



Determinants of Islamic Banks' Profitability in an Emerging Economy: An Empirical Evidence from Bangladesh

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Research Article

Abstract

Purpose: This study investigates the factors influencing the profitability of Sharia-based Islamic banks operating in Bangladesh.

Methods: Using panel data from 2017 to 2023, the current analysis shows how factors particular to individual banks have impacted the profitability of Bangladeshi banks. To complete this analysis, only Islamic banks are taken into consideration. In this paper, the factors that affect Bangladesh's Islamic banking industry's profitability are clarified. 10 Islamic banks operating in Bangladesh are included in the sample. The study investigates internal factors such as size, liquidity risk, operational effectiveness, credit risk, financial risk, and capital adequacy. The analysis is conducted using panel data regression with fixed effect.

Results: The result shows that operating efficiency, financial risk, and liquidity risk are the most relevant bank-specific characteristics in determining the Islamic banks' profitability in Bangladesh.

Implications: The study suggests that bankers should keep a close observation of credit and liquidity risk indicators, diversify their revenue streams, and minimize expenses. Moreover from the regulatory perspective, the performance of the banks should be evaluated based on their operational efficiency and ability to generate profit. The policy direction will be directed towards enhancing resilience by reducing the risk internally and increasing the efficiency of the Islamic banks to intensify the robustness and stability of this sector.

Originality: While numerous previous studies have provided various explanations of the factors influencing bank profitability, this research specifically examines the internal factors affecting the profitability of Islamic Banks in Bangladesh, an emerging market.

Keywords: Islamic Banks, Profitability, Bangladesh, Panel regression, Internal Factors

1. Introduction

Like many other financial organizations, Islamic banks are essential to the growth of an economy. The advancements in Islamic banking produced by this developing sector in recent years have been among the most widely adopted (AbuHussain & Al-Ajmi, 2012). By offering its clients a variety of services, such as a combination of administrations, business credits, and investment products, Islamic banks are currently growing in popularity around the world. Both Muslim and non-Muslim parts of the world are familiar with the concept of banking that complies with Shariah. In the global context, the Bangladeshi Islamic Banking sector is among the most advanced and alluring. The first Islamic bank in Bangladesh was Islamic Bank Bangladesh Limited (IBBL), founded in 1983. Islamic banking services were initially made available by

financial organizations in 1993. However, these financial institutions offering Islamic banking products and services must keep the funds and activities separate from those related to traditional banking. At present, 10 Islamic banks are operating in Bangladesh. Over the past ten years, there have been more academic studies on the factors that affect Islamic banks' profitability. Islamic banks' profitability in Middle Eastern countries was examined by Bashir (2003) and Haron (2004). Izhar & Asutay, (2007) analyzed the Indonesian Muamalat Bank's performance, in terms of its ROA to determine the profitability. Similarly, Srairi (2009) contrasted the variables impacting the profitability of Islamic banks with conventional banks. Sufian & Habibullah, (2009) examined all types of banks to determine the internal as well as macroeconomic factors which affect banks' profitability. Although there has been much academic research on the characteristics that affect the profitability of Islamic and conventional banks, most of these works tend to concentrate both on the internal factors of the bank as well as external ones. By providing novel empirical data on the variables influencing Islamic bank profitability in a developing country, the current study contributes to the domain of existing literature. There is a gap in empirical research on the variables influencing Islamic banks' profitability in emerging economies, despite much literature on the profitability of the banking industry in advanced countries (Akhavain et al. 1997). Therefore, this paper precisely focuses on internal factors only (bank-specific factors) which may influence the bank's profitability in Bangladesh. Thus, the present study seeks to answer the following research question: What are the factors affecting the Islamic Bank's profitability in Bangladesh?

The specific research objectives include the following:

- To determine how bank size affects profitability
- To determine how operation efficiency affects profitability
- To determine how capital adequacy affects profitability
- To determine how financial risk affects profitability
- To determine how liquidity risk affects profitability
- To determine how credit risk affects profitability

2. Review of Literature and development of hypothesis

Numerous studies have examined the variables influencing profitability in the Islamic banking industry (Almazari, 2014; Gillani, 2015; Ijaz, Akmal, 2015; Ostadi & Monsef, 2014 Riaz, 2013; Naceur & Goaid, 2001 ;). A good number of past studies have already addressed the variables that influence the profitability of the banking sector. However, some of the studies considered only internal factors, which are within the control of the bank's management (Flamini el, 2009; Haslem, 1968; Ijaz, el, 2015; Naceur & Goaid, 2001; Ostadi&Monsef, 2014, Short, 1979; Thornton el, 1994;), while others considered both internal and external factors (Iqbal & Molyneux, 2004; Riaz, 2013 Molyneux & Thornton, 1992; Short, 1979).

Internal determinants of bank profitability include any variable that is affected by management-level policies and choices. The internal variables that are most frequently considered are capital ratios, net profit margins, bank capitalization, profits, and profitability ratios. External variables are the factors that influence a bank's profitability but are not influenced by the activities or policies of that bank. The expansion of the business sector's development and the premium rate, as well as the business sector's organization and the GDP, are examples of external variables.

Only a small number of earlier studies have focused on emerging economies like Pakistan (Burki & Niazi, 2010; Riaz, 2013; Naceur & Goaid, 2001). These studies found that the performance of Tunisian banks between 1980 and 1995 was significantly influenced by the capitalization, work efficiency, and capital profitability of the banks. For the years 1986 to 1999, Abreu and Mendes, (2002) examined four countries in the European Union and examined the profitability of each country's banks in terms of industry-specific and business-sector characteristics. Using data spanning the years 1970 to 1994, Chirwa (2003) studied the profitability factors made by the banking sector in Malawi.

Bashir (2003) studied the determinants of the profitability factors from eight different countries including Turkey, UAE, Qatar, Egypt, Bahrain, Kuwait, Sudan, and Jordan. They studied fourteen Islamic banks for the years 1993–1998 and used return on assets and equity as dependent variables. According to OLS regression results, banks with greater capital-to-asset ratios are more profitable overall and similar results were also found for loan to asset ratio (Goddard et al., 2004). A regression run with Panel and cross-sectional data also demonstrated a positive correlation between size and overall bank performance. When looking at variables influencing UAE banks' profitability between 1987 and 2002, also discovered the same conclusion Al-Tamimi, (2005) where profitability measured by (ROA and ROE) has been positively influenced by bank size. Wum et al. (2007) studied 14 Chinese banks' profitability from 1996 to 2004 to determine the effect of bank size. The findings indicated that banks' ROA improved with increasing bank size. Kosmidou & Zopounidis (2008) surveyed the performance of Greek banks between 1990 and 2002 using explanatory variables such as size, LLR to gross loans, equity to total assets ratio, and ROA as an explained variable. The study demonstrates a positive effect on profitability by a bank's size. Olson & Zoubi (2011) linked the bank's profitability metrics with economic factors for the year 2000 to 2008 from 10 Middle East and North African (MENA) nations. The study concluded that ROA and ROE were positively affected by bank size.

H1: Bank size is positively related to profitability.

Alkassim (2005) examined the Islamic and non-Islamic banks' profitability of eight Gulf Cooperation Council (GCC) nations from 1997 to 2004. The study considered both external and internal elements to determine profitability, including asset quality, capitalization, management effectiveness, total costs, and ROA, ROE, and NIM. Athanasoglou et al. (2006) investigated the factors that affected the profitability of South Eastern European (SEE) banks between 1998 and 2002. According to a study, bank concentration increases profitability. Sufian & Habibullah (2009) when utilizing ROA and ROE as dependent variables from 1999 to 2005 concentrated on both the internal as well as external factors that affected the profitability of Thai banks. However, regarding credit risk, which is negatively related to profitability, the study also found bank size and capitalization, had a favorable influence on profitability. 389 banks' data were utilized by Flamini et al. (2009) from 41 Sub-Saharan African countries to establish the relationship between banks' ROA and larger bank size in addition to the credit risk. Using data from 40 banks for the years 1991 to 2000, Burki & Niazi (2010) examined and discovered bank size and deposit ratios had an impact on Pakistani bank's efficiency and performance. The impact of internal bank-related characteristics on the profitability of listed Turkish commercial banks from 2002 to 2010 was empirically demonstrated (Anber & Alper, 2011). They found that there is a positive and substantial influence of a bank's assets on its profitability, but the size of the bank's credit portfolio and loans requiring follow-up had a negative impact.

H2: Capital adequacy is positively related to profitability.

H3: Credit risk is positively related to profitability.

H4: Financial risk is positively related to profitability.

Ostadi & Monsef (2014) concentrated on the variables that affect banks' profitability in Iran. Profitability was the dependent variable (measured by ROE and ROA), while the independent variables were bank size, bank capital, and liquidity issues. The findings explored profitability of the bank is positively affected by bank size. The explanation supports previous study findings that there are significant correlations between internal bank characteristics and profitability. The different institutional contexts and data used in the investigation led to considerable discrepancies in the outcomes, nevertheless. The following hypothesis gap has been constructed from the discussion above for this investigation.

H5: Operational efficiency is positively related to profitability.

H6: Liquidity risk has a positive relation with the profitability.

3. Conceptual Framework:

The current study used the following framework to explain the relationship among the construct variables of the study. It helps to understand how the firm-specific variables affect the profitability of Islamic banks.

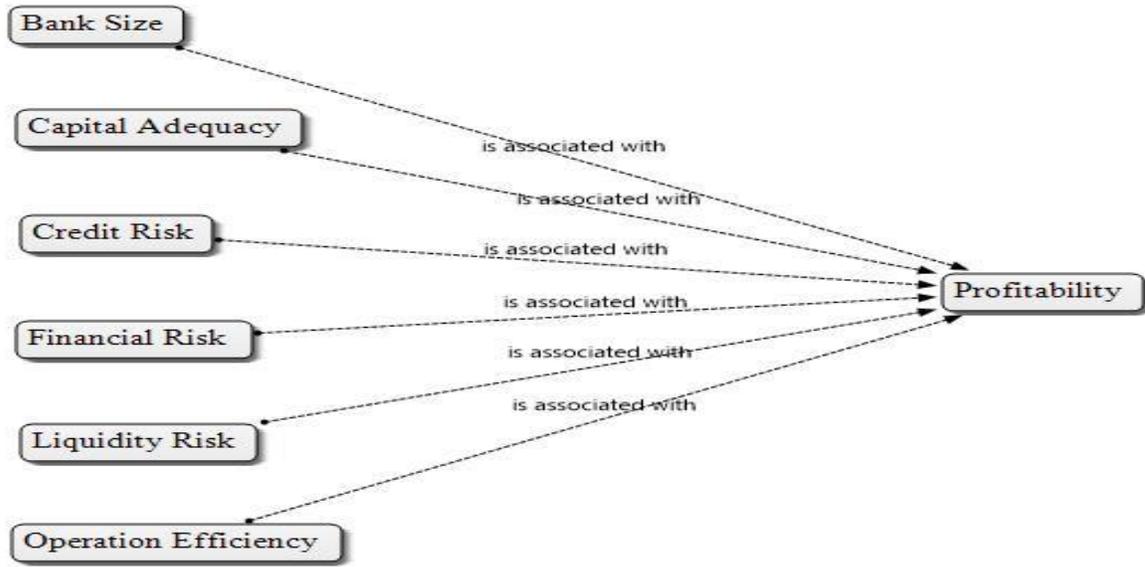


Fig. 1: Conceptual Framework

4. Research Methodology

4.1. Sampling and data gathering

In this study, the bank-specific characteristics are gathered from the income statements and balance sheets of ten fully operational Islamic banks that have released their annual reports. The data collection spans a 7-year period from 2017 to 2023. Seventy observations were gathered by combining all the data.

Table 1: Descriptive account of the variables used in the regression models

Variables	Types of Variables	Notation	Description	Expected Sign
Return on Assets	Dependent	ROA	The return on total assets of the banks	
Return on Equity	Dependent	ROE	The return on total equity of the banks	
Bank Size	Independent	BSIZE	Logarithm of total assets	+/-
Capital Adequacy	Independent	CA	Total equity over total assets	+/-
Credit Risk	Independent	CR	NPL over gross loans	-
Operation Efficiency	Independent	OE	Cost over income	+/-
Liquidity Ratio	Independent	LR	Total Loans to total deposits	+/-
Financial Risk	Independent	FR	Total Liability over total assets	+

The study examined the variables affecting Islamic banks' profitability in Bangladesh using panel data regression methods. Panel data are often used because they integrate time series with cross-sectional data, both of which capture dynamic adjustment and individual variability, to provide more informative data. Briefly said, panel modeling aids in the identification of a common set of traits while also accounting for the variation that exists across individual units. Idrees and Abduh (2013) state that panel data regression techniques use two models: the fixed effect model and the random effect model. To select the appropriate method this paper used the Hausman test Nicola, et al. (2015) and the result supporting fixed effect for estimating the model. Therefore, the fixed effect model is used for this study purpose. This study uses the following regression equations to investigate the factors affecting profitability.

$$ROA_{i,t} = \alpha + \beta_1 X_{i,t} + \epsilon_{i,t}$$

In this equation, $ROA_{i,t}$ stands for the return on assets for bank i in year t , α is a constant, $X_{i,t}$ denotes bank-specific attributes for bank i in year t , β_1 , regression coefficients, and $\epsilon_{i,t}$ stands for the error term.

$$ROE_{i,t} = \alpha + \beta_1 X_{i,t} + \epsilon_{i,t}$$

Similarly, $ROE_{i,t}$ stands for the return on equity for bank i in year t , is a constant, $X_{i,t}$ denotes bank-specific attributes for bank i in year t , β_1 , regression coefficients, and $\epsilon_{i,t}$ stands for the error term.

5. Results and Discussions

5.1 Descriptive Statistics

It is useful to comment on a few basic aspects of our data before analyzing the study's findings. The profitability indicators (ROA) and (ROE) as well as the independent variables included in our model are described statistically in Table 2. In this study, ten Islamic banks were utilized, and their average returns on assets and equity were 0.031 and .527 respectively, with standard deviations of .063 and 1.45, respectively. The means of the other independent variables, however, are all positive. The greatest ratio across all banks is the mean liquidity ratio (37.87), which varies widely between institutions (max = 1633.59 and min = 0.0045). The standard deviation is .3456, while the average ratio of total equity to total assets is .1927. A mean of 4.60, 0.90, and 2.79 respectively is indicated for credit risk, financial risk, and operating efficiency.

Table 2: Descriptive Statistics

	Mean	Standard Deviation
ROA	.0312253	.0632746
ROE	.5270897	1.454517
CA	.1927024	.3456683
FR	.9023105	.4706732
OE	2.799713	2.365929
CR	4.605974	12.20824
LR	37.87075	204.1213

Source: Researcher's outputs using STATA 12.0 software

5.2 Correlation Analysis

This study used correlation analysis to assess the degree of relationship between the explained and explanatory factors. Table (3) displays the Pearson's correlation coefficient for the first profitability model (ROA). It suggests that CA ($r = .1486$) and FR ($r = -.1460$) have weak positive and negative correlations with ROA, respectively. OE ($r = -.1551$) and LR ($r = -.0154$) also have a negative correlation with profitability.

Table 3: Correlation matrix for (ROA)

	ROA	CA	FR	OE	CR	LR
ROA	1.000					
CA	.1486	1.000				
FR	-.1460	.5179	1.000			
OE	-.1551	-.2335	-.2340	1.000		
CR	.0830	-.0958	-.2504	.2387	1.000	
LR	-.0154	-.0691	-.2303	-.1008	-.0551	1.000

Source: Researcher's outputs using STATA 12.0 software

Table (4) shows the Pearson's correlation coefficient for the second profitability model (ROE). The results demonstrate that CA ($r = -.1421$) and FR ($r = -.2824$) both have a negative correlation with ROE while CR ($r = .1234$) has a positive relationship.

Table 4: Correlation matrix for (ROE)

	ROE	CA	FR	OE	CR	LR
ROE	1.000					
CA	-.1421	1.000				
FR	-.2824	.5179	1.000			
OE	-.0851	-.2335	-.2340	1.000		
CR	.1234	-.0958	-.2504	.2387	1.000	
LR	-.0062	-.0691	-.2303	-.1008	-.0551	1.000

5.3 Regression Results

Here the study examined the regression of the probability of sampled banks with respect to their internal factors. Using the STATA 12 fixed effect model. For the years 2017–2023, ROA is regressed using 6 independent variables.

Table 05: Regression with ROA

ROA	Coefficient	Std. Error	t- Statistics	Prob.
BSIZE	-.0227545	.0107451	-2.12	0.039
CA	.0231786	.0341004	.68	0.500
FR	-.0739635	.0262878	-2.81	0.007
OE	-.0065426	.0038555	-1.70	0.096
CR	.0006797	.0007326	.93	0.358
LR	-.0000986	.0000375	-2.63	0.011
Cons	.7065931	.2938586	2.4	0.020
R- squared	.2807			
F- statistics	3.38			
Prob (F- statistics)	0.0068			

The results of regressing ROA with the selected bank-specific variables are shown in Table 5. The table's R-squared value of 0.2807 indicates that around 28% of the independent factors adequately explain the dependent variable ROA. The F-test is used to determine the adequacy of a model. The F-test result in Table 5 is statistically significant, indicating that the models are valid for establishing a relationship between ROA and independent variables.

Table 06: Regression with ROE

ROE	Coefficient	Std. Error	t- Statistics	Prob.
BSIZE	-.33333415	.2513811	-1.33	0.191
CA	-1.094542	.7977729	-1.37	0.176
FR	-1.948198	.6149994	-3.17	0.003
OE	-.1768653	.0901977	-1.96	0.055
CR	.0138388	.01714	0.81	.423
LR	-.0024186	.0008766	-2.76	.008
Cons	11.72466	6.874781	1.71	.094
R- squared	.2446			
F- statistics	2.81			
Prob (F- statistics)	.0193			

The study uses six bank-specific factors, as was described earlier. The outcome, however, demonstrates that a bank's overall assets, credit risk, and financial risk all significantly affect how profitable Islamic banks are. The result of CR is consistent with our study hypothesis but the FR hypothesis is not supported. Here it shows a negative association with ROA that indicates due to increase in financial risk for banks it may decrease their profitability. The total assets of the bank are inversely correlated with ROA at a 1% significant level. This study does demonstrate a negative association between liquidity risk and operation efficiency, but it is not statistically significant as expected.

Similarly, Table 6's findings display regressing ROE on selected bank-specific characteristics. ROE, the dependent variable is interpreted by around 24% of the independent variables, according to the table's R-squared value of 0.2446. The F-test is used to verify the model's suitability, and Table 6 shows that the F-test value is statistically significant, confirming the model's suitability for determining the link between ROE and independent factors.

As already mentioned, this study makes use of six factors unique to each bank. However, the outcome demonstrates that banks' financial risk, operational effectiveness, and liquidity ratio have a substantial contribution to the profitability of sampled banks. Although the correlation is negligible, the total assets of the bank are adversely correlated with ROE at the 1% significant level. Although this study shows a negative association with capital adequacy as predicted, but it is not statistically significant. Similarly, as like as ROA, credit risk is positively associated with ROE as hypothesized in this study.

6. Conclusion

This study solely examined the effect of internal factors on the profitability of a sample of 10 Bangladeshi Islamic banks from 2017 to 2023. The study employed multiple regression analysis using panel data and Pearson's correlation to determine the correlations and size of the independent variables impacts on two profitability models namely ROA and ROE. The outcomes demonstrate how important variables like bank size, financial risk, and liquidity risk are associated with the Islamic banks' profitability in Bangladesh. The return on equity, however, was shown to be significantly impacted by operational effectiveness and liquidity risk. Additionally, our results unmistakably demonstrate that, for the institutions examined, profitability is not only influenced by the size of the bank in terms of assets. According to the report, Islamic banks in Bangladesh should be urged to adopt sophisticated techniques for controlling their operating expenses, as well as technology and trained human resources, to improve operational efficiency and boost their profitability. Additionally, banks must pay close attention to the quality of funding in order to prevent significant losses that might seriously harm operational profitability.

7. Limitations and Direction for Further Research

This research provides crucial information for identifying Bangladeshi Islamic banking activity and the determinants of their profitability on a larger scale. It supports financial decision-makers in the banking industry. However, the major limitation of the study is that it is limited to bank-specific variables of Islamic banks in Bangladesh. In the future, the study can be expanded to some other countries, adding longer timeframe and different other variables, such as management, governance, and other macro-level variables that may provide fresh perspectives for advancing Islamic banking avenues.

Conflict of Interest: The author declares no conflict of interest.

REFERENCES

- AbuHussain, H., & Al-Ajmi, J. (2012). Risk management practices of conventional and Islamic banks in Bahrain. *The Journal of Risk Finance*, 13(3), 215-239.
- Alkassim, F. A. (2005). The profitability of Islamic and conventional banking in the GCC countries: A comparative study. *Journal of Review of Islamic Economics*, 13(1), 5-30.
- Almazari, A. A. (2014). Impact of internal factors on bank profitability: Comparative study between Saudi Arabia and Jordan. *Journal of Applied finance and banking*, 4(1), 125.
- Akhavein, J. D., Berger, A. N., & Humphrey, D. B. (1997). The effects of megamergers on efficiency and prices: Evidence from a bank profit function. *Review of Industrial Organization*, 12, 95-139.
- Anber, A., & Alper, D. (2011). Bank specific and macroeconomic determinants of commercial bank profitability: empirical evidence from Turkey. *Business and Economic Research Journal*, 2 (2), 139-152.
- Asutay, M., & Izhar, H. (2007). Estimating the profitability of Islamic banking: evidence from bank Muamalat Indonesia. *Review of Islamic Economics*, 11(2), 17-29.
- Athanasoglou, P. P., Delis, M., & Staikouras, C. (2006). Determinants of bank profitability in the South Eastern European region, 1-36. <https://mpra.ub.uni-muenchen.de/10274/>
- Bashir, A. H. M. (2003). Determinants of profitability in Islamic banks: Some evidence from the Middle East. *Islamic economic studies*, 11(1), 31-57.
- Bourke, P. (1989). Concentration and other determinants of bank profitability in Europe, North America, and Australia. *Journal of Banking & Finance*, 13(1), 65-79.
- Burki, A. A., & Niazi, G. S. K. (2010). Impact of financial reforms on the efficiency of state-owned, private, and foreign banks in Pakistan. *Applied Economics*, 42(24), 3147-3160.
- Chirwa, E. W. (2003). Determinants of commercial banks' profitability in Malawi: a cointegration approach. *Applied Financial Economics*, 13(8), 565-571.
- Flamini, Valentina, Calvin A. McDonald, and Liliana B. Schumacher. (2009). *The determinants of commercial bank profitability in Sub-Saharan Africa*. International Monetary Fund, (015)
- Goddard, J., Molyneux, P., & Wilson, J. O. (2004). The profitability of European banks: a cross-sectional and dynamic panel analysis. *The Manchester School*, 72(3), 363-381.

- Haslem, J. A. (1968). A statistical analysis of the relative profitability of commercial banks. *The Journal of Finance*, 23(1), 167-176.
- Hassan Al-Tamimi, H. A. (2006). The determinants of the UAE commercial banks' performance: a comparison of the national and foreign banks. *Journal of Transnational Management*, 10(4), 35-47.
- Hassan, M. K., & Bashir, A. H. M. (2003, December). Determinants of Islamic banking profitability. In *10th ERF annual conference, Morocco (Vol. 7, pp. 2-31)*.
- Ijaz, F., Akmal, A., & Gillani, S. (2015). The determinants of the Pakistan Islamic banking industry profitability: Panel evidence. *Islamic Banking and Finance Review*, 1(2), 77-91.
- Iqbal, M., Molyneux, P., Iqbal, M., & Molyneux, P. (2005). History and growth of Islamic Banking and Finance. *Thirty Years of Islamic Banking: History, Performance and Prospects, Palgrave Macmillan Studies in Banking and Financial Institutions*, 36-71.
- Kosmidou, K., & Zopounidis, C. (2008). Generating interest rate scenarios for bank asset liability management. *Optimization Letters*, 2, 157-169.
- Kosmidou, K., & Zopounidis, C. (2008). Measurement of bank performance in Greece. *South-Eastern Europe Journal of Economics*, 1(1), 79-95.
- Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. *Journal of Banking & Finance*, 16(6), 1173-1178.
- Molyneux, P., Lloyd-Williams, D. M., & Thornton, J. (1994). Competitive conditions in European banking. *Journal of banking & finance*, 18(3), 445-459.
- Naceur, S. B., & Goaid, M. (2001). The determinants of the Tunisian deposit banks' performance. *Applied financial economics*, 11(3), 317-319.
- Obeidat, B., El-Rimawi, S., Maqableh, M., & Al-Jarrah, I. (2013). Evaluating the profitability of the Islamic banks in Jordan. *European Journal of Economics, Finance and Administrative Sciences*, 56, 27-36.
- Olson, D., & Zoubi, T. A. (2011). Efficiency and bank profitability in MENA countries. *Emerging markets review*, 12(2), 94-110.
- Ostadi, H., & Monsef, N. (2014). Assessing the Impact of Bank Concentration and Liquidity of Refah Bank Branches on Profitability during the Period 1383-190. *International Journal of Human Resource Studies*, 4(1), 248.
- Riaz, S., & Mehar, A. (2013). The impact of Bank Specific and Macroeconomic Indicators on the Profitability of Commercial banks. *Romanian Economic Journal*, 16(47), 91-110.
- Short, B. K. (1979). The relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. *Journal of Banking & Finance*, 3(3), 209-219.
- Srairi, S. (2013). Ownership structure and risk-taking behaviour in conventional and Islamic banks: Evidence for MENA countries. *Borsa Istanbul Review*, 13(4), 115-127.
- Sufian, F., & Habibullah, M. S. (2009). Bank specific and macroeconomic determinants of bank profitability: Empirical evidence from the China banking sector. *Frontiers of Economics in China*, 4(2), 274-278.



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