. Several studies found a negative effect between OEIR and profitability (Javaid and Alalawi 2018; Al-Harbi 2019). The formulation of the hypothesis is as follows:

H6. *OEIR has a negative effect on the Islamic bank's profitability.*

2.7. Financing Risk and Profitability

Islamic banking operating income comes from the financing provided; the greater the financing provided, the greater the opportunity to earn a large income and to increase profits. However, financing may result in a considerable risk if the financing selection process does not use the precautionary principle (Schoon 2016). This financing risk of the Islamic banks is considered to measure risk-taking behavior. Our study employs the ratio of financing loss provisions to total financing, to which this ratio measures Islamic banks' financing quality. High financing provision indicates an inability of borrowers to fulfill their financing obligation in a timely manner. The existing studies documented a negative influence between financing quality and profitability for Islamic banks (Sutrisno and Widarjono 2018) and conventional banks (Lohano and Kashif 2019; Durguti et al. 2020; Koroleva et al. 2021). Based on the results of theoretical studies and the findings of previous researchers, the following hypotheses can be formulated:

H7. *FLP has a negative effect on the Islamic bank's profitability.*

2.8. COVID-19 and Profitability

The COVID-19 pandemic has had an impact on all economic sectors, including the Islamic banking sector. The existence of COVID-19 has caused social restrictions that disrupt the production of goods and services in the small, medium, and large industrial sectors. As a result, Indonesia's GDP in the third quarter of 2020 grew by minus 3.49%. As a result, Islamic banks experience excess liquidity due to limited disbursement of funds. In addition, the decline in the production of goods and services will also increase nonperforming financing of Islamic banks. Thus, the impact of COVID on profitability can be written in the following hypothesis as:

H8. *COVID-19 has a negative effect on the Islamic bank's profitability.*

3. Method and Data

Islamic banks in Indonesia are classified into large and small Islamic bank. The large Islamic banks consist of Islamic commercial banks and Islamic bank windows. The latter is a conventional bank that runs both Islamic banks as well as conventional banks. On the other hand, small Islamic banks are rural Islamic banks that operate in regional areas. Islamic banks in Indonesia offer two types of financing, encompassing the profit-loss-sharing (PLS) scheme and the non-profit-loss-sharing (NPLS) scheme with Islamic contracts. PLS financing consists of two contracts, namely Mudharabah and Musyarkah. Non-PLS comprises Murabaha, Qardh, Istisna, Ijarah, and Salam.

There were 12 Islamic commercial banks and some conventional banks that opened 22 Islamic bank windows in 2021. Four Islamic banks encompassing Bank Syariah Mandiri (BSM), Bank Muamalat Indonesia (BMI), Bank BRI Syariah, and Bank BNI Syariah dominate the market share of Islamic commercial banks. In 2021, BSM, BRI Syariah, and BNI Syariah merged into Bank Syariah Indonesia (BSI). The concentration ratio of the four largest Islamic banks (CR-4) in 2021 was 48.85%. Accordingly, the market of Islamic banks is an imperfect market and close to the oligopoly market.

3.1. Research Method

According to the existing literature, our study applied a panel data model, which is a combination of time series and cross-section data. The dynamic panel data regression employed to explore the effect of PLS financing on Islamic bank profitability is as follows:

$$ROA_{it} = \phi_0 + \phi_1 ROA_{it-1} + \phi_2 PLS_{it} + \phi_3 MS_{it} + \phi_4 SIZE_{it} + \phi_5 CAR_{it} + \phi_6 FDR_{it} + \phi_7 OEIR_{it} + \phi_8 FLP_{it} + \phi_9 COVID_{it} + e_{it} \quad (1)$$

where ROA is the return on asset, PLS is profit-loss-sharing financing, and NPLS is non-profit-loss-sharing financing. Control variables consist of market share, bank size, capital adequacy ratio, financing-to-deposit ratio, operating cost-to-income ratio, and financing loss provision. Table 1 shows variables and their measurement.

Table 1. Variables and measurement.

Variables	Symbol	Measurement
Return on Assets	ROA	Earning After Tax/Total Assets
Profit-Sharing Financing	PLS	(Musyarakah+Mudharabah)/asset (Musyarkah + Mudharabah)/financing
Market Share	MS	Total asset of an Islamic bank/total asset of all Islamic banks
Bank Size	SIZE	Ln Total Assets
Capital Adequacy Ratio	CAR	Equity/Assets weighted risk
Financing-to-Deposit Ratio	FDR	Total financing/Third party fund
Operating expense to Income Ratio	OEIR	Operating expense/operating income
Financing loss provision	FLP	Financing loss provision/total financing
COVID-19	COVID	Dummy variable

Our study used the GMM method to estimate the dynamic panel regression in equation (1) due to a relationship between CAR and profit, which leads to an endogeneity problem and obviously produces an inefficient estimator. Two approaches are widely used to estimate the GMM method, consisting of the difference GMM method (Arellano and Bond 1991) and the system GMM (Arellano and Bover 1995). Each method is intended to solve the endogeneity problem in the dynamic panel regression. We applied the system GMM method because of un-bias and efficient estimators (Blundell and Bond 1998). The system GMM method uses the variable instrument; thus, the validity of the instruments was checked using the Hansen test for overidentifying test. The coefficients of regression

are efficient and consistent, as the second-order autocorrelation correlations are not found using the Arellano–Bond AR (2) test.

3.2. Data

This study covered 31 Islamic banks, consisting of Islamic commercial banks and Islamic window banks. The observation period was for four years, 2016–2020, with quarterly data; thus, 642 observations were obtained with the balanced panel data. The data was obtained from the website of the Financial Services Authority (FSA), which can be freely accessed by the public (www.ojk.go.id; accessed on 30 April 2022).

4. Results and Discussion

4.1. Descriptive Statistics

Table 2 below shows an overview of research data obtained from 31 IBs with quarterly data for 2016–2020. The descriptive statistics of variables show that the profitability has a maximum value of 13.52% and a minimum of -10.77% with an average of 1.99% and a standard deviation of 2.54. These results indicate that IB suffered large losses, but another IB experienced large profits. Islamic bank provides PLS and NPLS financings where PLS financing should be the core financing of Islamic banks. However, on average, NPLS financings are higher than those PLS financing. More interestingly, some Islamic banks do not provide PLS financing because the risk of this financing is very high. On average, the market share of Islamic banks was 3.2 but with a high standard deviation (4.571). These findings indicate that the size of Islamic banks varies, but one Islamic bank dominates the market with high assets by 127 IDR trillion and a market share of 22.664%.

Equity has a minimum value of 10.16% and a maximum of 88.65% with an average of 21.393%, meaning that the CAR of all RBs is above the minimum FSA requirement of 15%. The FDR on average was 1101.455% with a maximum of 338.52%, implying that Islamic banks are very aggressive in providing financing, since they are the latest player in the Indonesian banking system. However, the aggressive strategy of Islamic banks is manageable, since the FDR range set by the FSA is 85–110%. The average Islamic bank operating efficiency (OEIR) was 84.79% with a minimum value of 16.84% and a maximum of 217.4%. Financing loan provision, on average, is 2.149%, with a minimum of 0.01% and a maximum of 13.990. The low FLP indicates that Islamic banks face low financing risk. The data show that nonperforming financing (NPF) for all Islamic banks during the period of study was 3.75%, which is under the maximum value of 5%.

Table 2. Descriptive statistics.

Variable	Mean	Std. Dev.	Min	Max
ROA	1.996	2.544	-10.770	13.580
PLS (IDR trillion)	4.313	6.719	0.000	30.500
MS	3.200	4.571	0.155	22.664
Asset (IDR trillion)	14.200	20.500	0.498	127.000
CAR	21.393	6.317	10.160	88.650
FDR	1101.455	32.723	0.470	338.520
OEIR	84.790	14.034	16.840	217.400
FLP	2.149	1.883	0.010	13.990

Table 3 shows the coefficient of correlation among variables, both dependent and independent. The highest coefficient of correlation score is 0.962, which is the correlation between the ratio of PLS financing to total financing (PLSF) and the ratio of PLS financing to the total asset (PLSA). However, all coefficients of correlation exhibit results of less than 0.85. The findings imply that a possible multicollinearity problem is not found, so all explanatory variables can be used to estimate the dependent variable. The highest

correlation between PLSF and PLSA does not lead to any major problems of multicollinearity since each variable is regressed separately.

Table 3. Correlation matrix.

	ROA	PLSF	PLSA	MS	Size	CAR	FDR	OEIR
ROA	1							
PLSF	-0.293	1						
PLSA	-0.288	0.962	1					
MS	-0.138	-0.004	0.022	1				
Size	-0.151	0.156	0.174	0.822	1			
CAR	0.342	-0.115	-0.138	-0.294	-0.181	1		
FDR	0.368	-0.013	0.067	-0.277	-0.347	0.114	1	
OEIR	-0.589	0.199	0.216	0.203	0.298	-0.383	-0.151	1
FLP	-0.335	-0.053	0.033	-0.013	0.003	-0.128	0.018	0.326

4.2. Empirical Results and Discussion

Table 4 presents the empirical findings of dynamic panel regression with two systems GMM, in which PLS financing is calculated by the ratio of PLS financing to total financing. Model 1 shows without the COVID effect and model 2 include the COVID effect. Models 1 and 2 generate the same results. The diagnostic tests for all estimations are shown in the bottom part of Table 4. The number of instruments is less than the number of Islamic banks, and our instruments are also valid using the Hansen diagnostic test. The Arellano–Bond test for AR (2), which checks the autocorrelation problem, confirms that the estimated coefficients of regression are consistent.

Our findings show that all the coefficients of the lagged ROA (ROA(−1)) are statistically significant, affirming that the model specification is the dynamic model; thus, the dynamic panel regression is the better method to estimate the profitability of Indonesian Islamic banks instead of static panel regression, namely pooled, fixed, and random effect. The findings imply that, to some extent, the profitability of Indonesian Islamic banks is persistent. This indicates that Islamic banks that produce higher profits in the preceding quarter may have experienced higher profits in the present quarter.

Table 4. ROA-PLS relationship: ratio of PLS financing to total financing.

Variables	Model 1:	Model 2:
	Without COVID Effect	With COVID Effect
ROA (−1)	0.4484 ** (0.0130)	0.4476 ** (0.0100)
PLS	−0.0092 ** (0.0170)	−0.0099 *** (0.0080)
MS	−0.0375 (0.1310)	−0.0450 (0.1780)
Size	0.2616 * (0.0790)	0.3001 ** (0.0490)
CAR	0.0035 (0.4380)	0.0071 (0.3850)
FDR	0.0159 *** (0.0025)	0.0162 *** (0.0015)
OEIR	−0.0525 *** (0.0025)	−0.0512 *** (0.0035)
FLP	−0.1351 *** (0.0265)	−0.1348 *** (0.0150)

COVID	-	-0.2284
	-	(0.1170)
Constant	0.4587	-0.2676
	(0.8830)	(0.9210)
No. of observations	589	589
No. of banks	31	31
Hansen <i>p</i> -value	0.530	0.489
AR (2) <i>p</i> -value	0.224	0.239

Note: The parentheses show *p*-value. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$.

The effect of PLS financing contracts on profitability, as our main concern, shows that the coefficient of PLS is negative and statistically significant. These findings imply that the probability of Islamic banks can be deteriorated by increasing PLS financing, and a fall in PLS financing enhances Islamic banks' profitability. Our result is consistent with the existing empirical research using static panel regression, such as Risfandy (2018), Kuswara et al. (2019), and Roziq and Sukarno (2021). This finding is in accordance with the practice of Islamic bank financing, in which Islamic banks prefer nonequity financing contracts such as Murabahah financing; Islamic banks experience low financing risk for these types of contracts (Čihák and Hesse 2010; Widarjono et al. 2022). By contrast, equity financing generates high risk financing because of agency problems and moral hazards (Azmat et al. 2015). Without good governance, businesspersons put less effort into their business, and they may likely hide the actual profit and report lower profits to the Islamic banks (Abdul-Rahman et al. 2014; Risfandy 2018). Accordingly, equity financing causes high nonperforming financing and further decreases the Islamic bank's profitability (Kabir et al. 2015). However, PLS financing can boost profits when Indonesian Islamic banks carry out good governance by conducting good selection and monitoring, and this type of financing is preferred by customers due to a fair contract and flexibility in payments (Risfandy et al. 2019).

The second hypothesis indicates that the market share (MS) is negative and statistically insignificant. Islamic banks cannot capitalize on their market power through their market share by charging high prices to produce supernormal profits due to their limited financing. The findings imply that market share has no influential effect on profitability and fail to confirm the hypothesis of relative market power (RMP). Our findings confirm the existing empirical study in which Islamic rural banks in Indonesia with an imperfect competition market also fail to exercise profitability through their market share (Widarjono et al. 2020).

Islamic bank size, which is measured by total assets, is positive and significant. These results indicate that the larger the size of the Islamic bank, the higher the profitability. This finding is reasonable, because large Islamic banks have a greater potential to earn income than small Islamic banks due to economies of scale (Ibrahim and Rizvi 2017; Trinugroho et al. 2017). Bank management must work hard in managing and controlling assets to avoid inefficiency, increasing income which in turn increases profitability. Several studies have also found that SIZE has a positive effect on profitability (Petria et al. 2015; Istiqomaha et al. 2021).

The third hypothesis shows that CAR is not statistically significant for all models, indicating that CAR has no effect on profitability. This could be due to the lack of effective capital management, as indicated by the average CAR of 21.393%. High CAR indicates that bank management cannot use equity to be channeled as financing. This result is in accordance with the results from Sudarsono et al. (2021), who found that CAR had no effect on profitability. CAR that is too high is also increasingly inefficient, and thus it actually reduces profitability, as the results of research from several studies found a negative and significant effect between CAR and profitability (Setiawan 2021; Durguti et al. 2020; Irwan 2017; dan Said and Ali 2016).

Liquidity risk as measured by FDR is positive and statistically significant, suggesting that FDR positively affects profitability. Thus, a rise in financing enhances the Islamic bank's profitability, and a fall in financing lowers the Islamic bank's profitability. As the latest player in the banking sector, and with a large number of Muslim consumers in Indonesia, Islamic banks carry out an aggressive policy in channeling their funds. The aggressiveness of Islamic banks can be seen from the high average FDR of 101.455%. The high disbursement of funds and low nonperforming financing lead to high incomes and further increase the profits of Islamic banks in Indonesia. Our finding confirms the existing empirical studies, such as those by Zarrouk et al. (2016) and Danlami et al. (2022).

The level of bank efficiency (OEIR) is negative and statistically significant, meaning that high operating efficiency enriches profitability. The magnitude of the OEIR indicates the high operating costs; the higher OEIR will reduce profitability because the profit is derived from the operating income minus the operating costs. Therefore, bank management must be able to manage operating costs efficiently so as to reduce OEIR. Javaid and Alalawi (2018) and Setiawan (2021), who examined Islamic banks, also found a negative effect between operating efficiency and profitability. Likewise, in conventional banks, operating efficiency also has a negative effect on profitability (Al-Harbi 2019; Sofyan 2019; Lohano and Kashif 2019; Durguti et al. 2020).

Financing loss provision (FLP) is negative and statistically significant, meaning that FPL has a negative effect on profitability. The high FLP indicates high nonperforming financing (NPF), and then it lowers profitability due to low financing quality (Widarjono et al. 2022). The NPF shows the amount of nonperforming financing, which is calculated as costs and, of course, will reduce profits. NPF for Islamic banks needs serious attention because it is directly related to bank income. An aggressive strategy of financing disbursement may result in high income but at the same time also generate a high financing default (Hamid and Ibrahim 2021). These results are in accordance with the results conducted by Lohano and Kashif (2019) and Istiqomaha et al. (2021), who found a significant and negative effect between low financing quality and profitability.

COVID-19 is a negative sign but not statistically significant, meaning that the COVID-19 pandemic does not affect the profitability of Islamic banks. The plausible reason is that COVID-19 is a temporary, not permanent, shock. COVID occurred in March 2020 in Indonesia, but economic growth in the second quarter was still positive. The impact of COVID-19 happened in the third quarter of 2020, when economic growth in Indonesia experienced negative growth, but economic growth returned to positive figures in the following quarters.

4.3. Robustness Checks

Our study carries out a robustness check to examine whether our findings are strong. We measure PLS with another measurement. The ratio of PLS financing to the total asset is a proxy for PLS financing, following previous research such as that by Alam and Parinduri (2017) and Risfandy et al. (2019). Table 5 presents the results with model 3 without COVID and model 4 with the COVID effect. The bottom part of Table 5 exhibits the diagnostic test for dynamic panel regression. The instruments are valid since the number of objects exceeds the number of instruments, and we fail to reject the Hansen test. Our estimated coefficients of regression are also consistent due to rejecting the autocorrelation problem using AR (2). More importantly, the profitability of Indonesian Islamic banks is persistent, since the current profitability is associated with preceding profitability due to the significance of the lagged profitability.

Our results produce similar results using the ratio of PLS financing to total financing. High PLS financings lower profitability. Large Islamic banks can capitalize on their size to earn higher income and profitability. High financing disbursement (FDR) also strengthens profitability, but low-quality financing (FLP) decreases profitability. Low operating efficiency also reduces profitability. However, model 3 shows that COVID-19 negatively affects the profitability of Indonesian Islamic banks, meaning that COVID-19 deteriorates

the profitability because economic growth saw a downturn after COVID-19. Economic growth has not experienced negative growth, but economic growth was lower during the pandemic since the fourth of 2020.

Table 5. ROA-PLS relationship: ratio of PLS financing to total asset.

Variables	Model 3:	Model 4:
	Without COVID Effect	With COVID Effect
ROA (-1)	0.4350 ** (0.0140)	0.4421 *** (0.0070)
PLS	-0.0132 *** (0.0050)	-0.0138 *** (0.0040)
MS	-0.0325 (0.1505)	-0.0406 (0.2120)
Size	0.2514 * (0.0820)	0.2859 ** (0.0450)
CAR	0.0035 (0.4395)	0.0090 (0.3635)
FDR	0.0171 *** (0.0010)	0.0160 *** (0.0010)
OEIR	-0.0539 *** (0.0015)	-0.0538 *** (0.0025)
FLP	-0.1245 ** (0.0420)	-0.1131 ** (0.0330)
COVID	-0.6109 (0.8420)	-0.2685 * (0.0630)
Constant	- -	0.1338 (0.9580)
No. of observations	589	589
No. of banks	31	31
Hansen <i>p</i> -value	0.548	0.464
AR (-2) <i>p</i> -value	0.241	0.251

Note: The parentheses show the *p*-value. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$.

5. Conclusions, Implications, and Limitations

Our results found that PLS financing negatively affects profitability, meaning that Islamic commercial banks in Indonesia prefer NPLS financing with fixed income, such as Murabahah financing, in disbursing their funds to get higher profit. Our findings also highlight that some control variables, such as size and liquidity risk, enhance profitability. Meanwhile, low operating efficiency and low financing quality worsen profitability.

The results of this study are expected to be used by the management of Islamic banks in managing their banks to increase their profitability through their financing. PLS financing does impair the Islamic bank's profitability, but it must be pursued to become the core business of Islamic banks. These financings need tight monitoring to encourage profitability. The empirical literature shows that PLS financing increases profits in the case of large Islamic banks (Čihák and Hesse 2010; Ibrahim and Rizvi 2017). In addition, other empirical studies also show that Musyarakah financing leads to a reverse U-shape effect on nonperforming financing, meaning that Musyarakah financing at a certain level clearly reduces nonperforming financing so that it can encourage the Islamic bank's profitability (Warninda et al. 2019).

PLS financing consists of Musyarakah and Mudharabah financing. Musyarkah and Mudharabah financing yield obviously different financing risks, in which the latter is riskier than those the former. However, this study does not distinguish between Musyarakah

and Mudarabah financing. Accordingly, further study is needed to know which PLS financing contract enhances profitability.

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