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Investigating The Determinants Of Islamic Bank's Profitability: A Cross Countries Analysis

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Abstract

The measurement of bank profitability has an essential role in the banking sector's success and is an indicator for predicting financial distress. This study aims to look at the determinants of the profitability of Islamic banks by including the bank's internal and macroeconomic variables. The study focuses on Islamic banking in 10 countries with the most prominent Islamic finance sector during the 4th quarterly data period from 2016 to the 4th quarter of 2021. The data analysis method in this study uses panel data fixed effect model analysis. The results showed that the bank's internal variables, namely bank size, capital adequacy, liquidity, and banking stability, are important factors that affect profitability. Interesting findings show that increased financial inclusion variables and labor productivity can encourage high profitability growth. Meanwhile, GDP and inflation also affect banking performance from the macro sector. The study implies that Islamic bank needs to manage the internal financial condition properly to achieve and maintain the performance. In addition, to increase the performance the bank needs to heighten the human resources capacity while the financial authorities are required to issue the policies to support the development of Islamic banks.

Keywords: Profitability, Islamic banks, and fixed effect model analysis
JEL classification: G21, G28, G29

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1. Introduction

In general, banking, including Islamic banking, is characterized as a profit-oriented institution. Profitability is the main target although Islamic banks also prioritize Islamic rules and objectives in their operational activities. In addition, the level of banking profitability becomes important indicator to examine the current financial circumstances (Adusei, 2015; Al-Matari, 2021). Demirgui-kunt and Huizinga (1999) mentioned that the importance of profitability can be observed in terms of both micro and macro aspects. In terms of the micro aspect, profitability is the main indicator of competitiveness. It can even be said that profitability is a crucial requirement for surviving in a competitive banking business. The growth and sustainability of business organizations, including banking, are highly dependent on the profits earned (Menicucci and Paolucci, 2016).

This opinion supports the opinion of (Tan, 2016) stating that higher bank profitability increases competitiveness.

In terms of the macro aspect, a profitable banking sector can keep the economy from negative shocks and contribute to financial system stability (Aburime, 2009). Therefore, an analysis of the determinant of bank profitability is pivotal for macro stability because the banking sector affects the (Menicucci and Paolucci, 2016). An understanding of the determinants of bank profitability is beneficial not only for the banking sector but also for regulators, bank supervisors, and governments. Therefore, analyzing the determinants of bank profitability is crucial to determine the overall competitiveness, stability, and efficiency (Căpraru and Ihnatov, 2015; Tan, 2016; Adelopo et.al, 2018).

Many researchers have tried to identify the main sources of bank profitability levels from various perspectives. Short (1979) and Bourke (1989) were the pioneers of the study of the determinants of bank profitability using cross-country data. Meanwhile, Haron (1996) ho empirically analyzed the profitability of Islamic banks. His research revealed that the internal variables of banks such as bank size, liquidity, total expenditure, and total capital have a significant association with profitability. Other determinants such as inflation, reserves, and the amount of cash in circulation also affect the profitability of Islamic banks.

The empirical literature on bank profitability is divided into two schools in which one of them focuses on the analysis of bank profitability in a cross-countries study (Goddard et al., 2013; Zarrouk, Ben Jedidia and Moualhi, 2016; Abdelaziz, Rim and Helmi, 2020; Elekdag, Malik and Mitra, 2020; Ercegovac, Klinac and Zdrilić, 2020; Al-Matari, 2021; Asteriou, Pilbeam and Tomuleasa, 2021; Horobet et al., 2021; Almaskati, 2022), while the other one focuses on analyzing bank profitability in a one-country study (Wasiuzzaman and Ahmad Tarmizi, 2010; Vong and Chan, 2014; Mostak Ahamed, 2017; Ali and Puah, 2019; Yakubu, 2019; Duan and Niu, 2020; Kumar, Thrikawala and Acharya, 2021). One example is Tan & Floros (2012) who conducted two studies using internal and external factors to identify the determinants of bank productivity in China. Using the GMM estimator, Tan & Floros (2012b) found that Chinese commercial banks had lower profitability during economic boom (higher GDP growth rate). In another study, Tan and Floros (2012b) also revealed that Chinese banks had a high profitability level when the level of diversification, the level of overhead costs, and the level of taxation were lower. Another example from a very recent study by O'Connell (2022) found that the profitability of UK commercial banks is controlled by the internal factors and they seemingly perform better in a higher interest rate condition with a stronger growth in loans.

Following previous studies, many researchers focus on analyzing the effect of the bank internal factors on profitability (Abdul Hadi et al., 2018; Sahyouni and Wang, 2018; St-Hilaire and Boisselier, 2018; Ali and Puah, 2019). Several other studies analyze the determinants of bank profitability by considering both internal and external factors (Tan, 2016; Al-Homaidi et al., 2018; Batten and Vo, 2019; Azad, Azmat and Hayat, 2020; Le and Ngo, 2020). In general, the factors that affect bank profitability are divided into two groups: endogenous and exogenous factors (Al-Harbi, 2019). Endogenous factors are sourced from internal variables such as bank size, capital adequacy, and risk levels. The bank internal factors depend on the management strategies adopted by the banks and the decisions made. The main conclusions drawn in many studies indicate that internal factors strongly affect bank profitability (Menicucci and Paolucci, 2016; Almaskati, 2022)

Meanwhile, exogenous factors include variables not directly related to bank management, but related to the economic and legal environment that affects the operation and performance of financial institutions (Menicucci and Paolucci, 2016). In terms of the exogeneous factors, Albertazzi and Gambacorta (2009) emphasized the importance of analyzing the relationship between business cycle fluctuations and bank profitability to assess the stability and health of the financial sector, particularly banking. Adverse economic conditions can exacerbate the

quality of loan portfolio, causing credit losses and lowering bank profitability. Using GMM analysis, in particular, his study revealed that inflation, GDP growth, and central bank interest rates are important drivers of bank profitability.

Earlier cross-countries study done on Islamic banking industry which employed a data set from 1994-2001 from 21 countries had found that Islamic banks profitability is positively affected by high capital and negatively affected by loan-to-asset ratios. This is somewhat intuitive and shows that adequate capital ratios cannot be an appropriate determinant for Islamic bank performance. Moreover, Islamic banks' loan portfolio – at that time – is heavily focused on short-term trade financing and such type of financing is low risk and does not contribute much to the banks' profit. A more interesting finding in that study is the fact that the overhead was also found to have a strong positive correlation to Islamic bank profitability which suggests that high profits earned was due to the high salaries paid (Hassan and Bashir, 2003). This finding is further supported by Al-Harbi (2017) using a sample of 110 Islamic banks in 25 countries from 1992-2008 who found that loans are not a major source of revenue for Islamic banks but they rather put more reliance on off-balance sheet activities.

Additionally, Masood and Ashraf (2012) found that management efficiency plays a vital role in determining Islamic bank profitability and is further supported by Chowdhury and Mohd Rasid (2015). However, Chowdhury and Mohd Rasid (2015) findings are contrary to that of Hassan and Bashir (2003) where they found a statistically significant negative impact of overhead cost towards Islamic bank profitability. Another interesting finding by Chowdhury and Mohd Rasid (2015) is that equity financing has a significant impact to Islamic bank profitability. This is further supported by Al-Harbi (2017) who found a negative impact of real interest rates to Islamic bank profitability and suggested for more reliance on profit and loss sharing modes of financing. A recent study by Jaara, Al-Dahiyat and Al-Takryty (2021) had also found a strong indication that external funding tools are able to improve bank profitability and further postulated that profit and loss-sharing tools would capture the growth opportunity that would lead to the increment of Islamic bank profitability.

This study aimed to identify the determinants of Islamic bank profitability by providing an empirical cross-country analysis. The study focused on Islamic banking in 10 countries with the largest Islamic financial sector, including Malaysia, Saudi Arabia, United Arab Emirates (UAE), Jordan, Bahrain, Indonesia, Kuwait, Pakistan, Qatar, and Nigeria (DinarStandard, 2020). This study focused on Islamic banking industry for two reasons. First, Islamic finance is increasingly accepted globally and is considered as an alternative to conventional finance (Chowdhury and Rasid, 2015). Islamic banking keeps on growing and have become a credible intermediary institution, evident by the establishment of many Islamic financial institutions in the world (Karim et al., 2010). Second, the profitability level of Islamic banking showed a quite significant growth before the crisis (2005-2007), but after the crisis there was a slowdown in some Asian countries including Bahrain, UAE, and Kuwait. Moreover, it is considered to be thus, interesting to analyze the main determinants of bank profitability in the Islamic banking industry after the crisis (Islamic Financial Services Board, 2014). To bring a different perspective, this study included not only the bank internal variables and macroeconomic variables, but also specific variables including bank stability, labor productivity, and financial inclusion. Therefore, this study contributed to the literature on the determinants of bank profitability.

2. Literature Review

Analysis of the determinants of bank profitability has received much attention in the academic literature and has been extensively researched theoretically and empirically. Empirical studies conducted by Short (1979) and P Bourke (1989) started research on the

effect of company characteristics on profitability. Several more recent studies have attempted to identify key bank profitability determinants with country-specific case studies, some of which have used country panels. Based on previous empirical studies, it is known that internal bank variables and external bank variables determine bank profitability. Capital adequacy is one of the bank's internal variables that affect bank profitability. Al-Harbi (2019)the Organization of Islamic Cooperation (OIC revealed that a high bank capital ratio is considered safe from bankruptcy, more flexible in pursuing business opportunities and able to absorb unexpected losses. So a high capital ratio will encourage bank profitability. Research conducted by Ben Khediri and Ben-Khedhiri (2011), Heffernan and Fu (2011), Ameur and Mhiri (2013)with a view to improving efficiency and resource allocation. Recent reforms have focused on allowing banks to list some shares on domestic and foreign exchanges, greater foreign equity participation in Chinese banks, and the establishment of new rural financial institutions. To assess whether these objectives have been achieved, this study looks at how well different types of Chinese banks have performed between 1999 and 2006, and tests for the factors influencing performance. It also evaluates four measures of performance to identify which one, if any, is superior. The independent variables include the standard financial ratios, those which reflect more recent reforms (listing, bank type, the extent of foreign ownership and Sufian (2012) also found a positive relationship between capital adequacy and profitability.

Several previous researchers studied the relationship between bank size and profitability (Alp *et al.*, 2010; Gul, Irshad and Zaman, 2011; Saeed, 2011; Doğan, 2013)industry-specific, and macroeconomic variables on bank profitability before, during, and after the financial crisis of 2008. For this purpose, 73 UK commercial banks are selected on the basis of availability of required information. The empirical data for these banks are collected for the period from 2006 to 2012 from Bankscope and Data-stream databases. The regression and correlation analyses are performed on the data and concluded that bank size, capital ratio, loan, deposits, liquidity, and interest rate have positive impact on ROA and ROE while GDP and inflation rate have negative impact. The findings of this study can help UK banks, government, investors, policymakers, and shareholders for decision making and improving the performance of financial institutions in the future. 1. Introduction The banking system of the United Kingdom (UK. The results of his research show that there is a positive effect of bank size on bank profitability. Large bank sizes benefit from economies of scale, which allow cost reductions to increase bank profitability (Philip Bourke, 1989). Other variables that have a positive influence on bank productivity are bank stability (Tan and Anchor, 2016), labour productivity (Tan & Floros 2012; Tan and Floros, 2012; Tan ,2016) and number of domestic branch offices (Shihadeh and Liu, 2019). Meanwhile, research conducted Athanasoglou et.al. (2008) and Do, Ngo and Phung, (2020) find that non-performing loans have a negative impact on profitability and make banks inefficient. Loans with low asset quality will yield less profit.

From a macro perspective, Albertazzi and Gambacorta (2009) specifically look at the relationship between business cycle fluctuations and banking sector profitability. Meanwhile, Al-Harbi (2019), Batten and Vo (2019), Bolt et al (2012) and Kanas et al (2012) have also proven that bank profitability is affected by business cycle, inflation expectations, and short-term interest rates. Nevertheless, Naceur and Omran (2011) found a different result, i.e., inflation has a significant effect on bank profitability, while macroeconomic development indicators do not.

3. Research Method

The study aimed to analyze the dynamics of both internal variables and macroeconomic variables on Islamic banking profitability. The analysis of the effect of the internal and macroeconomic variables was formulated based on a panel model with cross-country data using

aggregate Islamic bank data in 10 countries with the largest Islamic financial sector, including Malaysia, Saudi Arabia, United Arab Emirates (UAE), Jordan, Bahrain, Indonesia, Kuwait, Pakistan, Qatar, and Nigeria (DinarStandard, 2020). To achieve this objective, this study used a recent data set from 4th quarter of 2016 to the 4th quarter of 2021 which were obtained from the Islamic Financial Services Board and World Bank. The variables used were the internal and external factors of banks with the following specifications:

Table 1. Research Variables and Hypotheses

Variables	Measurement	Expected Effect	Source
Profitability Indicator			
ROA	Net income/total assets		IFSB
ROE	Net income/equity		IFSB
NPM	Net income/gross income		IFSB
Bank-spesific variables			
Bank size	Natural logarithm of total assets	+	IFSB
Z-score	Ratio between a bank's return on assets plus equity capital/total assets and the standard deviation of the return on assets	+	IFSB
Financial inclusive	Number of domestic branch offices	?	IFSB
Capital Adequacy	Total regulatory capital to RWA	+	IFSB
Asset Quality	Gross nonperforming financing (gross NPF) ratio	-	IFSB
Liquidity	Liquid assets ratio (Liquid assets to total assets)	+	IFSB
Labor productivity	Total revenue/total number of employees	+	
Variables	**Measurement**	**Expected Effect**	**Source**
Macroeconomic variables			
Inflation	Quarterly inflation rate	?	Word Bank
GDP growth rate	Quarterly GDP growth rate	?	Word Bank
Exchange rate	National Currency to US Dollar Exchange Rate	?	Central Bank

In general, this study used a model with panel data analysis consisting of common effect approach, fixed effect approach, and random effect approach. Basically, the estimation of the common effect approach only combines time-series data with cross section data regardless of the difference in time and individual, so the OLS method could also be used in estimating the panel data model. One of the difficulties of the panel data method is the difficulty in meeting consistent intercepts and slopes assumptions, so the Fixed Effect approach assumes constant slopes but different intercepts between individuals.

On the other hand, the panel data model which involves the correlation between error terms due to changes in time due to differences in observations can be addressed by the error component model approach or the random effect model. To determine the best model among the common effect approach, fixed effect approach, and random effect approach, a test was performed using chow test, Lagrange Multiplier (LM) test,

and Hausman test. Regarding the fact that panel data are a combination of time-series and cross-section data, the model can be written as follows:

Equation 1

$$ROA_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 NPF_{it} + \beta_3 ZScore_{it} + \beta_4 INCLU_{it} + \beta_5 CAR + \beta_6 LAR + \beta_7 Lprod + \beta_8 INFL_{it} + \beta_9 EXHC_{it} + \beta_{10} GDP_{it} + \mu_{it}$$

$i = 1, 2, ..., N$; $t = 1, 2, ..., T$

Equation 2

$$ROE_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 NPF_{it} + \beta_3 ZScore_{it} + \beta_4 INCLU_{it} + \beta_5 CAR + \beta_6 LAR + \beta_7 Lprod + \beta_8 INFL_{it} + \beta_9 EXHC_{it} + \beta_{10} GDP_{it} + \mu_{it}$$

$i = 1, 2, ..., N$; $t = 1, 2, ..., T$

Equation 3

$$NPM_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 NPF_{it} + \beta_3 ZScore_{it} + \beta_4 INCLU_{it} + \beta_5 CAR + \beta_6 LAR + \beta_7 Lprod + \beta_8 INFL_{it} + \beta_9 EXHC_{it} + \beta_{10} GDP_{it} + \mu_{it}$$

$i = 1, 2, ..., N$; $t = 1, 2, ..., T$

where:

ROA = Return on Assets
ROE = Return on Equity
NPM = Net Profit Margin
SIZE = Total Assets
NPF = Non-Performing Financing
CAR = Capital Adequacy Ratio
Z-Score = Bank Stability as measured by the ratio between return on assets plus equity/total assets and the standard deviation of the return on assets
INCLU = Financial Inclusive yang dilihat dari Number of domestic branch offices
LAR = Liquid Asset Ratio
Lprod = Labor Productivity
INFL = Inflation
EXCH = Exchange Rate
GDP = GDP Growth

3. Results And Discussion

3.1 Description and Correlation Matrix

Table 1 shows a summary of the descriptive statistics of the research variables. The variables of return on equity (ROE) and net profit margin (NPM) showed a fairly high value with an average of 14.25% and 31.54%. This shows that Islamic banking had the ability to earn high profits. Nonetheless, during the study period, not all Islamic banks experienced positive benefits as seen from the negative minimum ROA, ROE, and NPM. In addition, most variables showed a fairly high standard deviation, meaning that there were significant differences in the values of the variables among these countries. The difference can also be observed from the significant difference between the minimum and maximum. Therefore, controlling the bank characteristics and macroeconomic variables is crucial in understanding the determinants of bank profitability.

Table 2 and Table 3 present the results of the analysis of the correlation coefficient between profitability variables, bank characteristics variables, and macroeconomic variables. According to Hair et al (2014), multicollinearity problems can be seen from the value of the correlation matrix, ranging from 0.9 and above. The test resulted in a relatively small correlation value, i.e., below 0.90, showing that there was no multicollinearity problem in the estimation, thus, the model used can be considered as valid and reliable.

The following stage was to see the effect of the bank characteristic and macroeconomic variables on profitability using panel data analysis. After the model was selected using chow test, Lagrange multiplier (LM) test, and Hausman test, the result showed that fixed effect model was the best model. The empirical analysis showed that only one bank characteristic variable, namely NPF, had no significant effect on profitability. Meanwhile, the macroeconomic variables had a significant effect on bank profitability except for the exchange rate variable. The results of the regression analysis on the relationship between the profitability variables and the independent variables are presented in Table 3.

Table 2. Description of The Variables.

Variable	Mean	Std. Dev	Min	Max
Dependent Variables				
ROA	1.441795	0.6745271	-0.8	3.9
ROE	14.28625	7.744741	-6.279581	42.78834
NPM	31.54004	14.17122	-21.0908	55.94153
Independent Variables				
NPF	3.952175	3.008585	0.6	12.94337
CAR	19.06557	3.20057	12.90729	32.91133
SIZE	72140.16	69763.23	231.0225	216826
LAR	23.25606	8.520693	6.674184	41.88127
INCLU	587.7412	705.4041	25	2246
Lprod	0.314469	0.416882	0	2.171741
Z-Score	17.66299	4.663593	9.948343	31.19409
INFL	2.975588	4.483661	-4.06	17.02
EXCH	1455.034	4211.705	0.7072	14997.07
GDP	0.816882	3.862488	-14.19	7

Table 3. Correlation Matrix Among Variables

	ROA	ROE	NPM	NPF	CAR	SIZE	LAR	INCLU	Lprod	Z-Score	INFL	EXCH	GDP
ROA	1.00												
ROE	0.76	1.00											
NPM	0.52	0.51	1.00										
NPF	-0.16	-0.16	-0.48	1.00									
CAR	0.18	-0.13	-0.05	0.00	1.00								
	ROA	ROE	NPM	NPF	CAR	SIZE	LAR	INCLU	Lprod	Z-Score	INFL	EXCH	GDP
SIZE	-0.04	-0.10	0.43	-0.26	-0.49	1.00							
LAR	0.26	0.21	0.44	-0.31	0.22	-0.23	1.00						
INCLU	0.01	0.37	0.27	-0.35	-0.40	0.33	-0.22	1.00					
Lprod	-0.09	-0.13	0.27	-0.24	-0.16	0.47	0.00	-0.08	1.00				
Z-Score	0.36	-0.23	-0.03	0.08	0.59	-0.09	0.04	-0.55	-0.001	1.00			
INFL	0.15	0.29	-0.29	0.22	0.40	-0.80	0.03	0.01	0.44	0.08	1.00		
EXCH	-0.01	-0.06	-0.37	-0.01	0.04	-0.06	-0.45	-0.55	0.23	-0.07	0.03	1.00	
GDP	0.08	0.14	0.01	0.10	-0.13	-0.06	-0.25	0.24	0.2568	0.15	0.18	0.22	1.00

3.2 Regression Analysis and Discussion

Table 3. Panel Regression Result

VARIABLES	Model 1 (ROA)	Model 2 (ROE)	Model 3 (NPM)
NPF	0.0509	0.4180	0.8500
	(0.0367)	(0.366)	(0.613)
CAR	-0.132***	-1.354***	-0.915**

VARIABLES	Model 1 (ROA)	Model 2 (ROE)	Model 3 (NPM)
	(0.0245)	(0.244)	(0.408)
SIZE	1.975***	21.09***	18.54***
	(0.299)	(2.983)	(4.986)
LAR	0.0239***	0.228***	0.237*
	(0.00778)	(0.0776)	(0.13)
INCLU	0.00359***	0.0596***	0.0400***
	(0.000729)	(0.00727)	(0.0122)
Lprod	0.442***	4.937***	1.1010
	(0.141)	(1.402)	(2.344)
ZSCORE	0.236***	1.747***	1.436***
	(0.0217)	(0.216)	(0.362)
INFL	0.0419**	0.652***	0.862***
	(0.0175)	(0.174)	(0.291)
EXCH	0.0001	0.0012	0.00560*
	(0.000184)	(0.00184)	(0.00307)
GDP	0.0343***	0.309***	0.463***
	(0.0104)	(0.104)	(0.173)
Constant	-23.75***	-254.2***	-210.1***
	(3.119)	(31.11)	(52)
R-squared	0.5910	0.6470	0.3430
Prob> F	0.000	0.000	0.000

Notes: The table reports the results of the fixed effect model to determine the effect of the bank characteristic and macroeconomic variables on bank profitability. The dependent variables are Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). The standard errors are reported in parentheses. The significance is indicated by the following symbol: *** p<0.01, ** p<0.05, * p<0.1

The test results showed that bank size (SIZE) calculated from natural logarithm of total assets had a significant positive effect on Islamic bank profitability. The positive relationship was indicated by the coefficient, describing that larger banks could achieve higher ROA, ROE, and NPM than smaller banks. These results are in line with previous studies conducted by Shaffer (1985), Pasiouras and Kosmidou (2007) and Gul et al (2011)loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators i.e., return on asset (ROA. In particular, Staikouras et al (2008) explained that the positive relationship between bank size and profitability is related to economies of scale, namely banks with many assets who have market power to earn more profits through cost allocation of more number of services. Economies of scale theory shows that the larger the bank size, the lower the costs, the higher the profits (Alharbi, 2008). Larger banks can benefit from product diversification because the unit costs of large-scale banks are lower than those of small banks (Bikker and Hu, 2002).

Another internal variable that has a significant effect on profitability is capital adequacy ratio (Beltratti and Paladino, 2015; Djalilov and Piesse, 2016). Several researchers revealed a positive effect of capital adequacy on bank profitability, one of them is Lee and Hsieh (2013). However, this study found a different result, i.e., capital adequacy had a significant negative effect on profitability. The possible explanation to such result is that capital adequacy

ratio aims to cover bank solvency risks, but the banking industry believes that capital reserves tightening may increase costs, lower liquidity, lower borrowing, and lower investment activities. Therefore, higher capital adequacy requirements tend to lower bank profitability due to banks' inability to create liquidity (Yusgiantoro, 2019). This argument is in line with Goddard et al (2013) who found that increasing capital requirements had a negative effect on bank profitability.

Meanwhile, Liquid Asset Ratio (LAR) had a significant positive effect on ROA, ROE, and NPM. The liquidity ratio, also known as LAR, indicates banks' ability to meet short-term debts. The positive relationship between LAR and profitability illustrates that the better the liquidity and the higher the banks' ability to meet the short-term debts, the higher the profitability and performance of the banks. Similarly, the test results also showed that labor productivity had a significant positive effect on ROA, ROE, and NPM. Tan (2016) revealed that higher labor productivity reflects an efficient bank, which further increases efficiency and profitability. Athanasoglou *et al.* (2005) had the same argument, whereby increase in labor productivity due to increase in labor quality would result in higher profitability. The positive relationship between labor productivity and bank profitability was also revealed Bourke (1989), Tan & Floros (2012), Tan and Floros (2012) dan Tan (2016).

Meanwhile, financial stability and inclusion were the other bank characteristic variables which found to have a significant effect on profitability. Both variables had a positive and significant effect on ROA, ROE, and NPM, meaning that the more stable and inclusive the banks, the higher the ROA, ROE, and NPM. A high Z-score indicates higher stability and a lower risk level (Tan, 2016), thus improving stability would eventually results in higher profitability (Tan and Anchor, 2016). Meanwhile, this study measured the financial inclusion variable from the number of domestic branch offices referring to a study conducted by Shihadeh and Liu (2019). Their findings are in line with the findings of this study that the higher the number of branch offices, the higher the bank profitability. Chen et al (2018) explained that an increase in the number of branches could increase the number of customers; increase savings, loan portfolios, and risk diversification, thus leading to higher bank profitability. In this context, the opening of a branch office helps the bank reach small or disadvantaged communities (Nguyen, 2015). Similar results that branch offices play an important role in increasing bank profitability was also found by Berger et al (1997) and Bernini and Brighi (2018).

In terms of the macroeconomic sector, the variables of GDP growth and inflation had a positive and significant effect on ROA, ROE, and NPM. On the other hand, the exchange rate variable had no effect on ROA and ROE but had a significant effect on NPM at 10% alpha. GDP growth is used as a proxy for the effects of business cycle on bank performance. When the GDP growth is low, there will be higher number of non-performing financing, thus lowering bank profitability (Zarrouk et al., 2016). Djalilov and Piesse (2016) found that profitability is sensitive to GDP growth, in which an increase in business cycle leads to a higher demand for loans, but when GDP growth is low, the quality of bank credit worsens, hence lowering profitability. The positive relationship of GDP growth with bank profitability was also found by Mokni and Rachdi (2014), Trujillo-Ponce (2013). The results of this study support an argument by Mokni and Rachdi (2014) that there is a positive relationship between economic growth and the performance of financial sector.

Empirical evidence on the relationship between inflation and profitability shows various results. Bourke (1989) showed that inflation had a positive effect on bank profitability but Kosmidou (2008) found a negative relationship. The literature records that the effect of inflation on profitability depends on the extent to which inflation can be anticipated and the extent to which it can be passed on to customers. According to Perry (1992), the anticipated inflation will be followed by increased loan interest rates, thus

bringing positive effects and increasing bank profitability. On the other hand, banks may be slow in anticipating unexpected inflation, causing the bank costs to increase more quickly than the earning of profits, thus having a negative effect on profitability. The test results in this study showed that inflation had a significant positive effect, reflecting the ability of Islamic banks to charge additional costs to customers due to inflation and anticipate inflation by adjusting the profit-sharing ratio.

4. Conclusions

This study analyzes the factors that affect Islamic bank profitability in 10 countries with the largest Islamic financial sector according to Dinar Standard (2020). This study presents a comprehensive picture of the determinants of bank profitability by including important variables such as financial inclusion, labor productivity, banking stability, internal variables, and macroeconomic variables. Using the panel data approach, this study supports previous literature that the bank internal variables are important determinants of bank profitability. The study also shows that bank size, capital adequacy, banking liquidity, and banking stability have a significant effect. In addition, this study also reveals that the variables of financial inclusion and labor productivity have a positive effect, meaning that financial inclusion can reach small communities and contribute to increasing bank profits. Labor quality represented by labor productivity also determines higher bank profitability. This finding might have a linkage in explaining the findings of Hassan and Bashir (2003) where it could suggest that higher salary paid could possibly improve labor productivity which would then improve Islamic bank profitability. However, this would require a further study to find out the correlation between salaries paid and labor productivity before we can suggest for a concrete conclusion. Meanwhile, in terms of the macroeconomic sector, GDP growth and inflation also affect banking performance, especially profitability. These results provide empirical evidence that economic growth has a positive effect on the performance of financial sector. In fact, inflation has a positive effect, meaning that Islamic banks have the ability to anticipate unexpected inflation by adjusting profit sharing ratio.

This study provides some policy recommendations. First, banks should maintain their internal conditions. In this case, bank supervisors play a very important role to ensure that the banks have a healthy and stable internal condition. Second, in carrying out the banking operations, banks should also be supported by quality human resources with high productivity. Thus, banks need to establish human resource development programs regularly through training and other impactful activities. Third, the government should manage macroeconomic conditions to increase growth and price stability, allowing the financial sector to work optimally.

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6. References

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