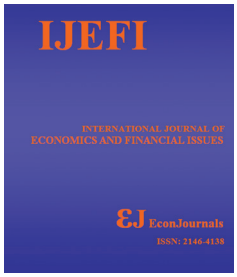

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2022, 12(4), 34-39.

Drivers of Banks' Financial Performance

Evans Tee, Lawrence Asare Boadi, Philomena Dadzie

University of Professional Studies, Accra, Ghana. *Email: evans.tee@upsamail.edu.gh

Received: 02 April 2022 **Accepted:** 26 June 2022 **DOI:** https://doi.org/10.32479/ijefi.13162

ABSTRACT

A significant number of banks folded up during the Ghanaian banking financial crisis of 2017-2018 causing significant social costs as well as impeding economic growth. We take a step backward to present the significant drivers of the profitability of banks in Ghana. Obtaining panel data from the banks' websites, the Ghana Statistical Service (GSS), and the Ghana Stock Exchange (GSE), the regression analysis was used to assess the drivers of profitability of banks in Ghana. The findings show that the bank-specific variables had no combined effect on profitability. Hence, the study concludes that the bank-specific variables do not have a significant influence on the performance of the Ghanaian listed banks. On the other hand, some of the external factors were observed to have a significant influence on profitability. The findings further showed that the drivers of profitability of the Ghanaian banks were, inflation, capital adequacy, and monetary policy. Since these are all external factors, the banks must learn how to predict and anticipate the external factors and make adjustments in their operations to enable them to improve profitability. While this study recommends to the managers of Ghanaian banks to be cautious in their operational decisions, the economy must also be managed soundly to ensure the growth of banks and hopefully avoid future crises.

Keywords: Profitability, Ghana, Performance, Internal variables, External variables.
JEL Classifications: G2, Financial Institutions and Services

1. INTRODUCTION

An important contributor to national development is a vibrant banking and financial sector. The banking sector has widely been touted as a catalyst for economic growth (Babalola, 2012). In the economy, banks play the role of "*financial intermediation*" through their work of providing an efficient payment system as well as helping the government to implement monetary policies (Abreu and Mendes, 2002). They collect and mobilize resources to finance businesses and development projects essential for the nation's development and growth. Hence, a vibrant and efficient banking sector is needed to drive the country's developmental agenda.

Since the banking sector contributes immensely to national development through the provision of credit supply and facilitating payment systems, it is one of the highly regulated sectors of the economy. This is because, without regulations, bank managers have incentives to increase risk and inefficiency to maximize short-term profit (Aiyar et al., 2015). Also, it is important to monitor the financial performance levels of the bank and continually determine the drivers of these performances. This will help the regulators in fashioning laws and guidelines for the industry players. According to Alvarez-Franco and Restrepo-Tobon (2016), financial performance evaluation is critical to both the regulator and managers of the banks.

The general knowledge of supervision has proven that regulations lead to improved efficiency. However, scholars have reported varied outcomes from their studies. Especially on the drivers of profitability, there have been mixed views on the relationship between bank ownership structure, size, risk, efficiency, and profitability when regulations change (Attah, 2017). In the work of Attah (2017), a negative relationship between adequate capital, bank capitalization, and cost efficiency, and a lack of correlation between bank size and efficiency in Ghana was reported by Adjei-Frimpong et al. (2014). On the other hand, a significant relationship

between bank ownership, size, capital adequacy ratio, and bank performance was reported by Bokpin (2013).

The banking industry is considered the lifeblood of modern trade and commerce because banks are the major source of funding. Profitability is necessary for a bank to maintain ongoing activity and for its shareholders to obtain fair returns. The drivers of financial performance have been widely studied applying different measures for financial performance. In the literature, bank profitability, typically measured by the return on assets (ROA) and/or the return on equity (ROE) reported by a bank, is usually expressed as a function of internal and external determinants. Internal determinants are factors that are mainly influenced by a bank's management decisions and policy objectives. Such profitability determinants are the level of liquidity, provisioning policy, capital adequacy, expense management, and bank size. On the other hand, the external determinants related to both industrial and macroeconomic conditions, are variables that reflect the economic and legal environments where the financial institution operates (Sufian and Habibullah, 2008).

It must be mentioned however that, despite the positive developments in terms of income, the Ghanaian banking sector has faced some challenges in the recent past (*the banking crises*) which went a long way to negatively affect their performances. The consequences of the banking crises in Ghana led to the collapse of some banks. According to the Bank of Ghana, a structuring process was needed to restore the stability and resilience of the financial system leading to the collapse of defunct banks. Several reasons were given for the collapse with poor financial performance and weak corporate governance playing a significant role. It is, therefore, crucial to periodically ascertain and assess these determinants or drivers of profitability of banks since their sustenance is critical to the economic solidity of the country.

Financial crises occasioned by the failure of banks have dire consequences on the entire economy. This has the propensity to cause extreme distractions in the financial systems. This in turn hurts the efficiency of the economy. This work adds to the wide range of studies on financial stability since an important predictor of financial crises is the profitability of banks (Demirguc-Kunt and Detragiache, 1999; Kohlscheen et al., 2018). The main contribution is to determine and highlight the relative significant drivers that may have influenced the profitability and financial resilience of the Ghanaian banking sector before the recent banking crises. To better understand the banking crises in Ghana, this study systematically analyses the drivers of bank profitability based on information contained in the financial reports from commercial banks listed on the Ghana Stock Exchange before the crisis.

1.1. Theoretical Background

The underlying theory for this study is the efficient hypothesis proposed by Demsetz (1973). It states that higher profits of banks are not due to their collusive behaviour but because of high-efficiency levels, which in turn, leads to larger market shares held by banks. Grygorenko, (2009) puts this differently like that, the profitability of banks is determined not by the market concentration but rather, by bank efficiency. This hypothesis assumes that a bank that operates more efficiently than its competitors gains higher profits resulting from low operational costs. This also leads to the efficient bank holding a critical share of the market. Therefore, differences in the level of efficiency create an unequal distribution of positions within the market and an intense concentration (Mensi and Zouari, 2010).

1.2. Determinants of Bank Profitability

The literature reports that the factors determining the profitability of banks fall into two categories. The first category represents the determinants of profitability that are firm-specific in most cases, and are the direct results of managerial decisions such as asset structure, asset quality, and capitalization, among others. The second category includes factors relating to the industry structure and macroeconomic environment within which the firms operate. They include industry concentration, economic growth, inflation, and interest rates. In simple terms, the profitability drivers can be grouped into internal and external factors. We can therefore define the internal drivers of bank profitability as those factors that are influenced by the firm's management decisions and policy objectives. Zimmerman (1996) found that management decisions, especially regarding loan portfolio concentration, were an important contributing factor in bank performance. Researchers frequently attribute good bank performance to quality management. Management quality is assessed in terms of senior officers' awareness and control of the bank's policies and performance.

The internal determinants may include but are not limited to the size and location of branches, operational efficiency, marketing competencies, management competencies, motivation, quality, and strategy. While it may be difficult if not impossible to assess some of these variables, they are implicitly reflected in the operating performance of the banks. Following the factors discussed in the literature, this study assesses the significance of the following, Operating Efficiency, Capital Adequacy, Liquidity, Asset Quality, and Bank size as internal drivers of the profitability of banks.

The external drivers represent events outside the scope and influence of the banks. The external environment defines the legal, political, economic, technological, and social landscapes in which banks operate. These factors are external because the banks do not have control over them although banks can anticipate changes in the external environment and position themselves strategically to take advantage of them. The external landscape can further be divided into industry-specific (financial structure) determinants and macroeconomic determinants. The industry-specific determinants are only specific to the banking industry such as the industry concentration, price elasticity, and developments in the banking industry. The macroeconomic-specific determinants reflect the general macroeconomic and market conditions in the country. In this study, banking industry concentration, money supply, gross domestic product (GDP), and inflation are adopted as external factors to be examined as they are widely studied in other countries.

2. RESEARCH METHODOLOGY

Quantitative research attempts to describe an analyzed situation while identifying the issue through information provided recently or directly. In this study, the descriptive research type has been chosen. The main and core discussion of this decision emerges when the specific information related to the study is needed to be collected. Therefore, the study is based on secondary quantitative data which is mainly annual accounting data of individual banks listed on the Ghana Stock Exchange (GSE) and macroeconomic data.

The populations of interest for the study were all banks while the Target population for this study comprised all banks listed on the Ghana Stock Exchange. To present a fair outcome, the study focused on the period before the banking restructuring in Ghana which started in 2018. There were nine banks in all on the GSE but, for complete data, eight were selected for the study. This included the Universal banks which have been listed on the GSE; Cal Bank Limited, HFC Bank Limited, Ecobank Ghana Limited, Ghana Commercial Bank Limited, Standard Chartered Bank Ghana Limited, UT Bank?? Limited, and Societe Generale Ghana Limited.

The data was obtained from the banks' websites, the Ghana Statistical Service, and the Bank of Ghana. Regression analysis was used to analyze the drivers of the profitability of banks in Ghana. To get a clear presentation of the results, Quantitative analysis was used. The statistical package, STATA was used as an analytical tool to ascertain the significant drivers of the firms' profitability.

To measure the performance of the banks listed on the Ghana stock exchange, return on asset (ROA) is paramount to the determinant of banks' profitability. Moreover, ROA shows the profit earned per currency of assets, and most importantly, it reflects the management's ability to utilize the bank's financial and real investment resources to generate profits (Hassan and Bashir, 2003). ROA is a more or less dependable variable that feeds on the bank's policy decision as well as uncontrollable factors to the economy and the government regulation to ascertain measure and generate returns on its portfolio of assets. The independent variables are grouped into two kinds that are, endogenous factors and exogenous factors. The endogenous factors used were bank size (SZ), liquidity (LQ), market share (MSA), and spread (SP). The external factors used were annual growth in the gross domestic product (GDPG), annual inflation rate (INF), monetary policy rate (MPR), and the exchange rate.

Empirical Model

The empirical model used in the study was modelled as follows:

$$ROA_{it}=\beta_0+\beta_1 SZ_{it}+\beta_2 LQ_{it}+\beta_3 MSA_{it}+\beta_4 SP_{it}+\beta_5 INF_{it}+\beta_6 GDP_{it}+\beta_7 MPR_{it}+\beta_8 FX_{it}+\beta_9 CAP_{it}+\varepsilon_{it}$$

Where:
ROA = Return on Asset
β_0 = Intercept coefficient
β_i = Coefficient for each of the independent variables
i = Individual banks
t = time
SZ = Bank Size
LQ = Liquidity
MSA = Market Share
SP = Spread
INF = Annual Inflation Rate
$GDPG$ =Annual Growth Rate for Gross Domestic Product
MPR = Monetary Policy Rate
CAP = Capital Adequacy
FX = foreign exchange rate
ε_{it} = The error term.

Based on the justifications for the inclusion of the above variables in the model as espoused by the numerous researchers, a priori expected results were assigned to the variables. Table 1 shows the variables and their measurements.

3. RESULTS

The descriptive statistics in Table 2 show that over the period under study, the reported return on asset (ROA) averaged 4.9% with the minimum and maximum returns of 1% and 21% respectively. The average bank on the Ghana stock exchange before the crisis had a size of 20.21 measured as the natural log of the total asset. The minimum and maximum figures for size in Table 2 show that there was a vast variation between the firms. Also, the variations within and between the companies was quite high judging from the standard deviations as well as from the minimum and maximum values shown above. The dispersion of the size justifies the fact that larger banks may have more profitable investment opportunities than smaller ones.

The average liquidity of the banks measured as total assets to loans was 2.75, ranging between 0 and 24.78. The results also showed that the average bank had a market share measured as Total Loans over Total Loans of all banks of 0.007 with a maximum share of

Table 1: Description of the variables

Variable	Definition	Measurement
Dependent		
ROA	Return on assets	Net profit over assets
Bank specific		
Size	Bank size	Natural log of total assets
LQ	Liquidity	Total assets to total loans
MSA	Market share	Total Loans over Total Loans of all banks
SP	Spread	Net interest margin
Industry factors		
CAP	Capital adequacy	Capital over total assets
Macroeconomic factors		
GDPPC	Gross domestic product per capita	Natural log of real GDP per capita
INF	Inflation	Inflation, consumer prices (annual %)
FX	Exchange rate	Official exchange rate (LCU per US$, period average)

Source: Authors' construct

0.058. Also, the results show that the average bank had a spread measured as the net interest margin of 7.5%. The maximum spread was 14.0%. The banking industry also recorded an average capital adequacy within the period of study of 12.9%.

The macroeconomic variables considered in this study were inflation (INF), real GDP growth (GDPlog), monetary policy rate (MPR) and foreign exchange rate (FX). Inflation had an average value of 12.8% for the period under study with a low value of 8.73% and a high value of 19.25%. Table 2 also presents the characteristics of the real GDP growth; it shows that the average GDP growth for the period under study was 7.4% recording a maximum value of 8.35% and a minimum of 6.12%. The official exchange rate (LCU per US$, period average) for the period averaged at 1.39. The average monetary policy rate (MPR) was 15.45 with minimum and maximum values of 12.5 and 21.0 respectively.

3.1. Correlation Analysis

Pearson's correlation analysis was applied to test the relationship between profitability and the other variables. The correlation analysis presented in Table 3 shows the relationship that exists between the variables.

In measuring the association between all the variables and the ROA as a measure of firm profitability, it was found that bank size, market share, spread, capital adequacy, GDP growth, monetary policy and forex had a positive correlation with ROA. However, only market share, spread, capital adequacy, and forex recorded a significant correlation with ROA. The bank size and GDP growth had an insignificant relationship with ROA. On the hand, liquidity and inflation recorded a negative correlation with ROA. The results further present that the negative correlation between liquidity and inflation and the ROA were insignificant.

Table 2: Descriptive statistics

	Mean	Stan Dev	Kurt	Skew	Min.	Max.
ROA	0.049	0.030	8.530	1.871	0.01	0.21
SIZE	20.216	2.573	49.695	−6.378	0	22.45
LQ	2.751	2.671	61.070	7.380	0	24.78
MSA	0.007	0.008	17.282	3.454	0	0.05
SP	0.075	0.026	0.623	−0.095	0	0.14
CAP	0.129	0.055	2.027	0.740	0	0.32
INF	12.794	3.371	−0.969	0.576	8.73	19.25
GDP log	7.433	0.651	−0.652	−0.395	6.12	8.35
MPR	15.449	2.586	−0.204	0.761	12.5	21
FX	1.394	0.398	−1.479	0.125	0.91	1.95

Source: Authors' Construct

3.2. Regression Analysis

This section presents the results of the regression analysis of the relationship between banks' profitability and the determinants of profitability. Regression analysis was used to determine the determinant of coefficients, analysis of variance, and regression coefficients. The determinant of coefficient (R square) is an important measure in indicating the percentage of the proportion of the total variation in banks' profitability that is attributed to the changes in the independent variables. Analysis of variance is useful in determining if the model is fit for estimation and if the sample mean is drawn from the same population. The regression coefficient indicates the significance of coefficient estimates for each independent variable. According to (Hair et al., 2010), regression analysis is one of the most widely used statistical methods in many science disciplines applications. Also, the statistical method enables the researcher to predict the value of one variable based on the value of another or more variables.

The overall R-square from the model was reported to be 0.359 in Table 4. This means that, per the regression model in this study, the determinants of profitability can explain the variability in a firm's financial performance by approximately 35.9%. Considering the correlation analysis results stated earlier, it can be inferred from these results that overall, some of the variables (especially the internal factors) do not add to the predictions of the banks' profitability.

From Table 4, the significance of the Prob>Chi^2 measures the overall significance of the regression model which is used to test the research hypothesis. The null hypothesis is rejected in favor of the alternative if the Prob>chi^2 is less than 5%, else, the null hypothesis is accepted. The results indicate that the Prob>Chi^2 value from the regression was 0.00. This value was less than 0.05 which means that the null hypothesis is rejected in favor of the alternative. Therefore, the alternative hypothesis is accepted, hence, both the internal and external factors have a combined significant influence on the profitability of listed banks.

The results presented in Table 5 show the regression coefficients with their level of significance. First, the results showed that all the bank-specific variables had an insignificant influence on the bank performance measures. On the other hand, some of the external

Table 3: Correlation output

	ROA	SIZE	LQ	MSA	SP	CAP	INF	GDP log	MPR	FX
ROA	1									
SIZE	0.08	1								
LQ	−0.04	−0.01	1							
MSA	0.26	0.35	−0.19	1						
SP	0.29	0.53	−0.19	0.31	1					
CAP	0.56	0.22	−0.01	0.11	0.26	1				
INF	−0.12	−0.09	−0.13	0.09	−0.02	−0.15	1			
GDP log	0.18	0.50	−0.09	0.56	0.29	0.29	−0.18	1		
MPR	0.11	0.16	−0.19	0.51	0.19	0.05	0.75	0.38	1	
FX	0.25	0.43	−0.12	0.57	0.38	0.33	-0.11	0.94	0.46	1

Source: Authors' construct

Table 4: Regression Model Summary

Random-effects GLS regression	Number of obs. = 79
Group variable: BANKS1	Number of groups = 8
R-sq: within = 0.3160	Obs. per group: Min = 9
Between = 0.5310	Avg = 9.9
Overall = 0.3591	Max = 10
	Wald χ^2 (9) = 38.67
corr (u_i, x) = 0 (assumed)	Prob >χ^2 = 0.0000

Source: Authors' construct

Table 5: Regression output

ROA	Coef.	Std. Err.	z	P>|z|
SIZE	−0.001	0.002	−0.65	0.52
LQ	0.001	0.001	0.42	0.67
MSA	0.603	0.490	1.23	0.22
SP	0.098	0.154	0.64	0.52
CAP	0.258	0.057	4.50	0.00*
INF	−0.005	0.002	−2.29	0.02*
GDPlog	−0.019	0.017	−1.12	0.26
MPR	0.007	0.003	1.93	0.05*
FX	0.002	0.027	0.07	0.94
_cons	0.129	0.088	1.46	0.14

Source: Authors' construct

factors had a significant effect on the profitability measure. The results showed that bank size, liquidity market share, and spread which are all internal factors had P-values. The resulted p-values for size, liquidity, market share and spread were 0.5, 0.67, 0.22 and 0.52 respectively.

The results also showed that the industry-specific variable which is the market capital adequacy had a P = 0.00. This value is less than 0.05 which implied that market capital adequacy significantly impacts on profitability. The results further showed that capital adequacy had a positive coefficient, meaning that a rise in CAP would increase the profitability of the banks. The other external factors were inflation, GDP growth, MPR, and forex. The results showed P = 0.02, 0.26, 0.05 and 0.94 respectively. Only inflation and MPR had a p-value less than 0.05, meaning that inflation and monetary policy had a significant impact on profitability. Inflation had a negative coefficient (-0.005) while MPR had a positive coefficient (0.007). Thus, while inflation impacts negatively, MPR impacts positively on ROA.

4. DISCUSSION

The finding of this study showed that the explanatory variables have a joint significant effect in determining the performance of the banks within the period of study. The findings were consistent with that of (Davydenko, 2011; Alexiou and Sofoklis, 2009) who indicated a positive impact of inflation and other external variables on bank performance. Capital adequacy (CAP) has a significant impact on the performance of banks in Ghana. This finding is in line with previous studies (Chirwa, 2003; Alexiou and Sofoklis, 2009) which showed a positive impact of capital on bank profitability. Consequently, setting up high regulatory capital has a positive impact on profitability and ultimately bank performance in Ghana. The implication of the results from Ghanaian listed banks' perspective is that banks can operate to avoid eating/eroding into regulatory capital without being too cautious, thus not ignoring potentially profitable opportunities.

Inflation has a negative significant impact on ROA for Ghanaian listed banks. The results are inconsistent with the findings of (Davydenko, 2011) who indicated a strong positive impact of inflation on bank profitability. The implication is that Ghanaian banks have not been able to correctly predict inflation and made adjustments in the interest rates accordingly to earn more profits.

The findings of the study also revealed that the bank-specific variables have a joint insignificant effect in determining the profitability of the banks within the period of study. The bank-specific variables were bank size, liquidity, market share, and spread and all had an insignificant impact on ROA. The results from the study are in contrast to other empirical works (Trujillo-Ponce, 2012; Davydenko, 2011; Sufian, 2010) that found that bank-specific factors influenced the financial performance of banks. The net interest margin (spread) had an insignificant impact on returns on assets for banks in Ghana. This implies that the banks on the Ghana Stock Exchange hardly rely on their interest income as the main source of business income. The results are inconsistent with the findings of (Burki and Niazi, 2006) who indicated that there was a relationship between interest income and earning assets for foreign commercial banks.

Finally, the findings from this study have shown that the internal factors of the banks do not have a significant effect on the profitability of Ghanaian listed banks. This means that the managers of the banks could have been doing the right things internally. However, the external factors which are beyond the control of the managers had a significant influence on predicting their profitability. Therefore, the banks must learn how to predict and anticipate the external factors and make adjustments in their operations to enable them to improve profitability. This could equally present a sound justification that the collapsed banks failed to assess the environmental risks posed by the industry and the economy in general.

5. CONCLUSIONS AND RECOMMENDATIONS

The findings of this study showed that the explanatory variables have a joint significant effect in determining the performance of the banks within the period of study. This means that the performance of the banks is significantly affected by study variables. Since the findings show that the bank-specific variables have no combined effect on the ROA, the study, therefore, concludes that the bank-specific variables do not have a significant influence on the performance of the Ghanaian-listed banks. On the other hand, some of the external factors were observed to have a significant influence on profitability. The findings further showed that the drivers of profitability of the Ghanaian banks were, inflation, capital adequacy, and monetary policy. Since these are all external factors, the banks must learn how to predict and anticipate the external factors and make adjustments in their operations to enable them to improve profitability.

The estimated results suggest that the profitability of the banks is not influenced by factors related to their management decisions, and internal factors, but by the changes in the external macroeconomic environment as well as regulatory decisions. Therefore, while this study encourages the managers of Ghanaian banks to be cautious in their operational decisions, the economy must also be managed soundly to ensure the growth of banks.

REFERENCES

Abreu, M., Mendes, V. (2002), Commercial Bank Interest Margins and Profitability: Evidence from E.U Countries. Porto Working Paper Series.

Adjei-Frimpong, K., Gan, C., Hu, B. (2016), Competition in the banking industry: Empirical evidence from Ghana. Journal of Banking Regulation, 17(3), 159-175.

Aiyar, S., Calomiris, C.W., Wieladek, T. (2015), Bank capital regulation: Theory, empirics, and policy. IMF Economic Review, 69, 955-983.

Alexiou, C., Sofoklis, C. (2009), Determinants of bank profitability: Evidence from the Greek banking sector. Economic Annual, 182, 93-118.

Alvarez-Franco, P.B., Restrepo-Tobon, D.A. (2016), Managerial efficiency and failure of U.S. commercial banks during the 2007-2009 financial crisis: Was this time different? Ecos De Economia, 20(43), 1-23.

Attah, R. (2017), Ghanaian Bank Performance and Ownership, Size, Risk, and Efficiency. Walden Dissertations and Doctoral Studies Collection. Available from: http://www.scholarworks.waldenu.edu/dissertations

Babalola, Y.A. (2012), The determinants of banks' profitability in Nigeria. Journal of Money, Investment and Banking, 24, 6-16.

Bokpin, G.A. (2013), Ownership structure, corporate governance, and bank efficiency: An empirical analysis of panel data from the banking industry in Ghana. Corporate Governance. The International Journal of Business in Society, 13(3), 274-287.

Burki, A., Niazi, G.S. (2006), The Effects of privatization, Competition and Regulation on banking Efficiency in Pakistan, 1991-2000. Regulatory Impact Assessment: Strengthening Regulation Policy and Practice. United Kingdom: Chancellors Conference Centre, University of Manchester.

Chirwa, E.W. (2003), Determinants of commercial banks' profitability in Malawi; a co-integration approach. Applied Financial Economics, 13, 565-571.

Davydenko. (2011), Determinants of bank profitability in Ukraine. Undergraduate Economic Review, 7(2), 2.

Demirgúc-Kunt A, Detragiache E. The Determinants of Banking Crises: Evidence from Industrial and Developing Countries. Washington, DC: Policy Research Working Paper Series, The World Bank; 1999.

Demsetz, H. (1973), Industry structure, market rivalry, and public policy. Journal of Law and Economics, 16(1), 1-9.

Grygorenko, O. (2009), Effects of Price Setting on Bank Performance: The case of Ukraine. Ukraine: Kyiv School of Economics.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2010), Multivariate Data Analysis. 7th ed. Upper Saddle River, New Jersey: Prentice-Hall.

Hassan, M.K., Bashir, A.H. M. (2003), Determinants of Islamic banking profitability. Paper presented at the 10th ERF Annual Conference, Morocco, 16–18 December.

Mensi, S., Zouari, A. (2010), Efficient Structure versus Market Power: Theories and Empirical Evidence. High School of Business of Tunis (ESCT), Manouba University Higher Business Studies Institute (IHEC). Tunisia: University of the 7th November at Carthage.

Sufian, F. (2010), Financial Depression and profitability of the banking sector of the Republic of Korea: Panel Evidence on bank-specific and macroeconomic determinants. Asian-Pacific Development Journal, 7, 65-95.

Sufian, F., Habibullah, S.M. (2009), Bank specific and macroeconomic determinants of bank profitability: Empirical evidence from the China banking sector. Frontiers of Economics in China, 14, 274.

Trujillo-Ponce, A. (2012), What determines the profitability of Banks? Evidence from Spain. Journal of Accounting and Finance, Early Review, 10, 1111.

Zimmerman, G. (1996), Factors influencing community bank performance in California. Federal Reserve Bank of San Francisco, 1, 26-41.