



Department of  
Economics and Finance

Working Paper No. 16-10

Economics and Finance Working Paper Series

Guglielmo Maria Caporale, Suman Lodh  
and Monomita Nandy

The Performance of Banks in the MENA Region  
during the Global Financial Crisis

May 2016

<http://www.brunel.ac.uk/economics>

**THE PERFORMANCE OF BANKS  
IN THE MENA REGION  
DURING THE GLOBAL FINANCIAL CRISIS**

**Guglielmo Maria Caporale  
Brunel University London**

**Suman Lodh  
Middlesex University**

**Monomita Nandy  
Brunel University London**

**May 2016**

**Abstract**

This paper examines the impact of the global financial crisis on the banking sector in the Middle East and North Africa (MENA) region, as well as the main determinants of the profitability of both domestic and foreign banks. The empirical findings suggest that during the crisis the former outperformed the latter in that region. As for the determinants of profitability, size does not appear to play a role, whilst the liquidity ratio and net interest revenues seem to have a negative and positive effect respectively; GDP has a

## **1. Introduction**

The Middle East and North Africa (MENA) region, which includes 28 countries and has a population of 357.3 million (World Bank, 2014), is developing very rapidly and acquiring increasing importance in the global economy. Geographically, it is the bridge connecting Europe and Asia, and it is one of the world's richest regions in terms of resources, since it includes the oil-rich countries of the Gulf Cooperation Council. It is also home to the world's largest Islamic banks (World Bank, 2013), many of which have a global role, serving the Muslim as well as other communities around the world.

Globalisation and the reduction of barriers have allowed foreign banks to enter this region, which has led to greater efficiency and competition (Jeon et al., 2011; Cull et al., 2010; Claessens et al., 2003). Banks benefit from the competitive advantage associated with the new markets they enter (Claessens et al., 2003), but they also

determinants of profitability of both domestic and foreign banks, in the MENA region. In brief, we find that the former outperformed the latter in this region during the crisis. This result is consistent with the findings of the existing literature on the Asian crisis (Detragiache et al., 2006). Moreover, bank size does not appear to be one of the main factors explaining the profitability of foreign banks, as also found by Athanasoglou et al. (2008) for Greek banks. Finally, GDP affects positively bank profitability (as also reported by Bayraktar et al., 2006, and La Porta et al., 2002). Our findings shed light on the performance of banks in one of the developing regions in the world, and have important policy implications.

The paper is structured as follows: Section 2 provides a brief review of the literature; Section 3 outlines the methodology; Section 4 presents the empirical results; finally, Section 5 offers some concluding remarks.

## **2. Literature Review**

### **2.1 Factors that drive foreign banks to enter a market**

Since our study compares the performance of two types of banks in the region (domestic and foreign), it is useful to consider in the first instance what might motivate a foreign bank to enter another market. Geographical factors clearly matter. For instance, distance is a possible factor (Hryckiewicz & Kowalewski, 2010), or internal management control, with the parent bank possibly losing control over its subsidiary (Berger & De Young, 2006), a high level of control normally being seen as crucial to attaining high profitability margins. Further, foreign banks look for locations offering a competitive advantage linked to the familiarity with working conditions in a given climate (Clark et al., 2001). The foreign direct investment (FDI) literature emphasises that in general firms expand

abroad to an environment that is very similar to the one in which they are already operating in order to profit from the knowledge advantage from within the firm.

Large banks are more likely to expand abroad than smaller and medium-sized ones: by virtue of their size, they have numerous c



There is evidence that during the Asian and the recent global financial crisis foreign banks have been an important transmission channel of risk from one country or region to another. In the case of the MENA region there are various channels (financial markets, oil market, tourism, global asset market etc. - Assaf, 2016) which can result in higher stock market volatility. However, a comparison between the role of domestic and foreign banks has not been made yet.

### **2.3 The entry mode of foreign banks**

FDI inflows into the least developed countries account for about 1.7% of global FDI, i.e. almost double their share of world GDP. In 2001–2010 FDI increased, as did other private capital inflows and dual aid inflows also increased. In 2006–2009 FDI averaged 6.3% of GDP (compared to 2.6% in the developed economies, 4.6% in the transition economies, 3.6% in the developing economies, and 2.9% for the world economy as a whole - Davies, 2011). FDI is one of the main entry methods of foreign banks, especially in developing economies: this rose sharply f.11116(e)1.66(f)4.043-208432(l)-9.8382,471.63761(e)T16(e)1.6





by foreign banks that followed the Greenfield entry mode (De Hass and van Lelyveld, 2006). For example, in the Asian region Malaysia has seen a rapid influx of foreign banks, specifically subsidiaries of Asian banks (Hong Kong S.A.R, Japan, Singapore,





revenue is the difference between the revenues generated from a bank's assets and the expenses associated with paying out its liabilities. The existing literature on the determinants of Islamic banks' profitability in the

where  $Y_{it}$  is ROAA,  $\alpha_{it}$  is the intercept,  $\beta_{it}$  is the regression coefficient on the  $i$  explanatory variable, and  $\epsilon_{it}$  is the error term assumed to be normally distributed with mean zero. This is a log-log multivariate model. Two additional models are also estimated to assess the impact of the crisis on each of the two categories of banks. Finally, two random effects models are also considered, where the error term is adjusted for each individual bank. A Hausman test is carried out to ensure that the random effects are appropriate for our panel. The estimation method is OLS.

### **Descriptive statistics**

Table 3a shows descriptive statistics for all series (internal bank characteristics and macroeconomic variables) for both domestic and foreign banks operating in the MENA

and -4.96185 respectively. Log total assets has a mean value of 25.15 and a median of 25.35, and its maximum and minimum values are 15.57 and 18.37 respectively.

[Insert Table 3b about here]

## **4. Empirical results**

### **4.1 Correlation matrix**

Table 4 shows the correlations. The variables are divided in three groups: all banks, foreign banks from the MENA region, and domestic banks.

[Insert Table 4 about here]

ROAA and ROAE are negatively correlated to each other. Moreover, total assets and net loans are inversely related to both ROAA and ROAE in all cases. Net interest revenue has a weak correlation with ROAA and ROAE. The macroeconomic variables (GDP, inflation) have a small and positive correlation with ROAA and ROAE except for the correlation between GDP and ROAE.

### **4.2 Regression results**

Equation 1 is estimated to assess the impact of the crisis on domestic banks and foreign banks from the MENA region jointly (Model 1) and separately (Model 2 and 3); the results are reported in Table 5. All the internal bank characteristics, as well as the macroeconomic variables, are statistically significant at the 5% level in Model 1.

[Insert Table 5 about here]

The coefficient on total assets, which reflects bank size, is negative and significant. The high percentage of Islamic banks within the MENA region is presumably the main reason for this finding. The liquidity ratio also appears to have a significant and negative impact on banks' profitability in this region. Other studies point out that the sign of this effect depends on whether or not at times of uncertainty banks decide to diversify their portfolios, which leads to an increase in their liquidity holding to compensate for their risk, and hence lower returns (Staikouras et al., 2008; Kosmidou et al., 2007). Net interest revenues have a significant and positive effect on profitab.71944(e)1.96262(i)0.d2(o)-3.716.gfi216299(e).

*Do st ban s*

log("& 4, )

= +





is negative and statistically significant for foreign banks. This is in line with the findings of other studies (Staikouras et al. 2008; Kosmidou et al., 2007). Finally, the coefficient on net interest revenues is positive for both models.

Finally, the coefficient on GDP is positive and significant for domestic banks, whilst no effect is found in the case of foreign banks. Clearly, banks are affected by the economic environment in which they operate (De Hass & Lelyveld, 2006).

## **5. Conclusions**

The aim of this paper is to investigate the effects of the global financial crisis on the performance mgat

al., 2007). Net interest revenue has a positive effect (see also Ben Khediri, 2009), and so does GDP in the case of domestic banks.

## **References**

Athanasoglou, P., Brissimis, S. and Delis, M. 2008.

Broecker, T. 1990. Credit-worthiness tests and interbank competition. *Econometrica*, 58 (2), pp. 429-452.



La Porta, R., Lopez-De-Silanes, F. and Shleifer, A. 2002. Government ownership of banks. *Journal of Finance*, 57 (1), pp. 265-301.

Lee, J. 2002. *Financial Liberalization and Foreign Bank Entry in MENA1*. World Bank. pp. 2-28. Available through: World Bank  
[http://info.worldbank.org/etools/docs/library/154927/financeforum2002/pdf/lee\\_mena.pdf](http://info.worldbank.org/etools/docs/library/154927/financeforum2002/pdf/lee_mena.pdf) [Accessed: 27 April 2013].

Micco, A., Panizza, U. aa .242m 2(,)-6.9978Y( )3.2814(v)-3.7156ñibn..m20p. Ba.F]57.902.....

Van Tassel, E. and Vishwasrao, S. 2007. Asymmetric information and the mode of entry in foreign credit markets. *Banking and Finance*, 31 (12), pp. 3742-3760.



**Table 1:** *Definition of variables used.*

---

---

---

1. Log ROAA = log of return on average assets
---

---

*Bank internal characteristics*

3. Log of lag SIZE = log of lag (total assets).
4. Log LOANS = log (Net loans) = log (total net loans/total assets).

External variables

5. Log INFL = $\text{Logart}_4[( ) - 0.896575(57( ) 517(g(m942(-) - 1.167057( ) 2.28453(o) - 7.81517(f) - 1.41513( ) 14.6057(a) - 1.88689(n) - 7.7$
---



**Table 4:** Correlation results of both domestic MENA banks, and foreign banks from MENA.

	1	2	3	4	5	6	7
1. ROAA	1.000						
2. ROAE	-0.029	1.000					
3. Total assets	-0.138	0.057	1.000				
4. Net loans	-0.024	-0.003	0.100	1.000			
5. Net interest revenues	0.003	0.091	0.873	0.192	1.000		
6. GDP	0.039	-0.092	-0.026	-0.072	-0.030	1.000	
7. Inflation	0.115	0.016	0.083	-0.001	0.082	0.118	1.000

**Table 5:** Regression results of least square estimation

**Table 6:** Regression results of random effect estimation

<i>Dependent Variable: ROAA</i>	Domestic Model 4	Foreign Model 5
Crisis	-0.105(0.016)*	-0.272(0.103)*
Log (total assets) <sub>(t-1)</sub>	-0.277 (0.067)*	-0.620 (0.060)*
Log (net loans)	-0.081 (0.076)*	-0.103 (0.038)*
Log (net interest revenues)	0.147 (0.073)	0.520 (0.056)*
GDP	0.038 (0.012)*	-0.009(0.017)
Log (inflation)	0.079 (0.043)**	0.111 (0.046)*
Observations	562	562
Intercept	2.716 (0.578)*	3.924 (0.527)*
Adjusted R square	0.180	0.170
F-statistic	15.4	23.23

*Notes: Standard errors are in parentheses. \*p<0.05, \*\*p<0.01. Model 4 and 5 are showing all coefficients of domestic banks and foreign banks respectively.*