

The Internal Factors Determining the Financial Performance of Islamic Banks

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Financial performance is a crucial factor of the permanence and safety of the banking sector of each country. This paper investigates the influence of factors specific to Islamic banking activity on their financial performance. To study the impact of factors specific to banking activity on financial performance, we use a sample of 50 Islamic banks working and existing in 12 countries. We adopt a measurable and quantifiable method defensible by the econometrics of panel data throughout the period of study from the last quarter of 2013 to the third quarter of 2019. The empirical results of this paper demonstrate the existence of a very significant nexus among all the explicative variables and the dependent variable as ensured by the Return on Asset (ROA). Certainly, the financial performance of selected Islamic banks is positively associated with two variables such as bank size and liquidity while it is negatively affected by three variables such as bank capitalisation, asset quality and operational efficiency. The objective of this paper is to get the attention of managers in Islamic banks to see the importance of understanding these factors that could directly or indirectly influence the performance of banks. Studying the impact of these determinants helps to facilitate and guide strategic decisions aimed at achieving improved performance of Islamic banks.

Keywords: *Financial Performance; Islamic Banks; Panel Data; Internal Determinants.*

1. Introduction

Nowadays, Islamic finance has become a major player in global finance. The continued development of this financial industry is proof of the sheer size of the number of financial institutions, the volume of their assets and the size of the customer base for this type of financing. Indeed, Islamic finance presents, in many aspects, a break from conventional finance and is distinguished by the originality of its principles.

Despite the changes in the international financial context (deregulation of financial systems, liberalisation, globalisation, financial innovation) and the turbulence of the latest financial crises, Islamic banks, which constitute the hard core of Islamic finance, show a solid performance compared to their conventional counterparts (IFSB, 2020).

In this context, it is crucial to raise the factors that explain the financial performance of Islamic banks. Indeed, there is abundant literature which theoretically and empirically studies the performance of conventional banks in relation to studies relating to the performance of Islamic banks. The existing literature groups the determinants of the financial performance of banks into two types, namely internal factors, which are indicators specific to banking activity, and external factors, which are sectoral, macro-economic and regulatory indicators.

The main objective of this article is to enrich the previous literature by analysing the internal factors that determine the financial performance of Islamic banks and more particularly the banks of the 12 countries selected (Saudi Arabia, Bahrain, Brunei Darussalam, United Arab Emirates, Indonesia, Jordan, Kuwait, Malaysia, Nigeria, Oman, Pakistan, and Turkey). The aim is to study the impact of five internal determinants, namely bank capitalisation, asset quality, operational efficiency, bank size and liquidity. This research uses data by country, for the period from the last quarter of 2013 to the third quarter of 2019. The empirical findings demonstrate the presence of a very significant nexus among all the explicative variables and the dependent variable measured by the ROA. Additionally, the financial profitability of Islamic banks is positively associated with bank size and liquidity, while it is negatively affected by bank capitalisation, asset quality and operational efficiency.

The rest of this article is structured as follow: Section 2 presents a synthesis of the literature review and the research hypotheses. Then, section 3 presents the research methodology. In section 4, we present the discussion of the main results of this paper. Finally, section 5 concludes.

2. Literature review and research hypotheses

The literature on the determinants of bank performance is very varied (for example: Short, 1979; Bourke, 1989; Molyneux and Thornton, 1992; Berger, 1995; Staikouras and Wood, 2004; Pasiouras and Kosmidou, 2007; Dietrich and Wanzenried, 2011; Hoffmann, 2011;

Zhang et al., 2013; Petria et al., 2015; Chowdhury and Rasid, 2016; Tunay et al., 2017; Pelletier, 2018; Chen et al., 2018; Jaouad and Lahsen, 2018; Mateev and Bachvarov, 2019; Gupta and Mahakud, 2020). The examination of these studies, which have focused on a particular country or a panel of countries, reveals a plurality and diversity of explanatory variables of banking performance. These can be grouped into two categories, namely internal determinants and external determinants.

While internal factors are variables specific to bank management (capitalisation, liquidity, asset structure, size, diversification), external factors are linked to the sector environment (concentration, competition, regulation) and to the macroeconomic environment in which the banking system operates (economic growth, inflation).

The objective of this research is to study the impact of five fundamental internal factors, which reflect the specificity of banking activity and its management, on the financial performance of Islamic banks. The determinants selected are:

- The capitalisation of the bank;
- The quality of assets;
- Operational efficiency;
- The size of the bank;
- Liquidity.

2.1. The bank's capitalisation

Several previous studies confirm the existence of a significant relationship between capitalisation and the financial performance of a bank. However, there are no clear conclusions as to the nature of the relationship between a bank's capital ratio and its performance to confirm the proposition that a better capitalised bank should be more profitable. Some studies find a positive relationship between capitalisation and profitability of Islamic banks (Alharbi, 2017; Belkhaoui et al., 2020; Chowdhury and Rasid, 2016; Karim et al., 2010; Sufian and Zulkhibri, 2015; Tarek Al Kayed et al., 2014; Trabelsi and Trad, 2017; Trad et al., 2017; Zarrouk et al., 2016), while others suggest that the link is negative (Chowdhury et al., 2017; Supiyadi et al., 2019; Wasiuzzaman and Tarmizi, 2010). Hence the following hypothesis:

H1: There is a significant relationship (positive or negative) between capitalisation and financial performance of Islamic banks.

2.2. The quality of assets

According to Trujillo-Ponce (2013), there is a consensus on the fact that the quality of assets positively impacts bank profitability. Indeed, the assets, which do not generate income and /

or which are doubtful requiring provisions to cover losses, constitute a brake on improving the profitability of the bank. For Islamic banks, the results of empirical studies diverge as to the nature of the relationship between these two variables. Indeed, a few studies have shown the existence of a positive relationship between banking performance and asset quality (Javaid and Alalawi, 2018; Masood and Ashraf, 2012; Sukmaningrum et al., 2020). Other studies have found that this factor has a negative effect on the performance of Islamic banks (Karim et al., 2010; Samail et al., 2018; Wasiuzzaman and Tarmizi, 2010; Zarrouk et al., 2016). This allows us to formulate the following hypothesis:

H2: There is a significant relationship (positive or negative) between the quality of assets and the financial performance of Islamic banks.

2.3. Operational efficiency

The operational efficiency of a bank is measured by the cost / income ratio. The latter is defined as the ratio between general operating expenses (such as administrative costs, staff salaries and real estate costs, excluding losses due to impaired and non-performing loans) and income. Several research studies have shown that there is a positive relationship between operational efficiency and the performance of Islamic banks (Belkhaoui et al., 2020; Eljelly, 2013; Muda et al., 2013; Sufian and Zulkhibri, 2015; Wasiuzzaman and Tarmizi, 2010). Other empirical work has shown the existence of a negative relationship between these two variables (Ben Khediri and Ben-Khedhiri, 2009; Chowdhury and Rasid, 2016; Javaid and Alalawi, 2018; Karim et al., 2010; Supiyadi et al., 2019; Yahya et al., 2017; Zarrouk et al., 2016). Therefore, and following the divergence of the results of these previous studies, we formulate the following hypothesis:

H3: There is a significant relationship (positive or negative) between operational efficiency and financial performance of Islamic banks.

2.4. Liquidity

A bank's liquidity ratio measures and shows the bank's ability to meet its short-term commitments. Previous studies find that there is a significant link between liquidity and banking performance. However, the nature of this relationship differs from study to study. For conventional banks, Molyneux and Thornton (1992) and Goddard et al. (2004) conclude that there is a negative correlation between the levels of liquidity and profitability unlike Bourke (1989) and Berger (1995) who find that there is a positive link between liquidity and profitability banks. Although Islamic banks face several challenges in their day-to-day liquidity management operations, most empirical studies have raised a positive relationship between liquidity and the financial performance of Islamic banks (Abdillah et al. al., 2016; Eljelly, 2013; Samail et al., 2018; Sukmaningrum et al., 2020; Supiyadi et al., 2019; Trad et al., 2017; Wasiuzzaman and Tarmizi, 2010; Yahya et al., 2017; Zarrouk et al., 2016).

Likewise, we expect a positive relationship between the liquidity and financial performance of Islamic banks. Hence the following hypothesis:

H4: There is a positive relationship between liquidity and financial performance of Islamic banks.

2.5. The size of the bank

Another important factor in explaining the financial performance of banks is the size of the bank. Indeed, large banks can benefit from economies of scale enabling them to produce services at a lower cost, to offer a diversified portfolio of products and services and to have the means necessary for effective risk management. Due to the dominance of studies that support the existence of a positive relationship between the size of the Islamic bank and its performance (Abduh and Idrees, 2013; Alharbi, 2017; Asma'Rashidah Idris et al., 2011; Belkhaoui and al., 2020; Chowdhury and Rasid, 2016; Eljelly, 2013; Karim et al., 2010; Masood and Ashraf, 2012; Muda et al., 2013; Sufian and Zulkhibri, 2015; Trabelsi and Trad, 2017; Trad et al., 2017; Yahya et al., 2017), we formulate the following hypothesis:

H5: There is a positive relationship between the size and financial performance of Islamic banks.

3. Research methodology

In this section, we first discuss the choice of the selected sample, as well as the data sources used in the empirical study. Secondly we present, respectively, the explanatory variables as well as the econometric methodology used.

3.1. Presentation of the sample

The objective of this study is to examine the impact of four internal determinants on the financial performance of Islamic banks. For this purpose, we have used data from banks in 12 countries (Saudi Arabia, Bahrain, Brunei Darussalam, United Arab Emirates, Indonesia, Jordan, Kuwait, Malaysia, Nigeria, Oman, Pakistan, and Turkey). Based on this sample, the data was collected from the database produced by the Islamic Financial Services Board (The data of IFSB can be downloaded from the following link: https://www.ifsb.org/psifi_06.php). This database provides data by country and by quarterly frequency, from the balance sheets and income statements of Islamic banks. The period of our empirical study spans from the last quarter of the year 2013 until the third quarter of the year 2019.

3.2. Definitions and measures of variables

Analysis of the diversity of work, which has dealt with banking performance and its measures, reveals that three performance measures are frequently used, namely return on assets (ROA), return on equity (ROE), and the net interest margin (NIM). In our study, we only use the first measure (ROA). Indeed, this choice is justified by the fact that this indicator constitutes the most useful measure of bank profitability over time, because assets have a direct effect on income and expenditure (Kosmidou et al., 2007; Van Horen, 2007). Likewise, this ratio reflects the bank's ability to generate income from its assets. Finally, return on assets has become the most common measure of bank profitability in the literature (Golin, 2001; Srairi, 2008; Garcia-Herrero et al., 2009; Olson and Zoubi, 2011; Dietrich and Wanzenried, 2011).

Table 1 below groups together the explanatory variables previously developed in the literature review, as well as the measure used for each factor, retained in the econometric model.

Table 1. Variable definitions

Variable name	Variable notation	Variable measure
Dependent variable		
Financial profitability	ROA	Net income / total assets
Explicative variables		
The bank's capitalisation	CAP	Regulatory capital / risk-weighted assets
The quality of assets	QAL	Non-performing funding / total funding
Operational efficiency	EOP	General operating expenses / net banking income
The size of the bank	TAI	Natural logarithm of total assets
Liquidity	LIQ	Liquid assets / total assets

3.3. The econometric methodology

Our study, which addresses the analysis of the financial performance of Islamic banks, based on four internal determinants, will be conducted using the panel data regression model. This approach has several advantages, particularly in terms of considering both the transversal dimension and the temporal dimension of the data. Likewise, the use of panel data results in better quality and more reliable results than those given by time series analysis. To test this effect, we consider the following basic model:

$$Y_{ijt} = \alpha_{ijt} + \beta_{ijt}X_{ijt} + \varepsilon_{ijt} \quad (1)$$

Where, Y_{ijt} represents the variable to be explained, financial performance (ROA), i expresses the individual dimension of bank, j expresses the individual dimension of country, t expresses the temporal dimension (by quarter from 2013 Q4 to 2019 Q3), α_{it} is a fixed constant term for all countries across all periods, X_{it} : matrix of the explanatory variables of

the model, β_{it} : the regression coefficients for the explanatory variables and ϵ_{it} measures the error term. Indeed, our model can be written as follows:

$$ROA_{ijt} = \alpha_{ijt} + \beta_{ijt}CAP_{ijt} + \beta_{ijt}QAL_{ijt} + \beta_{ijt}EOP_{ijt} + \beta_{ijt}TAI_{ijt} + \beta_{ijt}LIQ_{ijt} + \epsilon_{ijt} \quad (2)$$

4. Analysis of empirical findings

This section is devoted to the presentation of the results of descriptive statistics and the regression of financial performance according to the variables presented above.

4.1. Descriptive statistics

Before presenting our econometric estimates, recourse to descriptive statistics constitutes an essential preliminary phase to give a global and general state of all the variables studied. Table 2 below provides descriptive statistics for the mean value, standard deviation, minimum and maximum of these different variables.

Table 2. Descriptive statistics

Variable	Obs.	Mean	Std. Div.	Minimum	Maximum
ROA	1200	0.010976	0.011504	-0.057747	0.039131
CAP	1200	0.206807	0.100581	0.129072	0.810168
QAL	1200	0.041035	0.032643	-0.001595	0.148876
EOP	1200	0.662035	0.390350	0.180418	3.658668
LIQ	1200	0.266693	0.142974	-0.000149	0.723757
TAI	1200	11.23573	3.377654	5.698264	19.59943

Analysis of the descriptive statistics highlights the following salient points. The average return on assets in our sample is very low (around 1%). These results show that Islamic banks, operating at the country level of our sample, are slightly less profitable. The maximum ROA value (3.9%) confirms this point.

We find that the operational efficiency of Islamic banks measured by the cost / income ratio is, during the period 2013Q4 - 2019Q3, around 68.92% with a minimum of 18.04% and a maximum of 365.86%. This proves that the general operating costs weigh heavily on the Islamic banking net income. Hence the need to control these loads to achieve better performance.

Regarding liquidity, the average of this variable in our sample is 26.66% with a maximum value of 72.37%. This high level of liquidity allows banks to have a large amount of liquid assets to insure their liabilities.

4.2. Correlation test

Before starting the regression of the panel data, it is necessary to examine the correlations between the explanatory variables used in our econometric model. The aim is to avoid the biases of multi-collinearity. The latter can induce instability of the regression coefficients and distort the precision of the model estimate (Bourbonnais, 2009). Table 3 below shows the correlation coefficients between the different variables considered in our study.

Table 3. Correlation matrix

	CAP	QAL	EOP	LIQ	TAI
CAP	1.0000				
QAL	-0.2924	1.0000			
EOP	0.7388	-0.0360	1.0000		
LIQ	0.1632	-0.0022	-0.1271	1.0000	
TAI	-0.2856	0.2677	0.0143	-0.1578	1.0000

Before interpreting the results of the estimation, it is interesting to study the problem of multi-collinearity between the explanatory variables. Reading the correlation matrix reveals that the correlation coefficients between the independent variables have a minimum value of -0.2924 and a maximum of 0.7388. This leads us to note the absence of the problem of multi-collinearity between these variables insofar as no coefficient exceeds the limit value of 0.8 (Kennedy, 2003). This shows that the estimation of the regression coefficients of our model is reliable and valid.

4.3. Panel data regression

The estimation of our final model retained requires the implementation of a set of tests, namely: the test of normality, the test of multi-collinearity, the test of presence of individual effects, the test of heteroskedasticity and finally the Hausman test. This last test makes it possible to choose between the fixed effect model and the random effect model.

In our case, the probability of the Hausman test is $\text{Prob} > \chi^2 = 0.0006$. It is significant at the 1% level. The result of this test makes it possible to choose the fixed effects model. The results of the regression are shown in Table 4 below.

Table 4. Estimate results

Dependent variable: ROA	Coefficient	Std. Div.	t-statistic	P > t
CAP	-0.0305069	0.0072785	-4.19	0.000*
QAL	-0.0463751	0.0197844	-2.34	0.020**
EOP	-0.0138394	0.0016123	-8.58	0.000*
LIQ	0.0114635	0.0052824	2.17	0.031**
TAI	0.0061204	0.0012052	5.08	0.000*
CONSTANT	-0.0434747	0.0141468	-3.07	0.002*

ROA: financial profitability; CAP: capitalisation of the bank; QAL: quality of assets; EOP: operational efficiency; LIQ: liquidity; TAI: size of the bank. *, ** statistically significant at 1% and 5% respectively.

Reading Table 4 shows that all the explanatory variables are very significant at the 1% and 5% thresholds. Indeed, we first observe that the solvency ratio (CAP) is statistically significant, that bank capitalisation has an impact on the return on assets. This result affirms that the first research hypothesis is confirmed. For greater precision, this relation is negative, thus confirming the conclusions of Chowdhury et al. (2017), Supiyadi et al. (2019) and Wasiuzzaman and Tarmizi (2010).

Likewise, the quality of assets has a negative and significant relationship with the financial performance of Islamic banks. This result implies that an increase in non-performing financing means a decrease in the quality of assets, which leads to a decrease in bank profitability. Thus, our second hypothesis which predicts a significant influence of this variable on banking performance is confirmed. This result seems to be in line with the conclusions of several previous studies (Karim et al., 2010; Samail et al., 2018; Wasiuzzaman and Tarmizi, 2010; Zarrouk et al., 2016).

The cost / income ratio, as an indicator of operational efficiency, has a negative and significant impact on the financial performance of Islamic banks. This result assumes that an increase in general operating expenses implies a decrease in the bank's net income, which leads to a decrease in bank profitability. This means that banks which control the costs associated with their operation, in particular salary costs and external costs, are more efficient and achieve better profitability of managed assets. On this point, our results join those of previous research (Ben Khediri and Ben Khedhiri, 2009; Chowdhury and Rasid, 2016; Javaid and Alalawi, 2018; Karim et al., 2010; Supiyadi et al., 2019; Yahya et al., 2017; Zarrouk et al., 2016) that asserts that there is a positive relationship between operational efficiency and banking performance. This finding confirms our third hypothesis.

In addition, the liquidity ratio is considered significant and positively related to the profitability of Islamic banks. This result shows that liquid assets play an important role in the balance sheet structure of Islamic banks, while allowing them to reduce their liquidity risk. The positive and statistically significant relationship confirms our fourth hypothesis which predicts a positive influence of this variable on the financial performance of Islamic banks. This result is consistent with the finding of several previous studies (Abdillah et al., 2016; Eljelly, 2013; Samail et al., 2018; Sukmaningrum et al., 2020; Supiyadi et al., 2019; Trad et al., 2017; Wasiuzzaman and Tarmizi, 2010; Yahya et al., 2017; Zarrouk et al., 2016).

Finally, our results show that the size of the bank has a significant and positive effect on the performance of Islamic banks. With a coefficient of 5.08, size is the most important factor among the regression coefficients of the exogenous variables. This means that the profitability of Islamic banks depends, to a large extent, on the size of the bank. Thus, these banks take advantage of economies of scale to improve their performance. Our results are consistent with various previous studies (Abduh and Idrees, 2013; Alharbi, 2017; Asma'Rashidah Idris et al., 2011; Belkhaoui et al., 2020; Chowdhury and Rasid, 2016;



Eljelly, 2013; Karim et al., 2010; Masood and Ashraf, 2012; Muda et al., 2013; Sufian and Zulkhibri, 2015; Trabelsi and Trad, 2017; Trad et al., 2017; Yahya et al., 2017) confirming, accordingly, our fifth hypothesis.

5. Conclusion

This research aims to examine the relationship between internal determinants and the performance of Islamic banks. Specifically, we examined the effect of bank capitalisation, asset quality, operational efficiency, bank size, and liquidity on financial performance as measured by return on assets (ROA). Our sample covered Islamic banks from 12 countries during the period from the last quarter of 2013 to the third quarter of 2019.

The results of this study showed that all the explanatory variables are significant determinants of the financial performance of Islamic banks. While bank capitalisation, asset quality and operational efficiency are negatively related to the banking performance of Islamic banks, other explanatory variables (bank size and liquidity) positively affect the profitability of Islamic banks.

The objective of this study is to draw the attention of managers in Islamic banks to the importance of understanding these determinants that could directly or indirectly impact the performance of banks. Studying the effect of these factors helps to facilitate and guide strategic decisions aimed at achieving improved performance of Islamic banks.

Like all research work, our study is not without limitations which may represent future research perspectives. The main limitation of this research is the study of the impact of internal factors on the performance of Islamic banks. It would be interesting to carry out a study that includes both internal and external factors (macroeconomic variables, regulatory variables, variables relating to the structure of the market).

Declaration of conflicting interests

The authors announce that there is no conflict of interest.

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