

# Determinants of Islamic Banks' Profitability:

## An empirical study (2008-2018)

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## محددات ربحية المصارف الإسلامية دراسة قياسية للفترة 2008-2018

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Received: 20/10/2019

Accepted: 26/07/2020

Published: 30/08/2020

### Abstract:

The purpose of the study is to examine the main factors that may have an effect on the financial profitability of Islamic banks for a sample of 10 banks working in Bahrain, Jordan, Kuwait, United Emirate, and Saudi Arabia, during the period 2008-2018. The dependent variables under investigation are return on assets (ROA) and return on equity (ROE). Factors that control banks' profitability are distinguished into two groups: bank-specific or internal variables and macroeconomic or external variables. The study uses the fixed effect model to analyze the data. The study results revealed that: First, the following variables: credit, liquidity risk, LIQ 1 and LIQ2, exchange rates, and inflation don't have a significant impact on the Islamic banks' profitability. Second, the study finds a statistical impact of liquidity (Liq3: total deposits to total loans), GDP, and efficiency on the Islamic banks' profitability.

**Keywords:** Islamic banks; profitability; determinants; panel data.

**Jel Classification Codes :** G21; E44; C33.

### ملخص:

تهدف هذه الدراسة إلى تحديد العوامل الرئيسية التي تؤثر على الأداء المالي للبنوك الإسلامية، لعينة مكونة من 10 بنوك تعمل في كل من: البحرين والأردن والكويت والإمارات المتحدة والمملكة العربية السعودية خلال الفترة 2008-2018. المتغيرات التابعة تمثلت في العائد على الأصول (ROA) والعائد على حقوق الملكية (ROE) أما العوامل التي تؤثر على ربحية المصارف فنتميز بين مجموعتين: العوامل (الداخلية) الخاصة بالمصارف وعوامل الاقتصاد الكلي (الخارجية). تم استخدام أسلوب التأثير بالآثار الثابتة لنماذج البانل في التحليل. بينت نتائج الدراسة أن: أولاً: لا أثر للمتغيرات التالية: الائتمان، مخاطر السيولة، I و LIQ2، أسعار الصرف والتضخم على الأداء المالي للبنوك الإسلامية ثانياً، تأثير السيولة. ثانياً: يوجد تأثير للسيولة المتمثلة في نسبة إجمالي الودائع إلى إجمالي القروض (Liq3) والنتائج المحلي الإجمالي والكفاءة على الأداء المالي للبنوك الإسلامية ممثلاً بمعدلات العائد على حقوق الملكية (ROE) ومعدل العائد على الأصول (ROA).

**الكلمات المفتاحية:** البنوك الإسلامية؛ الربحية؛ المحددات؛ بيانات البانل.

**الترميز الاقتصادي (JEL):** G21 ; E44 ; C33.

## I. Introduction

Banks have a major role in achieving economic development in countries because they bring together the owners of surplus and cash deficit (Malakolunthu & Rengasamy, 2012). Accordingly, the banking sector is a crucial financial segment in economic growth and development particularly in developing countries whose capital markets are not fully developed (Ongore, 2013).

Islamic finance which is a method of banking that abides by Shariah law and forbids charging interest and gambling became in recent years a major player in the economy of both Islamic and non-Islamic nations. The Islamic modes of finance based on the profit and loss sharing principle, this makes the Islamic economy a real economy, since it forbids debt selling and interest rate based contracts.

The first interest-free bank is the Nasser Social Bank; this later was established in Egypt in 1971. This was the first attempt by a government to support the integration of a non-profit organization. Although, Nasser Social Bank's objectives were primarily social because, this bank offered loans without interest to the poor people, and provided students' scholarships. Moreover, it gave loans to small enterprises based on profit and loss participation; Many Muslim businessmen participated in this initiative and founded the Dubai Islamic Bank in 1975. This bank is considered the first Islamic bank established by private individuals and the UAE and Kuwait government contributed 20% and 10% respectively of the capital (Molyneux & Iqbal, 2005).

The Islamic Finance Development Report 2018 shows that the Islamic finance industry has 1,389 institutions and full Islamic financial windows. Islamic Banking acquired 71%, or US\$1.7 trillion, of total industry assets in 2017 - with a compound annual growth rate of 5%. There is a continuing trend of integration into the Islamic banking industry, with some major mergers and acquisitions taking place in larger markets such as Malaysia and the GCC (The Islamic Finance Development Report, 2018).

According to the importance of Islamic banking and its considerable growth in recent years the researcher in this paper tries to examine the impact of some internal and macroeconomic variables on Islamic banks' profitability for the following countries: Bahrain, Jordan, Emirates, Kuwait, and Saudi Arabia, using the panel data models.

The rest of the research is planned as follows: section two reviews bank's profitability studies, section three provides an overview of the data, the selected model, and the study variables, in section four; the researcher reveals the study findings. The last section provides the main conclusions.

### 1. Problem Statement

Financial profitability is an indicator of the financial viability of a bank, so financial management works hard to improve financial profitability. But, there are several factors that define this profitability, and which belong to an internal and external environment characterized by mobility and instability. Therefore, the problem of the study comes to examine the effect of banks' determinants on their financial profitability; to do that the following question will be investigated: What is the impact of the factors and circumstances surrounding Islamic banks' profitability during the period 2008 -2018?. This can be done by answering the following sub-questions:

- ◆ What are the main variables that affect Islamic banks' profitability?
- ◆ What is the effect of internal factors on Islamic banks' profitability?
- ◆ What is the effect of external factors on Islamic banks' profitability?

## 2. Study Objectives

The current paper seeks to reach the following objectives:

1. To determine the key internal determinants that affect the profitability of Islamic banks.
2. To identify the effect of macroeconomic factors on Islamic banks' profitability.
3. To statistically measure the impact of each variable on banks' profitability.
4. To determine the most influencer factor on Islamic banks' profitability.

## 3. Study hypotheses

$H_1$  There is an effect of liquidity on Islamic banks' profitability.

$H_{1-1}$  There is an impact of total deposits to total assets on the profitability of Islamic banks.

$H_{1-2}$  There is an impact of cash to total deposits on the profitability of Islamic banks.

$H_{1-3}$  There is an impact of liquidity on the profitability of Islamic banks.

$H_2$  There is an impact of credit risk on the profitability of Islamic banks.

$H_3$  There is an impact of total deposits to total loans on the profitability of Islamic banks.

$H_4$  There is an impact of inflation on the profitability of Islamic banks.

$H_5$  There is an impact of GDP on the profitability of Islamic banks.

$H_6$  There is an impact of the exchange rate on Islamic the profitability of Islamic banks.

## 4. Literature Review:

(Salman & Nawaz, 2018) **Islamic financial system and conventional banking: A comparison**", the researchers in this paper try to examine the differences in banks' profitability, efficiency, and liquidity of both Islamic and traditional banks, during the period (2013-2017) this was done through evaluating banks' data. One sample t-tests as well as the percentages are used to identify the sample characteristics. Regression analysis is utilized to investigate the factors that affect customer trust in Islamic and commercial banks. The research finding showed that there is a significant statistical difference in the factors affecting customers' confidence in both types of banks. Moreover, the impact of the ROA on customer confidence in the Islamic Bank is more than in traditional banking.

(Alharbi, 2017) **"Determinants of Islamic banks' profitability: international evidence"**, the researcher in this study investigates the main factors affecting the profitability of Islamic banks using the longitudinal data during the period 1992 to 2008 of a large number of Islamic banks in the world, to perform the analysis the researcher used the unbalanced panel data and the appropriate model was the fixed-effects. The paper findings revealed that there is a positive impact of the following variables: capital, operating income, GDP per capita, bank size, concentration, and oil prices on the Islamic banks' profitability. But there is a negative impact of Insurance schemes, foreign ownership, and real GDP growth on Islamic banks' profitability.

(Embaya, 2012) **Determinants of Islamic Banks' profitability in Malaysia, published Ph.D. thesis, University of Sains Islam Malaysia.**

In this study the researcher seeks to reach the following purposes:

- ◆ To identify the main determinants of Malaysian Islamic banks' profitability;
- ◆ To determine the impact of the 2008 financial crisis on banks' profitability;
- ◆ To compare the determinants of Islamic local and foreign banks;
- ◆ To examine the extent to which Malaysian Islamic banks' efficiency is determined by many factors.

The study is conducted during the period 2007 to 2010, the study sample comprises 17 Malaysian Islamic banks; The Tobit regression model is utilized to perform the analyses.

The study results indicate that the following variables affect banks' profitability: Financing, deposits, overheads, inflation, efficiency, GDP growth, and bank size. Moreover, the study finds that Local Islamic banks are more profitable and efficient than foreign banks, and there are significant differences in their profitability determinants. The financial crisis also shows a negative and significant impact on Islamic banks' profitability, while it doesn't show any impact on banks' efficiency.

## II. Data And Methodology

The used data as well as the methods are explained as follows:

### 1. Data

The data used in this paper is for 10 Islamic banks from the following countries: Bahrain, Jordan, Kuwait, United Emirate, and Saudi Arabia, over the period 2008–2017. The data is gotten from banks' websites concerning the internal determinants while the external determinants' data is gotten from the World Bank website.

Experimental researches use a diversity of techniques to identify banks' profitability determinants. (Alharbi, 2017) used the Fixed effects model to investigate banks' profitability determinants of many Islamic banks around the world. More recent research undertaken by (Salman & Nawaz, 2018) have used Ratio analysis and a one-sample t-test to find out the sample characteristics and regression analysis to inspect if there is a significant statistical difference in factors affecting customers' trust in both Islamic and traditional banks.

The current research uses the panel data methodology to analyze the data and to test the hypotheses, the panel data have many names like longitudinal or cross-sectional time-series data, in this type of data, the behavior of a unit is followed over time. These units could be governments, corporations, banks, etc (Torres-Reyna, 2007). The panel data model is suitable for this study because this type of data can capture the bank level changes which cannot be determined by using the cross-section or time series models. Additionally, the use of cross-section or time series models will not reduce the problem of multicollinearity but the panel data can do since it provides a higher degree of freedom. These advantages of panel data can be achieved since this method increases the number of data points (Baltagi, 2005, p. 53).

## 2. Model Specification

In the following the researcher presents a model that summarizes the impact of the internal and external variables on the profitability of banks:

$$PROF_{i,t} = \alpha_0 + \beta_1 LIQ1_{i,t} + \beta_2 LIQ2_{i,t} + \beta_3 LIQ3_{i,t} + \beta_4 EFF_{i,t} + \beta_5 RIS_{i,t} + \beta_6 EXC_{i,t} + \beta_7 GDP_{i,t} + \beta_8 INF_{i,t} + \varepsilon_{it} \dots \dots \dots (1)$$

- PROF<sub>i,t</sub>*: Is utilized as a proxy of (ROA or ROE) for bank *i* through the time period *t*;
- LIQ1<sub>i,t</sub>*: Is a liquidity measure and its proxy is the total deposit to total assets for the bank *i* through the time period *t*;
- LIQ2<sub>i,t</sub>*: is also a liquidity ratio and it represents the cash to total assets for the bank *i* through the time period *t*;
- LIQ3<sub>i,t</sub>*: is a liquidity ratio measured by total deposits to total loans and for the bank *i* through the time period *t*;
- RIS<sub>i,t</sub>*: The loan-to-total assets ratio, the variable represents banks' I risk through the time period *t*.
- EFF<sub>i,t</sub>*: is the bank' *i* efficiency during the period *t*;
- GDP<sub>i,t</sub>* Growth is a measure of economic conditions. However,
- INF<sub>i,t</sub>*, is the inflation rate, the,  $\alpha_0$  is a constant;  $\beta_i$  (*i* = 1 to 10) is a variable coefficient; whereas  $\varepsilon_{it}$  is the error term. The conceptual model of the effect of Islamic banks' profitability determinants on banks' profitability can be illustrated in figure 1.

### III. Banks' Profitability determinants

Assessing the profitability of banks is considered as a difficult process that includes evaluating the interaction among macroeconomic or external operations and internal activities. Generally, the profitability and the performance of Islamic banks can be assessed using a set of financial ratios. The analyses of the accounting data are considered as the main method of assessing internal profitability. Since the financial ratios rely primarily on accounting data provided by the bank's financial statements, they often give a deeper perceptive about the financial situation of banks (Hassan & Bashir, 2003). In this paper two profitability measures are used ROA and ROE; these ratios are broadly used by economists in their papers to reveal banks' ability to generate profits from their activities.

**1. Profitability measures:** bank profitability in this paper is measured through two main ratios which are the return on equity (ROE) and the return on assets (ROA). The return on assets is calculated by dividing the net profit after tax and Zakah on banks' total assets, while ROE is calculated by dividing the net profit on the total shareholders' equity. The values of both ratios are computed in percentages. These ratios are utilized to determine Islamic banks' profitability. The return on asset (ROA) is employed to assess banks' ability to generate revenues from their assets, while return on equity (ROE) represents profits produced from shareholder's equity.

**2. Bank-specific variables:** this type of variables are also called the internal variables, in the current study the researcher selects a group of bank-specific variables, to investigate their impact on

Islamic banks' profitability, these variables are credit risk, operating efficiency, and liquidity; in the following, we give a brief illustration on these variables and their impact on banks' profitability:

- ♦ **Liquidity:** the researcher in this study uses three ratios to measure banks' profitability, the total deposit to total assets ratio, the cash to total assets ratio, and the total loans to customer deposits ratio, this later is considered as a proxy for the liquidity risk. Evidently, banks that have appropriate levels of liquidity have the opportunity to meet their obligations and to mitigate their risks, even in hard times as bank runs.
- ♦ **Credit risk:** this variable is one of the most important variables that can be taken into account when examining the profitability of banks, where the probability of losses increases relative to the bank as a result of the non-payment of customers' dues. This ratio is often expressed as the rate of loan losses reserves to the total or net loans granted by banks. In this study, we suppose to have a negative impact on credit risk represented by bad loans on banks' profitability (Mansur, Zangeneh, & ZitZ, 1993).
- ♦ **Efficiency:** To express the efficiency of banks, the rate of total expenses-to-total assets (EFF), which is considered as an important concern in the novel monetary and financial system, is usually relied upon. Due to the intangible nature of financial institutions' products and services, it is relatively difficult to measure their efficiency. Accordingly, the ratio of overhead to total assets was adopted in this research to reflect the difference in operating costs across banks. Moreover, this rate represents employment; the total amount of Salaries, overtime wages, workers' wages taxes, rewards ... According to the above, the researcher expects that efficiency has a negative and statistically significant impact on Islamic banks' profitability.

**3. Macroeconomic determinants:** in this study, the researcher uses three important macroeconomic variables which are: GDP, inflation, and exchange rate; the economic definitions of these concepts are given as follows:

- ♦ **Gross domestic product growth rates (GDP):** The economic growth is a measure of overall economic activity as this rate affects various factors related to supply and demand for deposits and bank loans. Accordingly, the researcher predicts a positive and statistically significant impact of the rate of economic growth on banks' profitability.
- ♦ **Inflation (INF)** Inflation is the general rise in the prices level, which in turn affects costs and revenues in various institutions and banks. That the rise in inflation rates may be mainly due to higher interest rates on bank loans. In cases where inflation is fully expected, interest rates are adjusted in turn accordingly, which may adversely affect the bank's profitability and, conversely, an unexpected rise in inflation will lead to difficulties in the cash flow of borrowers, which may cause the early termination of Loans arrangements and accelerated losses. In fact, if adjusting bank interest rates is slow, this may increase the volume of costs in banks faster than revenue. The economist (Perry, 1992) confirms that the impact of inflation rates on banks' profitability depends on how much the real value of inflation is expected. Based on the above, the researcher in this study expects that the inflation and Islamic banks' profitability are positively correlated.

- ♦ **Exchange rate (EXC):** an exchange rate can be defined as the rate at which a currency can be exchanged for another. In this study, it represents the rate at which the currencies of the countries include are d in the study sample exchanged for the US dollar.

#### IV. Results And Discussion

Before starting the analyses the researcher applies some preliminary tests to test out the validity and the credibility of the data, the used tests are illustrated as follows:

##### 1. Panel unit root test

In order to estimate the study model and find out the impact of the profitability determinants on banks' profitability, it was necessary to first check out the data stationarity of all the approved variables. For the stationarity of the panel model, we examined the following two hypotheses:

$H_0$  There is a unit root.

$H_1$  There isn't a unit root.

The *unit root* test checks out the data Stationarity, if the mean, as well as the variance of the time series, are stable across time and the covariance value among two periods depends mainly on the distance between two-time episodes, then it can be concluded that the data series is stationary (Gujarati & Porter, 2010, p. 100). The first use of the unit root for a single string goes back to the researchers (Dickey & Fuller, 1979).

The Augmented Dickey-Fuller test, for single time series, has a low strength in the sense that it tends to reject excessively the hypotheses of a time series stationarity. (Levin, Lin, & Chu, 2002) has been reported that using the test of the unit root for the panel data can considerably raise the test efficacy. They provided a statistical basis for the group unit root tests through developing their method of multivariate generalization for the Augmented Dickey-Fuller test.

Table (1) provides the main outcomes of the stationarity test where the LLC, ISP and, ADF tests are applied; the results revealed that at 1% level we can reject the null hypotheses of the existence of *unit root* (data are non-stationary), this means that the variables have no unit root at the level through the period time (2008-2018). According to the preceding, we can conclude that the study variables demonstrate a high time dependency degree this enables the researcher to depend on the fixed-effect method.

##### 2. The Hausman test

The Hausman test is built on a fundamental difference between fixed and random effects. It is the extent to which the variables are related. Although standard analysis texts indicate that fixed effects are most appropriate for cross-sectional data of countries, this can only be confirmed after using the Hausman test (Hausman, 1978), to see which impacts are most appropriate for the model estimation, whether the fixed or random effect models. For identifying which of the two models should be selected and used in the study, the null hypothesis relies on the absence of the correlation in a situation where both fixed and random effects capabilities are coordinated but the ability of random effects is most efficient, while according to the alternative hypothesis of correlation, The ability of fixed effects is only coordinated and more effective, and on this basis, the two assumptions take the following form:

$H_0$ : The random effect model is appropriate in which case the least generalized least squares (GLS) method is used.

$H_1$ : The fixed effect model is appropriate in which case the normal least squares (OLS) method is used.

The fixed effect model is most appropriate. When the results reveal that the p-value is fewer than 5 percent.

According to the results shown in table 2, it can be noticed that the appropriate model is the fixed effect model, in both cases when using the ROA or the ROE as dependent variables, where the probability value in the two models was less than 5%.

### 3. Fitness of the Regression Models

According to the results shown in tables (3) and (4), it can be concluded that 57% from the variation in Islamic banks' profitability is illustrated by the profitability determinants selected in this study ( $R^2 = 57\%$ ); when we used the return on equity as a dependent variable and 62% when the return on assets is applied.

F-test contributes to investigating the model adequacy and from Tables 3 and 4, it is found that the values of all F statistics were significant at a 5 % significance level, according to the applied models. The results of these tests also confirm that the applied models were adequate in identifying the effect of profitability determinants on banks' profitability.

### 4. Hypotheses Testing

Depending on the findings of the statistical analysis in Table (3), the hypotheses of the study were tested as follows:

The findings of the hypothesis testing in Table (3), point out that there is no impact of total deposits to total assets (LIQ1) on the financial profitability of Islamic banks, and consequently we can accept the  $H_0$  hypothesis and reject the  $H_1$  ( $p=0.1513 > 0.05$ ). Also, the results reveal that there is no impact of cash to total assets (LIQ2) on the financial profitability of Islamic banks, consequently, we accept the  $H_0$  hypothesis ( $p=0.7927 > 0.05$ ) and reject the  $H_1$  hypothesis.

Furthermore, there is no impact of liquidity measuring by the ratio of cash to total assets (LIQ2) on the ROE as a financial profitability measure of Islamic banks. While we note that, there is an impact of total deposits to total loans (LIQ3) on the financial profitability of Islamic banks at ( $p = 0.005 < 0.05$ ) significance level; accordingly the hypothesis  $H_1$  is accepted while the  $H_0$  rejected. Therefore, the higher the ratio of total deposits to total loans (LIQ3), the lower the return on equity since an increase of 10% in liq3 leads to an increase of 0.00148% in ROE.

The findings of the study also revealed that the RIS ratio doesn't have any impact on the financial profitability of Islamic banks at ( $p = 0.7410 > 0.05$ ) significant level, from which it can be said that there is no effect of credit risk for loans to the total assets (RIS) on the return on equity (ROE) which is an indicator of the Islamic banks' financial profitability.

The results of the study also prove that the EFF (operating costs to total income) affects the Islamic banks' financial profitability at a significant level ( $p = .00010 = < 0.05$ ), and consequently



$H_1$  is accepted. The higher the EFF ratio of 10% as the return on equity decreases by 3.61%, therefore, there is an impact on the operating risk on the (ROE) ratio which is an indicator of the Islamic banks' financial profitability.

In terms of exchange rates, the study findings show no impact on Islamic banks' financial profitability, since the ( $p = 0.5343 > 0.05$ ), and therefore there is no effect of exchange rates (EXC) on the ROE of Islamic banks. We draw the same conclusion for inflation, as we have not recorded any statistically significant effect on Islamic banks' financial profitability at ( $p = 94080.p \Rightarrow 0.05$ ) significant level.

Furthermore, in terms of GDP, the results of the hypothesis test in Table 4 point out that a significant effect of GDP exists on banks' financial profitability where ( $p = 0.011 = < 0.05$ ). Accordingly, a 10% increase in GDP causes a 0.14% decrease in the (ROE), so we can conclude that market risk represented by the GDP has a significant effect on the ROE which is used to measure the Islamic banks' financial performance.

The results of the hypothesis testing presented in table (4), indicate that there is no effect of total deposits to total assets (LIQ1), on Islamic banks' financial profitability at a 5% significant level ( $p=0.2029 > 0.05$ ). Therefore, there is no liquidity effect represented by total deposits to Total assets (LIQ1) on Islamic banks' return on assets (ROA) as an indicator of the financial profitability. The results also signify that there is no effect of cash to total assets (LIQ2) on the financial profitability of Islamic banks where ( $p=0.1915 > 0.05$ ).

Furthermore, there is no impact of the liquidity risk proxies by the cash to total assets (LIQ2) on the return on assets. The results also show that there was an impact of total deposits to total loans (LIQ3) on the financial profitability of Islamic banks ( $p= 0.0150 < 0.05$ ) and therefore we accept the  $H_1$  hypothesis and reject the  $H_0$ . Therefore an increase of 10% in total deposits to total loans, causes an increase of 11.605 in the ROA ratio.

Regarding the same table, it's obvious that there is no effect of loans to total assets (RIS) on the financial profitability of Islamic banks since ( $p=0.9000 > 0.05$ ) at a 5% significant level. Therefore, there is no effect of credit risk proxied by the ratio of loans to total assets (RIS) on the return on assets (ROA). The study findings indicate that there is an effect of operating costs to total income (EFF) on Islamic banks' financial profitability where ( $p= 0.0000 = < 0.05$ ) and therefore, the higher the ratio of operating costs to total income (EFF) by 10% the inferior the rate of return on Assets by 0.42%, which means that there is a negative impact of operational risk on (ROA).

Besides, the results of the hypothesis testing also indicate that there is no effect of exchange rates (EXC) on the Islamic banks' profitability at a 5% significant level ( $p = 0.9024 > 0.05$ ). The findings also reveal that inflation (INF) doesn't affect Islamic banks' profitability at a 5% significant level ( $p = 0.2096 > 0.05$ ). As a result, there is no impact of inflation (INF) on the (ROA). Finally, the research findings indicate that there is a statistical impact of GDP on Islamic banks' financial profitability since ( $p=0.0462 < 0.05$ ) at a 5% significant level. Therefore, if GDP increases by 10% the rate of return on assets will rise by about 0.008%.

## V. Discussion and analysis of results

1. There is no impact of total deposits to total assets on Islamic banks' financial profitability when both measures of profitability are used (ROE and ROA); this indicates that these Islamic banks have sufficient liquidity able to cover their investment needs due to the policy of the Central banks which imposed a certain level of liquidity required to maintain a good percentage of their deposits in the form of reserves in addition to applying the requirements of the Basel Committee so as not to be exposed to the liquidity risk.
2. There is no impact of cash to total assets (LIQ2) on the financial profitability of Islamic banks when both measures of profitability are used (ROE and ROA); which indicates that banks are measuring liquidity indicators to mention how banks can effectively manage and convert their assets. Capital adequacy is a safety barrier for depositors' funds and is a good demonstration of the bank's financial profitability.
3. There is a statistical impact of total deposits to total loans (LIQ3) on the financial profitability of Islamic banks; when both measures of profitability are used (ROE and ROA). This impact explains the positive effect of deposits on financial profitability from the ongoing awareness of the bank's customers about the benefits of these deposits. However, it is necessary for banks to continuously invest the amounts of these deposits through Islamic investment, in order to achieve their objectives and those of their clients at the same time. Moreover, they should focus their great attention on the Takaful and social services such as loan-sensitive service.
4. There is no effect of credit risk (RIS) on Islamic banks' financial profitability (return on equity (ROE) and return of assets (ROA)); This may refer to an effective policy of banks' credit management and solvency; banks depend heavily on its funds to finance its investments as well as continuous retention of reserves and retained earnings, which reduces their exposure to credit risk; the results also indicate that these banks have good credit risk management and take into account the conditions of credit safeguards such as relying on the (PRISM) or 5 (Ps) Or 5 (Cs) models and most of these banks depend on the global credit rating like Al Rajhi bank.
5. There is no impact of the macroeconomic variables (inflation and exchange rates) on both return on assets and return on equity, which can be explained by the high demand for banking services and bank financing in light of economic recovery, and vice versa when the economic situation suffers from depression.
6. There is a significant positive and impact of the economic growth (GDP) on Islamic banks' financial profitability. This later is measured through two famous and widely used ratios, the rate of return on assets (ROA) and the rate of return on equity (ROE). Both, increasing customer deposits and interest margin loans have a positive impact on the profitability of banks. Consequently, when the economic growth declines, demand for loans and deposits also decreases and shows a negative impact on banks' profit and revenues.
7. The impact of efficiency represented by the rate of operating costs to total income (EFF), is found to be negative and statistically significant as it was expected on Islamic banks' financial profitability; this later is assessed trough both measures of profitability (ROE and ROA). These findings prove that operating costs in Islamic banks are the most important obstacles affecting their financial profitability is due to the lack of competent banking staff, or the low profitability

of internal operations and information systems; these banks should rely on many standards and methods proposed by the Basel Committee in managing their operational risks, conduct training courses for employees, use the developed technology equipment and the inclusion of the electronic control mechanism to reduce risk ....etc.

## VI. Conclusion

The study sought to identify the impact of (liquidity, credit risk, and efficiency as internal variables for each bank in addition to the exchange rates, GDP, and inflation as external variables) on Islamic banks' financial profitability. In this study, two profitability measures are used; the return on equity and return on assets ratios. To perform the analysis the researcher depends on a sample contains ten Islamic banks operating in the following countries (Saudi Arabia, Kuwait, United Arab Emirates, Bahrain, and Jordan) during the time period (2008 – 2018) using the Panel Data and the study reached the following results:

After applying the initial tests to ensure the integrity and accuracy of the data as the unit root test using the most common tests (LLC, ADF, and IPS), it was found that the data were stable at the level, which enables the researcher to apply the fixed effect model.

After the hypotheses testing the following results are found:

- ◆ There is no impact of the following variables: credit, liquidity risk, LIQ 1 and LIQ2, exchange rates, and inflation on Islamic banks' profitability measured by both ROE and ROA.
- ◆ There is an impact of liquidity assessed through the rate of total deposits to total loans (Liq3), efficiency, and GDP on Islamic banks' financial profitability, this later is proxied by both (ROE) and (ROA).

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Appendix:

Figure 1: the study model

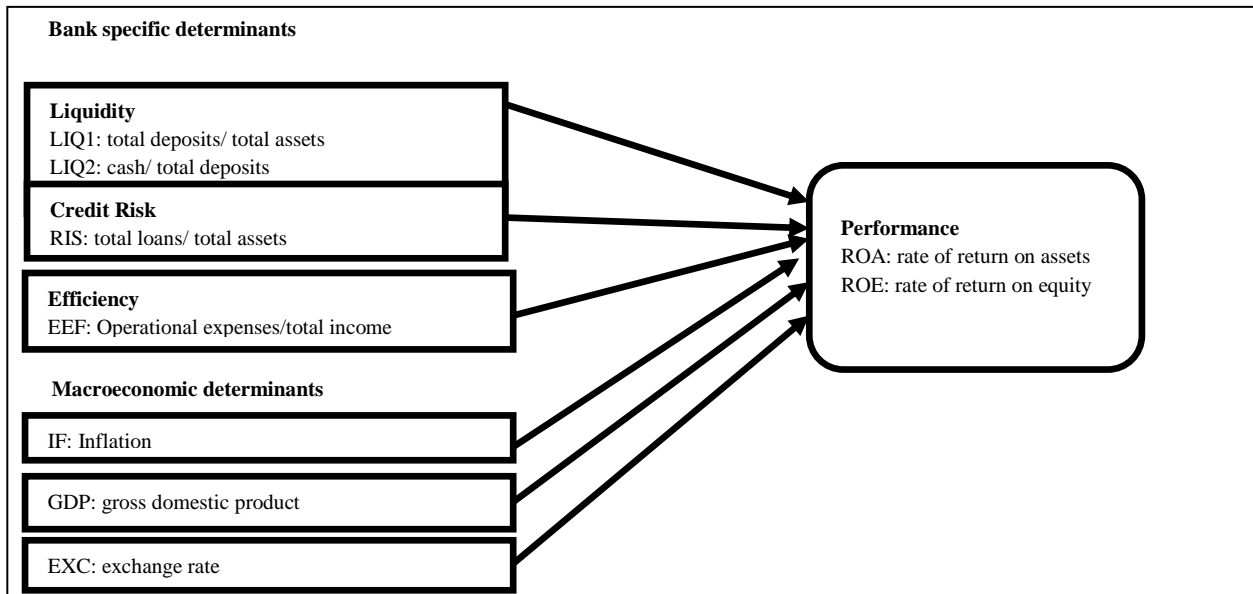


Table (1): Stationarity test results

Variable	Unit root test	At level I(0)	Variable	Unit root test	At level I(0)
LIQ3	LLC	-1421.00 (0.0000)	EFF	LLC	-3.93365 (0.0000)
	IPS	-384.230 (0.0000)		IPS	-1.87339 (0.0305)
	ADF	37.7823 (0.0094)		ADF	35.7373 (0.0165)
RIS	LLC	-39.1302 (0.0000)	EXC	LLC	-2.09640 (0.0180)
	IPS	-12.3357 (0.0000)		IPS	-0.14648 0.3385
	ADF	39.4216 (0.0009)		ADF	4.40375 0.3541
GDP	LLC	-2.09640 (0.0180)	LIQ1	LLC	-7.85910 (0.0000)
	IPS	-0.41648 0.3385		IPS	-2.79194 (0.0026)
	ADF	4.40375 0.3541		ADF	44.5443 (0.0013)
INF	LLC	-17.3905 (0.0000)	LIQ2	LLC	-3.48658 (0.0002)
	IPS	-9.17290 (0.0000)		IPS	-2.64195 (0.0041)
	ADF	103.2731 (0.0000)		ADF	44.2957 (0.0014)
ROA	LLC	-391.357 (0.0000)	ROE	LLC	-21.2731 (0.0000)
	IPS	-93.4727 (0.0000)		IPS	-9.86715 (0.0000)
	ADF	58.6383 (0.0000)		ADF	92.5703 (0.0000)

Source: The Eviews software outcomes

**Table 2. Results of the Hausman test**

ROA			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Probability
Cross-section random	61.347320	8	0.0000
ROE			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	75.830842	8	0.0000

Source: The Eviews software outcomes

**Table (3): Determinants of the return on equity**

Dependent Variable ROA				
Variables	Coefficients	Std. Error	t-Statistic	Probability
C	-3.019588	4.737963	-0.637318	0.5257
LIQ1?	0.388261	0.268025	1.448601	0.1513
LIQ2?	0.047807	0.181288	0.263708	0.7927
LIQ3?	0.000145	5.01E-05	2.887901	0.0050
RIS?	0.204719	0.113141	1.809418	0.0741
EFF?	-0.361640	0.086767	-4.16795	0.0001
EXC?	1.683486	2.697477	0.624096	0.5343
INF?	0.000330	0.004428	0.0745	0.9408
GDP?	0.014898	0.004388	3.394983	0.0011
Fixed Effects (Cross)				
_B1--C	2.541003	_J2--C	1.908349	
_B2--C	2.258586	_K1--C	2.373761	
_S1--C	-3.366444	_K2--C	2.212349	
_S2--C	-3.179789	_E1--C	-3.433319	
_J1--C	1.983303	_E2--C	-3.297798	
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.565294	Mean dependent var	0.080700	
Adjusted R-squared	0.475172	S.D. dependent var	0.155221	
S.E. of regression	0.112450	Akaike info criterion	-1.371074	
Sum squared resid	1.036883	Schwarz criterion	-0.902144	
Log likelihood	86.55371	Hannan-Quinn criter.	-1.181289	
F-statistic	6.272544	Durbin-Watson stat	2.465197	
Prob(F-statistic)				<b>0.0000</b>

Source: The Eviews software outcomes

**Table (4): Determinants of the return on assets**

Dependent Variable ROA				
Variables	Coefficients	Std. Error	t-Statistic	Prob.
C	0.05810	0.441097	0.131719	0.8955
LIQ1?	0.032029	0.024953	1.283601	0.2029
LIQ2?	0.022228	0.016878	1.317026	0.1915
LIQ3?	1.1605	4.6606	2.485113	0.0150
RIS?	0.018073	0.010533	1.715780	0.0900
EFF?	-0.041783	0.008078	-5.172561	0.0000
EXC?	-0.030877	0.251131	-0.122953	0.9024
GDP?	0.000791	0.000409	1.936681	0.0462
INF?	0.000521	0.000412	1.264479	0.2096
Fixed Effects (Cross)				
_B1--C	-0.021190		_J2--C	-0.026908
_B2--C	-0.047580		_K1--C	-0.049238
_S1--C	0.069575		_K2--C	-0.072816
_S2--C	0.085700		_E1--C	0.052161
_J1--C	-0.024716		_E2--C	0.035011
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.622061	Mean dependent var	0.0111	
Adjusted R-squared	0.543708	S.D. dependent var	0.0154	
S.E. of regression	0.010469	Akaike info criterion	-6.119268	
Sum squared resid	0.008987	Schwarz criterion	-5.650337	
Log likelihood	323.9634	Hannan-Quinn criter.	-5.929483	
F-statistic	7.939187	Durbin-Watson stat	1.713128	
Prob(F-statistic)	0.0000			

Source: The Eviews software outcomes.

**How to cite this article by the APA method:**

Yousfi Imane. (2020). Determinants of Islamic Banks' Profitability: "An empirical study (2008-2018)", *Roa Iktissadia Review*, 10 (01), Algeria: University Eloued, pp 349-362.

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