

ECONOMIC
RESEARCH
FORUM



منتدى
البحوث
الاقتصادية

2012

working paper series

**OWNERSHIP STRUCTURE
AND FINANCIAL PERFORMANCE IN ISLAMIC BANKS:
DOES BANK OWNERSHIP MATTER?**

Sarra Ben Slama Zouari and Neila Boulila Taktak

Working Paper No. 713

**OWNERSHIP STRUCTURE AND FINANCIAL
PERFORMANCE IN ISLAMIC BANKS:
DOES BANK OWNERSHIP MATTER?**

Sarra Ben Slama Zouari and Neila Boulila Taktak

Working Paper 713

October 2012

Send correspondence to:
Sarra Ben Slama Zouari
DEFI, University of Tunis, Tunisia
zouari_sarra@yahoo.fr

First published in 2012 by
The Economic Research Forum (ERF)
21 Al-Sad Al-Aaly Street
Dokki, Giza
Egypt
www.erf.org.eg

Copyright © The Economic Research Forum, 2012

All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher.

The findings, interpretations and conclusions expressed in this publication are entirely those of the author(s) and should not be attributed to the Economic Research Forum, members of its Board of Trustees, or its donors.

Abstract

The current study aims to investigate empirically the relation between ownership structure (concentration and mix) and performance in a panel data sample of 53 Islamic Banks scattered over 15 countries for a five-year period (2005 to 2009). Regression analyses are conducted to evaluate the impact of the identity of the first shareholders (family, state, institutional) and the degree of ownership concentration on Islamic Banks performance. Our results suggest that ownership concentrated at 49 % and that in 41 banks from the full sample, the ultimate owner is institutional. State investors come in second place as ultimate owners followed by Family ultimate shareholders. Using return on assets (ROA) and return on equity (ROE) as performance measures, empirical evidence shows that there is no obvious correlation between ownership concentration and Islamic bank performance. In addition our results suggest that family and state ownership affect positively bank's performance. They also indicate that banks with institutional and foreign shareholders are not performing better either. The empirical findings suggest that the recent global financial crisis exerts a negative effect on of the performance of Islamic banks. This work is the first of its kind for Islamic banks. It extends previous research by examining whether or not ownership structure (concentration and mix) affects performance. It also helped to fill the gap in the literature by providing the empirical evidence on large sample involving data relative to 15 countries. It's worth noting that collecting manually data on ownership structure (concentration and mix) constitute a large part of the research for this paper.

JEL Classifications: G21, G32 and G34.

Keywords: Islamic banks, financial performance, ownership structure, ownership concentration, ownership mix.

ملخص

الدراسة الحالية تهدف إلى التحقيق تجريبيا في العلاقة بين هيكل الملكية (التركيز ومزيج) والأداء في عينة مسح تتبعية تتكون من 53 بنك إسلامي منتشرين في أكثر من 15 دولة لمدة خمس سنوات (2005 إلى 2009). وتجرى تحليلات الانحدار لتقييم أثر هوية المساهمين الأوائل (الأسرة، والدولة، والمؤسسية) ودرجة تركيز الملكية على أداء البنوك الإسلامية. نتائجا تشير إلى أن الملكية تتركز في 49% وأنه في 41 من البنوك، المؤسسة هي المالك الحقيقي. المستثمرين يأتون في المرتبة الثانية. باستخدام العائد على الأصول (ROA) والعائد على حقوق المساهمين (ROE) ومقاييس الأداء، تبين الأدلة التجريبية أنه ليست هناك علاقة واضحة بين تركيز الملكية وأداء البنوك الإسلامية. وبالإضافة إلى ذلك، تشير نتائجا إلى أن ملكية الأسرة وملكية الدولة ينعكس إيجابا على أداء البنك. أنها تشير أيضا إلى أن البنوك مع المساهمين المؤسسية والخارجي في أداء أفضل أيضا. النتائج التجريبية تشير إلى أن الأزمة المالية العالمية الأخيرة لها تأثير سلبي على أداء البنوك الإسلامية. هذا العمل هو الأول من نوعه للبنوك الإسلامية. فهو امتداد للأبحاث السابقة من خلال دراسة ما إذا كان هيكل الملكية (التركيز ومزيج) يؤثر على الأداء. كما ساعد على سد الفجوة في الأدب من خلال توفير الأدلة التجريبية على عينة كبيرة تشمل البيانات المتعلقة 15 بلدا. ومن الجدير بالذكر أن جمع البيانات يدويا على هيكل الملكية (التركيز ومزيج) قد شكل جزءا كبيرا من البحث في هذه الورقة.

1. Introduction

Studies that have attempted to explain the performance of Islamic banks are limited compared to the abundant literature on this issue for conventional banks. These studies are focused on explaining the determinants of banking efficiency by using financial ratios. Governance aspects are ignored in the literature. Among the first studies that have examined the performance and operational efficiency of the Islamic banking sector, the work of Sarker (1999). He concludes that Bangladeshi Islamic banks can survive even within a conventional banking framework. In 2001, Bashir focuses on determine the underlying determinants of performance by Islamic banks in the Middle East using regression analyses. His results indicate that the bank performance, approximated on terms of profits, is mostly generated from overhead, customer short-term funding and non-interest earning assets. Later, Bashir (2003) analyses four measures of performance (the net non interest margin, return on assets, profit margin and return on equity) of Islamic banks across 8 Middle Eastern countries between 1993 and 1998. After controlling for macroeconomic environment, financial market structure and taxation, results indicate that high capital to asset and loan to asset ratios lead Islamic banks to have higher profitability than domestic ones. They also indicate that foreign-owned banks are likely to be profitable. In 2007, Bashir examines, for Islamic banks, the impact of participation on profitability and efficiency over the period 1998 to 2003 in a sample of 12 MENA countries. Results show that inefficiencies in Islamic banks could be attributed to the limited number of instruments used for short-term placement of funds to absorb liquidity and manage risk.

It is only from 2009, that researches began to study the impact of some aspects of the governance on the performance of Islamic banks. Abbas *et al.* (2009) investigate the impact of ultimate ownership structure on performance of 31 Islamic financial institutions in the Malaysian context (2000-2006). They find that the ultimate owner is the government followed by foreign, family and institutional ownership. They prove that government, family and institutional ownership influence significantly and positively the return on asset but have no impact on non-performing loans. Sufian and Habibullah (2010) consider Malaysian context to examine the impact of foreign bank entry on the performance of domestic Islamic banking sector relative to their foreign counterparts. They find that the DeNovo commercial banks are relatively less profitable than their incumbent bank peers. A recent study published by the IMF in 2010 shows that ownership structure of Islamic banks is different from conventional banking sector, as noted by Al-Hassan *et al.* (2010). The GCC banking sector is largely domestically owned which prove the presence of entry barriers for foreign banks. Except for Bahrain, the GCC banks have limits on foreign ownership. The resulting changes in the ownership of Islamic banks raise important questions. In particular, does ownership concentration affect Islamic bank performance? And what's the role of the nature of block identity (i.e. family, state, family and foreign investor) on performance?

Despite the considerable development of Islamic banking sector, empirical works on impact of ownership structure on bank performance are still in its infancy. We attempt therefore, through this paper, to fill the gap in the literature by providing new empirical evidence studying the relationship between ownership structure and the performance of the Islamic banking sector.

To our best knowledge, this is the first study that considers two dimensions of ownership structure (mix and concentration) to give empirical evidence on Islamic bank's performance. Our study stands from Abbas *et al.* (2009) since we tested not only the impact of ownership category on bank performance but also the effects of various concentration measures. In addition, we conducted our regressions using a large sample of 53 Islamic financial institutions distributed in 15 countries whereas Abbas *et al.* (2009) consider only 31 Malaysian institutions. It is worth noting that collecting manually the data on ownership

structure nature and concentration for each bank constituted a large contribution for this paper.

The remainder of this paper is structured as follows. Section 2 reviews the relevant literature. Section 3 describes data, sources and methodology employed. Empirical results are presented and discussed in Section 4. Finally, section 5 concludes the paper.

2. Literature review

Many studies have shown that ownership structure and concentration are important factors that affect a firm's health. So studying the relation between ownership and performance is useful to predict the probability of default (Claessens *et al.* 2002; Zeitun *et al.* 2007). The concept of ownership structure can be defined along two concepts: ownership concentration, which refers to the share of the largest owner, and ownership mix related to the major owner identity (Xu and Wang 1997; Imam and Mlik 2007; Zeitun 2009).

2.1 Ownership concentration and performance

The relationship between ownership concentration and firm performance is complex and empirical studies reported mixed results (Demsetz, 1983, Demsetz and Lehn 1985; Shleifer and Vishny 1986; Wu and Cui 2002). Since these results are conflicting and ambiguous, it becomes interesting to study the nature of this relation in the case of Islamic banks, which present differences in terms of political, economic and institutional conditions.

In the current literature, three main hypotheses appear to compete with regard to the link between performance and ownership structure: convergence of interest hypothesis, entrenchment hypothesis and finally neutrality hypothesis. In the following, we will specify each one while reviewing the main empirical studies dealing with it.

2.1.1 Convergence of interest hypothesis

It states that the more the percentage of capital is concentrated the narrower is the gap to the objective of maximizing firm value (Jensen and Meckling 1976). According to this hypothesis concentrated ownership may improve performance by decreasing monitoring costs and providing better control of management. Large owners have the incentives and the power to monitor managers (Shleifer and Vishny 1986). Consequently, concentrated ownership minimizes the principal agent agency problem that arises from the separation between ownership and control and therefore, predicts a positive relationship between ownership concentration and firm performance.

Gorton and Schmid (2000) find, in Germany, that ownership concentration has positive effect on performance measures by market to book ratio and return on assets. Claessens *et al.* (2002) confirm this effect on market-to-book ratio in Asian firm's performance. Zeitun and Tian (2007) find significant and positive effects of ownership concentration on return on assets and return on equity of 59 publicly listed firms in Jordan from 1989 to 2002.

2.1.2 Entrenchment hypothesis

It argues instead that presence of large controlling shareholders can lead to expropriation behavior. In fact, the ultimate owner can abuse their power of control to extract private benefits and expropriate minority stakeholders. Indeed, Shleifer and Vishny (1997) point out that "*large investors may respect their own interests, which need not coincide with the interests of other investors in the firm, or with the interests of employees and managers*". Moreover, this expropriation behavior, in the case of high ownership concentration, may limit the ability of firms to raise funds through borrowing or new share offerings. Consequently, the share participation for insider controllers may decrease firm performance.

Empirically, Leech and Leahy (1991) find, in the United Kingdom, a negative relationship between the ownership concentration and the firm's value and profitability. Lin and Zhang

(2009) using a panel of 60 Chinese banks over the 1997–2004 report that the ‘‘Big Four’’ commercial banks, which are the more concentrated, are less profitable, are less efficient, and have worse asset quality than other types of banks.

2.1.3 Neutrality hypothesis

It argues that concentrated ownership is not associated with better operating performance or higher firm valuation. According to neutrality hypothesis, ownership structure is an endogenous variable, which determines the maximization of the value of a firm (concentrated/diffused structure), rather than the characteristics of its environment, its market and its own characteristics and operating conditions. So there is separation between ownership and decision and there is no reason to think that concentrated firm is more efficient than firm having diffuse capital (Demsetz 1983; Demsetz and Lehn, 1985; Holderness and Sheehan 1988; Himmelberg *et al.* 1999; Demestz and Villalonga, 2001). According to them, each firm is able to define its own optimal ownership structure allowing it to reach its goals and optimal strategies while minimizing the costs of monitoring.

Demsetz and Lehn (1985) find no effect of concentration index, respectively, on accounting profits rates of 511 American firms. Demestz and Villalonga (2001) confirm this finding on Tobin’s Q. Indeed, Holderness and Sheehan (1988) report that accounting return and Tobin’s Q are similar for majority owned (the largest shareholder holding more than 50%) and diffusely held firms (the largest shareholder holding less than 20%). They believe there is no correlation between the company’s ownership structure and American company’s performance. Hovey *et al.* (2003) find no effect of concentration on performance of listed Chinese companies. Mc Mahon (2007) confirms this finding on a sample of Australian firms. He reports that there is no statistically significant relationship between the proportions of equity held by small and medium-sized enterprises (SME) managers and financial performance.

Otherwise, it’s interesting to note that, in some cases, returns are increasing in concentration at low levels, decreasing at moderate levels, and again increasing at higher levels of concentration. Morck *et al.* (1989) reported this result and who suggested that the negative effects of concentration could outweigh, for certain levels of concentration, the positive effects. Indeed, Thomsen and Pedersen (2000), find a positive effect of ownership concentration on shareholder equity value and profitability (ROA) but the effect levels off for high ownership shares.

Considering the contrasting evidence reported across many countries on the relationship between the ownership concentration and the firm performance, we propose the following hypothesis:

H1: There is a relationship between bank performance and ownership concentration.

2.2 Ownership mix and performance

A further extension to our analysis of ownership concentration considers the possibility that the effects of ownership concentration vary for different types of shareholders, in particular based on state, foreign or family and institutional origin (Thomsen and Pedersen, 2000)

2.2.1 Government Ownership

La Porta *et al.* (2002) advance two theories to justify the state participation: the development view on one hand and the political view on the other hand. The first one states that government presence is necessary to finance projects that are socially desirable and to jumpstart both financial and economic development in countries suffering from underdevelopment of their institutions. The second suggests that, in countries with underdeveloped financial system, government’s ownership allows to provide employment and benefit in return for votes.

Private ownership is preferred to public ownership when government's costs of intervention in firm's decisions are greater than benefits (Sappington and Stiglitz 1987) or when incentives to innovate and political patronage and corruption are strong (Shleifer 1998). However as reported by Shleifer and Vishny (1997) there may be some situations in which private ownership is not optimal as in the case of monopoly power or because externalities and distributional issues can raise.

Majority of research indicates that private ownership of banks is combined with better economic performance (Lang and So, 2002). On the contrary, a state ownership bank has a negative impact in terms of productivity and efficiency and is also associated with weak competence and higher corruption (Shleifer and Vishny 1997; Shleifer 1998; Barth *et al.* 2000). On the other hand, few studies have found that government ownership is positively related to firm performance (Razak *et al.* 2008; Ang and Ding 2005). Razak *et al.* (2008) argued that governments would make investments to avoid underperformance in companies in which they invest. State ownership of banks may also facilitate access to credit and is more fitted to allocate capital to certain investment.

2.2.2 Foreign Ownership

It's stipulated that firms with foreign ownership operating in developed countries performed better than their domestically owned counterparts. However in developing countries findings are mixed.

As noted by Stulz (1999), firms with high foreign ownership may tend to perform effective monitoring such as frequent auditing and reporting actions, such measures tend to reduce agency cost and thus contribute to increase firm performance. Sarkar and Sarkar (2000) and Bonin *et al.* (2004) advance that foreign ownership offer a superior access to technical, managerial talent and financial resources leading to positive influence on firm performance. In Malaysia, Suffian (2006) and Claessens *et al.* (2001) found that foreign participation improve efficiency of domestic banks by reducing operating costs. Alternatively, De Young and Nolle (1996) and Elyasiani and Mehdiian (1997) found that foreign banks are less profit efficient as a consequence of their reliance on purchased funds.

2.2.3 Family ownership

Studies have shown that family owned companies are more likely to engage in managerial entrenchment at the expense of the company leading to the decline in profitability. Holderness and Sheehan (1988) find that firms owned by family have lower Tobin's Q than non-family firm. Smith and Amoako-Adu (1999) report that family firm's performance declines following arrival of new managers. Alternatively, the expectation is that family ownership is positively related to firm performance since it helps to reduce the agency costs. In this case, the interest of the managers is naturally aligned with those of the owners since the owners are also the managers (Villalonga and Amit 2006; Anderson and Reeb 2003).

2.2.4 Institutional Ownership

Shleifer and Vishny (1986) reported that institutional shareholders have greater incentive to monitor managers and members of the board to guarantee sufficient benefits. These shareholders, similar to other (large) shareholders, have the ability and the resources to discipline managers and to keep them away from opportunistic behaviors. Smith (1996) supports a positive relationship between institutional ownership and firm performance. However, Agrawal and Knoeber (1996) find no significant relationship.

3. Methodology

3.1 Data

This paper investigates the relationship between ownership concentration and bank performance of Islamic banks using data for the period from 2005 to 2009. The primary

source of financial data is “*Islamic Banks and Financial Institution Information*” database (www.ibisonline.net), a division of the Islamic Research and Training Institute (IRTI). Various commonly used accounting-based performance measures for banks and other financial variables are taken from published balance sheets and income statements downloaded from IBIS online database. This database offers a presentation of banking financial statements in accordance with the requirements of Islamic Finance, contrary to that provided by Bankscope, which has the disadvantage to present information according to conventional banks rules. However data on ownership structure (mix and concentration) was collected manually from annual reports and by consulting the web site of "mubasher.info". The missing data were obtained from Bankscope database. Collecting data on ownership constitutes a fundamental contribution of this research. Finally, information on macroeconomic variables was collected from World Bank database. After removing samples of missing and incomplete data, the final study sample included 53 Islamic banks from 15 countries (mainly: Bahrain, Malaysia, Kuwait, Pakistan, and UAE) and is shown in Table 1.

3.2 Model specifications

This study examines the relationship between various ownership concentration variables and ownership structure variables with Islamic banks’ performance. The hypothesis tested is that ownership concentration and structure does affect firms’ performance. Using the financial performance PERF as the dependent variable, we estimate the following regression model:

$$PERF_{jt} = \alpha + \beta_1 \sum \text{Bank Ownership} + \beta_2 \sum \text{Bank Characteristics} + \beta_3 \sum \text{Macroeconomic Conditions} + e$$

Where, $PERF_{jt}$ is the dependent variable which expresses financial performance measured by return on assets (ROA) and return on equity (ROE) of the j^{th} bank in year t , Bank Ownership represents our interest variables approximated by its concentration and its nature, Bank Characteristics is an array of bank specific variables, and Macroeconomic Conditions is a vector of macroeconomic variables.

Panel Regression is the methodology followed in this paper as its objective is to test the impact of ownership structure variables on a panel of 53 Islamic banks over the period 2005-2009. The use of this technique requires compliance with a rigorous methodology. Obviously, as a first step it is essential to choose between random effects model and fixed effects models using the Hausman test. However, the presence of the ownership dummy which takes the same value for the same bank across all time-periods preclude the use of a fixed effect model, which leads us to choose a random effects model. On the other hand, we have tested for heteroscedacity, checking multicollinearity between variables and the problem of autocorrelation to ensure the reliability of our regression results. Heteroscedacity and autocorrelation problems were detected. So, the model will be estimated using the technique of Generalised Least Squares (GLS) estimation, which serves to correct the presence of serial correlation and heteroskedasticity. This method of panel regression also takes care of the endogeneity problem.

3.3 Variables selection

The performance variables represent the dependent variables and are used separately. The explanatory variables are composed from interest variables related to ownership structure (concentration and mix) and control variables. The latter are composed from Bank Characteristics’ and macroeconomic factors.

3.3.1 Dependent variables

Using pooled data for 53 Islamic Banks, we focus on two useful financial indicators of banking performance (FIN): return of assets (ROA) and return on equity (ROE) (Claessens *et*

al. 2000; Lin and Zhang 2009). Nonperforming loans were not used as a proxy for bank quality assets due to lack of information.

Return on Assets (ROA) is defined as net income to total assets and it reflects the company's ability to convert assets to generate profits (Hassoune 2002). So, it gives a ratio of earnings generated from invested capital. Bashir and Hassan (2004) and Ben Naceur (2003) include ROA as a performance indicator in their studies.

Return on Equity (ROE) is calculated by taking the net income after tax and zakat divided by the shareholders equity. It represents how much profit the bank management has generated on the shareholders' funds invested in the company (Bashir and Hassan 2004). ROE also determines how efficient the bank management use is of shareholders' investments (Hassoune 2002).

3.3.2 Bank Ownership variables

Ownership structure can be defined along two attributes: concentration and identity of the owners. To determine the Ultimate owner's concentration, various measures of ownership concentration are constructed. We have followed Demsetz and Lehn (1985) in measuring concentration with respect to a group of owners, usually as the total equity share held by shareholders. Our first measure of concentration is the percentage of shares held by the largest shareholders (C1). Second, we calculate the percentage of the first three largest shareholders (C3) and finally the percentage of the first five largest shareholders (C5). We have tried to calculate the percentage of the first tenth largest shareholders, but we were prevented by the lack of data. In our reported multivariate analysis, the correlation matrix table 2 reveals a serious and severe problem of multicollinearity between C1, C2 and C3 (above 70%). That's why we introduce these variables in the model one to one. Therefore, we will have three models (M1, M2 and M3) for each measure of financial performance (ROA and ROE).

Besides ownership concentration, the identity of large owners has importance implications for performance as suggested by Thomsen and Pederson (2000). To categorize the controlling owners we have looked at the largest fraction of shares owned by referring to the owner category it represents. Information is manually collected from the bank's annual reports during the five-year period study. We include the nature of the ownership structure as a categorical variable to examine whether its inclusion affects the influence of ownership share of the largest investor on bank performance. Three Dummy variables representing the nature of the largest owner have been used in our analysis. GOV is a dummy variable, which takes the value of 1 if the largest shareholder is the government and 0 otherwise. INST is the second dummy variable, which takes the value of 1 if the largest shareholder is a financial institution investor and 0 otherwise. Finally, FAM is the third dummy variable, which takes the value of 1 if the largest shareholder is a family investor and 0 otherwise. The variable of government ownership is hypothesized to be negatively related to bank performance. However, the variables of institutional and family shareholders are more profit oriented and they are expected to present a positive sign. To control for the impact of foreign ownership, FORG is also a dummy variable that takes the value of one if there is presence of foreign shareholders in the capital, without being majority shareholders and zero otherwise. This variable is hypothesized to take a positive sign on bank performance. We choose to introduce them in the model one to one to understand the effect of each variable separately.

3.3.3 Bank Characteristic variables

In order to minimize specification bias and isolate the effects of bank characteristics on performance, not captured by the ownership variables, it's necessary to include other factors proposed in the literature to explain bank performance. We used the logarithm of total assets of the bank as the measurement for its size (SIZE) and the logarithm of the age of bank from

the date of incorporation (AGE). Larger firms are assumed to be less efficient because of the loss of control by top managers (Himmelberg *et al.* 1999). Indeed, Lang and Stulz (1994) stated that when a firm becomes larger and more diversified, its firm value decreases. In contrast, Size could have a positive impact on performance; large firms may be more efficient as they exploit economies of scale and as they have ability to diversify risk (Ghosh 1998). Besides, as firms get older, they benefit from dynamic economies of scale and from having a good reputation that allowed them to earn a higher margin (Glancey 1998). On the other hand, older firms present difficulty in adapting to changes, which lead to lower performance (Glancey 1998).

Other specific bank variables included in the regression models are the leverage (LEV) and capital adequacy ratio (CAR). Bank leverage (LEV) is the ratio of total debts to total assets. In the literature, mixed relationships are found between bank performance and total debt. Stultz (1988) theorizes that high (insider) ownership may increase leverage. However, pecking order theory suggests a negative relationship between various measures of firm performance and leverage (Bhattacharya and Graham 2009). The capital adequacy ratio is also included in the regression models. The literature reports that there is no consensus on the relation between capital adequacy and performance. Sinkey and Greenawalt (1991) find that banks with adequate capital ratio experience lower rates of NPLs, and therefore are more profitable. Hassan (2001) finds a positive and significant relationship between the performance of Islamic banks and profitability during 1994-2001. In fact, a bank characterized by a sound capital position is able to pursue business opportunities more effectively. On the other hand, as reported by Boudriga *et al.* (2009), well-capitalized banks might be encouraged to embark in riskier activities leading to riskier credit portfolios. The correlation matrix shows no problem of multicollinearity between Bank specific variables.

3.3.4 Macro Economic conditions

Finally, to control the change in the financial landscape and structure among banking groups operating in different countries, we introduce in the model specification the GDP growth (GDP), inflation rate (INF) and the impact of 2008 financial crisis (CRISIS) as a dummy variable. GDP growth is the most common indicator used to measure total economic activity. Inflation is expected to influence both costs and revenues of banks. It is hypothesized in this paper that these two macro indicators affect performance measures positively. During volatile economic growth, banks may suffer from lower demand for their financial services, increased loan defaults, and thus lower revenues. According to Perry (1992), if inflation is anticipated then revenues increase faster than costs, which lead to positive impact on bank profitability. We also include a dummy variable (CRISIS) in order to capture respectively the impact of the recent financial crisis that takes a value of one for the global financial crisis period (2008 and 2009) and zero otherwise. The correlation matrix confirmed also the absence of multicollinearity between the macro economic factors.

4. Results and Discussion

4.1 Descriptive Statistics

Table 3 displays basic statistics, mean, median, minimum and maximum value as well as the standard deviation, for various measures of ownership concentration (C1, C3 and C5) across all bank-years in the sample. The measure of ownership concentration is based on the proportion of shares owned by a bank's most significant shareholders.

Table 3 shows that the larger shareholders (C1) own 48.7%. At the median, C1 and C2 own 37.2% and 65.9%, respectively. The median larger blockholder (C1) for Islamic banks is larger compared with the Anglo-American standards and with those in France and Spain, which ranges between 20 and 34 % respectively (Becht and Röell 1999). The mean of the other measure of concentration C5 is about 70% ranging from 6.52% to 100%. The data

reveal that there is a substantial variation across banks in ownership concentration. Despite the large average, the minimum value for the largest owner's holding (C1) is 3.21% and the maximum value is 100%. Obviously, the ownership structure indicates that many of the property banks have a single controlling shareholder.

To refine ownership concentration structure for Islamic banks, we classify block holdings in to 6 classes (Table 4). We consider for the first fifth successive classes 10% as width of the interval and the latter class includes bank observations for which concentration level is higher than 50%. Table 4 confirms our earlier findings. The majorities of Islamic banks have concentrated ownership structure and rare are banks whose structure is dispersed. Based on La Porta *et al.* (1999) definition of ultimate owners, table 4 reports that only 17%, 5.66% and 7.5% of banks in our sample have dispersed structure respectively on C1, C3 and C5 concentration measures.

Furthermore, beyond the examination of concentration ownership, we tried to examine the nature of ultimate owners in our sample. We find that the percent of bank-year observations in the four ownership categories is predominantly concentrated in the hands of a few shareholders who are generally institutional investors but occasionally government or family investors. In fact, out of 53 banks 41 are institutional (77.35 %), 7 are state (13.2%) and there are 5 (9.43%) in which family investors retain a majority stake.

Table 5 presents descriptive statistics for all variables year by year and for the whole period (2005-2009). It shows that ROA and ROE stood at comfortable levels compared to international standards until 2008. The sharp drop of Islamic bank's performance from 2008 can be attributed to consequences of the 2008 crisis. We report that the minimum and maximum columns for ROA and ROE are -44,35 to 38.25 and -168,09 to 46,81, respectively. The standard deviation of ROE for Islamic banks increases from 18,68 in 2005 to 31,79 in 2009. This higher standard deviation indicates higher volatility of earnings and higher risk for Islamic banks. We note that the Islamic banking systems, over a period 2005-2009, are well capitalized with CAR ratios above minimum since CAR levels varies, in mean, over 2008-2009 period between 24% and 33%. They have also comfortable leverage ratios comparing to international norms reaching a mean of 17%. However, we can report that leverage stood at lower levels before 2008. The average value of bank assets is 2,73E+07(in USD) and average number of years the banks have been in business is 16,8 years. The oldest bank is 50 years old and the newest is 4 years old.

Islamic banks may react differently to profitability in terms of the ownership category. To check if performance measures differ across ownership categories, we cross performance measures with the nature of ultimate owners. Table 6 reports that banks held by government exhibit higher levels of ROA and ROE performance relatively to other banks. It should be noted that with regards to the performance measures, ROA and ROE, banks in "majority family" group was significantly higher than "majority foreign and institutional" group.

4.2 Regression analysis

The results from estimating performance equation with three different models of concentration (C1, C3, C5) and three owner identity specifications (institutional, government and family ownership) are shown in Table 7 and Table 8, respectively on ROA and ROE.

All measures of block holders (C1, C3 and C5) exhibit no statistically significant relationship in all regression models. Therefore, we are able to provide some additional evidence on the absence of any impact of concentration ownership on Islamic banks performance. This finding is consistent with neutrality thesis advanced by Demsetz (1983) and reported by others studies (Demsetz and Lehn 1985, Holderness and Sheehan 1988, Himmelberg *et al.* 1999, Demsetz and Villalonga 2001). For Islamic banks, ownership structure is considered as

an endogenous variable and maximizing the bank value depends mainly on operational characteristics of the bank and those of the external environment. Obviously, as Bonin *et al.* (2004) argues, the insignificant effect of ownership on ROA is not surprising because “*financial measures provide mixed signals about bank performance in transition countries due to the undeveloped and evolving nature of the banking sectors*”.

Turning to the coefficients generated for the dummy variables (INST, GOV and FAM), our analysis shows that bank performance depends on the identity of block ownership. We observe that banks tend to exhibit higher levels of performance if their largest owner is a state or a family investor. Regressions show that state and family shares have positive and significant impact on bank performance in both equations of ROA and ROE. Thus, performance of state-owned bank increases when the government is a large shareholder, suggesting that state ownership is not necessarily less efficient than private ownership. This finding is consistent with the findings of Kole and Mulherin (1997) and Abbas *et al.* (2009). This result is interesting since banking sectors in the GCC have significant public and quasi public sector ownership (Al Hassan *et al.* 2010). However, we find a negative relationship between institutional ownership and bank performance in both ROA and ROE regressions. This negative result is in contradiction with the findings of Abbas *et al.* (2009). It is also inconsistent with Pound’s (1988) “efficient monitoring” hypothesis which advances that institutional investors possess a superior monitoring ability and greater dealing power and resources. In opposite, our results are rather consistent with “conflict of interest” hypothesis and “strategic alignment” hypothesis, which postulate that institutional investors seek to maintain business relationships at the expense of increased management control. Such behaviors lead to an inefficient monitoring justifying this negative effect on bank’s performance. Concerning the impact of family share identity on bank performance, results show a positive and significant relationship in the both models estimated (ROA and ROE) suggesting that family ownership creates an environment of love and commitment necessary for better performance resulting in lower agency costs. Moreover, Family investor’s wealth is closely associated with the economic performance of the bank (Anderson and Reeb 2003). Finally, the coefficient of foreign presence (dummy variable) is negative and statistically significant only in ROA regressions. This result is consistent with Sufian and Habibullah (2010) who attributed this finding to the different levels of knowledge of the market between the incumbent and De Novo Islamic banks. This empirical result supports the ‘liability of foreignness’ hypothesis. In fact, the ability of foreign banks to access better risk management is made possible under favorable regulatory and economic environments and it’s possible only for efficient institutions (Berger *et al.* 2000). Furthermore, we are not surprised to find a negative effect of foreign presence on bank performance since data collection indicates that most foreign investors are coming from developing countries. Whereas it’s expected that foreign owner-managers, coming from developed countries, are assumed to have superior technical management and better skills. Based on the end of 2007 data, the banking system in the GCC is largely domestic owned. This reflects entry barriers and licensing restrictions. Except for Bahrain and U.A.E, all GCC countries have limits on foreign ownership. The presence of foreign banks is mostly limited in the form of branches (Al-Hassan *et al.* 2010).

With regards to the control variables, results are in agreement with the predictions of the finance literature. For example, GDP growth and CRISIS are significant in both regressions models. GDP growth exhibits positive and statistically significant relationship in all regression models. The economic growth could have resulted in increasing demand for bank financial services and loans and thus higher output. It’s interesting to note that when we control for 2008 subprime crisis, the coefficient of the variable CRISIS is negative and significant suggesting that the stock market has a negative impact on the performance of the Islamic banking sector during economic turbulent period. While size and age are significant

in the ownership concentration equation with ROE as the measure of performance, they are not significant with ROA as the measure of performance. The significantly positive association between AGE and profitability suggests that older banks are more likelihood to record higher profits. This result invalidates the finding of Al Hassan *et al.* (2010), whom advanced that old Islamic banks need to reformulate business strategies based on those of new Islamic banks to improve their profit performance. Bank SIZE shows positive coefficients and is statistically significant suggesting first that the larger the bank, the better performance the bank will have, because of the economies of scale arguments (Sufian 2010). Besides, large banks receive an important bargaining power allowing them to reduce their input costs (Hauner 2005). CAR is marginally significant exhibiting negative relationship with ROE but the relationship with ROA is not significant. The results indicate that less profitable banks are involved in riskier operations. They might be encouraged to embark in riskier activities leading to riskier credit portfolios (Sufian 2010).

4.3 Discussion and Robustness check

As a robustness check of our results, we have performed a number of sensitivity analyses. First, to further refine the insignificant result regarding the relationship between ownership concentration and bank performance, two other measures of ownership concentration deducted from the literature were used. On one hand, a dummy variable CONC was included in the model. It takes the value of 1 if the ultimate owners, as the largest controlling shareholders, exceed 20 percent in the bank as defined by La Porta *et al.* (1999). On the other hand, the Herfindahl index of ownership concentration (HERF), considered as another proxy of ownership concentration, was tested. It presents the sum of squared percentage of shares controlled by each top five shareholders (Zeitun and Tian 2007). Regressions results on CONC and HERF are reported in Table 9. It is apparent to note that all the bank specific variables and macroeconomic factors continued to remain robust in the directions and significance level. Concerning CONC and HERF, results are not statistically significant on bank performance measures. This result is consistent with our earlier findings that the performance of the Islamic banks is independent from the ownership concentration. We conclude the “thesis of neutrality” for Islamic banks as suggested by Demsetz 1983. Second, we employ an alternative definition of concentration ownership. We consider a bank as concentrated if the largest controlling shareholders exceeding 50 percent instead of 20 percent. Results remain unchanged, which confirm the robustness of our analysis. Finally, we remove the top and bottom 1 percent of the sample to mitigate of outliers. The results remain similar to our initial findings in terms of directions and significance level, which confirm the robustness of our results.

5. Conclusion

The effect of ownership concentration on performance has been a central question in finance research. In this paper, we examine the relationship between ownership concentration and Islamic bank performance, with a special attention to the impact of the identity of the block investor on the above relationship. Family, institutional and government investors are the major shareholders that characterize the capital of Islamic banks

Using the sample of 53 Islamic financial institutions in 15 developed and developing countries, this paper investigates the ultimate owners of these banks and the effect of the various types of ownership on its performance.

The findings on this paper show, firstly, that concentrated equity ownership is a common feature in Islamic banks. The largest investor owns about 48.75% of bank capital. Since more than 70 percent equity is dominated by the top fifth shareholders we conclude that ownership of Islamic financial institutions is highly concentrated. Therefore, we are able to

provide some additional evidence that a very small portion of Islamic banks have a dispersed ownership structure.

Secondly, the study suggests that majority of the Islamic financial institutions in the sample are institutionally owned. Forty-one Islamic financial institutions out of fifty-three are institutional and seven are government owned, while the rest are family owned.

Regression results also revealed that performance, measured by ROA and ROE, was not related to ownership concentration as investigated in this paper. The absence of any impact of concentration ownership on Islamic banks performance reveals that ownership structure is considered as an endogenous variable and is consistent with the neutrality thesis advanced by Demestez (1983) and reported mainly by Demsetz and Lehn (1985), Holderness and Sheehan (1988), Himmelberg *et al.* (1999) and Demestz and Villalonga (2001).

In addition, our results suggest that family and state ownership positively affect bank's performance. They indicate also that banks with institutional and foreign shareholders are not performing than those who are government and family owned.

The findings of the study have important implications since they add to the literature on exploring the importance of the ownership structure (concentration and mix) relationship with the performance among the Islamic financial institutions.

References

- Abbas, Samsuwatd Zuha BT Mohd, Rahman, Rashidah Abdul and Mahenthiran, Sakthi. "Ultimate ownership structure and performance of Islamic institutions in Malaysia." FMA International First Asian Conference, 2009.
- Agrawal A. and Knoeber Ch.R. "Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders." *Journal of Financial and Quantitative Analysis*. 31. N°3 (1996) : 382.
- Al- Hassan.A, Khamis.M and Oulidi.N (2010): "The GCC banking sector: topography and analysis." Working paper." FMI 10/87. APRIL 2010.
- Anderson, R.C, Reeb, D.M. " Founding-family ownership and firm performance: evidence from the S&P500. " *Journal of Finance*. 58. (2003): 1301-1328.
- Ang, J.S. and Ding, D.K. "Government ownership and the performance of government linked companies: the case of Singapore." *Journal of Multinational Financial Management*. 16 (1). (2006): 64-88.
- Barth, J.R., Caprio, G., and Levine, R., "Banking Systems Around the Globe: Do Regulation and Ownership Affect Performance and Stability?" Mishkin, Frederic (ed.). *Prudential Regulation and Supervision: What Works and What Doesn't*, National Bureau of Economic Research, 2000
- Bashir Abdel-Hameed, M. "Islamic banks participation, concentration and profitability: evidence from MENA countries." Working Paper 0402. Prepared for the Six International Conference on Islamic Economics and Finance, October 2007
- Bashir, Abdel-Hameed. "Determinants of Profitability in Islamic banks: Some Evidence from the Middle East." *Islamic Economic Studies* . 11, No. 1(2003): 31-57.
- Bashir, Abdel-Hameed. "Assessing the Performance of Islamic Banks: Some Evidence from the Middle East." American Economic Association Annual Meeting, New Orleans, Louisiana, 2001
- Bashir, Abdel-Hameed, and Hassan, M. " Determinants of Islamic banks profitability." ERF paper 10 th Conference, 2004
- Becht, M and Röell, A. "Block holdings in Europe: An International Comparison." *European Economic Review*. 43, No. 4-6 (1999): 1049-1056.
- Ben Naceur, S. " The determinants of the Tunisian banking industry profitability: Panel evidence 1980-2000." Papier présenté à la 11ème Conférence de l'Economic Research Forum (ERF),Marrakech, Novembre 2003
- Berger, A. N.; DeYoung, R.; Genay, H. & Udell, G. F. "Globalization of Financial Institutions: Evidence from Cross-Border Banking Performance." *Brookings Papers on Economic Activity*. 2(2000):23-158.
- Bhattacharya, Prasad S., Graham Michael A. " On institutional ownership and firm performance: A disaggregated view." *Journal of Multinational Financial Management*.19 issue 5 (2009): 370–394.
- Bonin, John P, Hasan, I and Wachtel, P."Bank performance, efficiency and ownership in transition countries." *Journal of Banking and Finance*. 29 (2004):pp31-53,
- Boudriga, A, Boulila, N. and Jellouli, S. "Banking supervision and non-performing loans: a cross-country analysis. *Journal of Financial Economic Policy*." 1. N°4 (2009): 286- 318.

- Claessens, S., Djankov, S., and Lang, L.H.P. "The separation of ownership and control in East Asian corporations." *Journal of Financial Economics* .58 (2009): 81–112.
- Claessens, Stijn, and Simeon Djankov. "Ownership Concentration and Corporate Performance in the Czech Republic." *Journal of Comparative Economics*. 27(3) (1999):498-513.
- Claessens, Stijn, Simeon Djankov, Joseph P.H. Fan, and Larry H.P. Lang. "Disentangling the Incentive and Entrenchment Effects of Large Shareholdings." *Journal of Finance* 57(6) (2002): 2741-2771.
- Classens, S, Djankov, S and Lang, L.H.P."The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*. 58 (2000): 81-112.
- Demestz H. "The Structure of Ownership and the Theory of the Firm." *Journal of Law and Economics*. 26 June (1983):357-390.
- Demsetz Harold and Lehn." The Structure of Corporate Ownership: Causes and Consequences. *Journal of political economy*. "93. no.6 (1985): 1155-1177.
- Demsetz, Harold and Villalonga, Bélen. "Ownership structure and corporate performance." *Journal of Corporate Finance*. 7 (2001): 209-233.
- Elyasiani, E. and Mehdian, S.M. "A Non-parametric Frontier Model for Foreign and Domestic Owned Banks Cost Structure." *International Journal of Finance*. 9. 1 (1997).
- Garton G. and Schmid A. "Universal Banking and the Performance of German Firms." *Journal of Financial Economics*. 58 (2000): 29-80.
- Ghosh, Shikhar. "Making Business Sense of the Internet," *Harvard Business Review*. 76. no.2 (1998): 126-135.
- Glancey, K. "Determinants of growth and profitability in small entrepreneurial firms". *International Journal of Entrepreneurial Behavior & Research*. 4 no.1 (1998): 18-27.
- Hassoune, A. "Islamic Banks Profitability in an Interest Rate Cycle." *International Journal of Islamic Financial Services*. 4. no.2 (2002)
- Hauer, D."Explaining Efficiency Differences Among Large German and Austrian Banks." *Applied Economic*.. 37. May (2005): 969–80.
- Himmelberg, C.P., Hubbard, R.G., Palia, D." Understanding the determinants of managerial ownership and the link between ownership and performance." *Journal of Financial Economics*. 53 (1999):353–384.
- Holderness C.G., Sheehan D.P." The role of majority shareholders in Publicly Held corporations." *Journal of Financial Economics* .20 (1998): 317-346.
- Hovey, Martin, Larry Li, and Tony Naughton. "The Relationship between Valuation and Ownership of Listed Firms in China." *Corporate Governance*. 11. no .2 (2003): 112-122.
- Imam Mahmood Osman and Malik Mahfuja. "Firm Performance and Corporate Governance through Ownership Structure: Evidence from Bangladesh Stock Market." *International Review of Business Research Papers*. 3 No.4 October (2007) 88-110.
- Jensen M., Meckling W. "Theory of the firm: managerial behavior, agency cost and ownership structure." *Journal of Financial Economics*. 3 (1976): 305–360.
- La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. "Corporate Ownership around the World." *Journal of Finance*,.54.no.2 (1999): 471-517.

- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. "Government ownership of banks." *Journal of Finance*, vol LVII, N°1, FEB 2002.
- Lang, L. H.P. and So, R.W., "Ownership structure and economic performance." Working Paper, 2002.
- Lang, Larry H P & Stulz, Rene M. "Tobin's Q, Corporate Diversification, and Firm Performance." *Journal of Political Economy*. University of Chicago Press. 102.no.6 (1994):pages 1248-80, December.
- Leech, D. and Leahy, J. "Ownership structure, control type classifications and the performance of large British companies." *The Economic Journal*. 101 No. 409 (1991): 1418-37.
- Lin, Xiaochi and Zhang, Yi. "Bank ownership reform and bank performance in China." *Journal of Banking & Finance* 33 (2009): 20–29.
- McMahon, Richard G.P. "Ownership structure, business growth and financial performance amongst SMEs." *Journal of Small Business and Enterprise Development*. 14 No. 3 (2007): 458-477.
- Morck, R., Shleifer, A. and Vishny, R.W. (1989), "Management ownership and market valuation: an empirical analysis." *Journal of Financial Economics*. 20 (1989): 293-315.
- Perry, P (1992): "Do banks gain or lose from inflation?" *Journal of Retail Banking*. 14 (1992): 25-30.
- Pound, J. "Proxy contests and efficiency of shareholder oversight." *Journal of Financial Economics*. 20 (1998):237-65.
- Razak, N.H.A., Ahmad, R. and Aliahmed, H. "Government Ownership and Performance: An Analysis of Listed Companies in Malaysia." 21st Australasian Finance and Banking Conference Paper, 2008.
- Sappington David E.M and Joseph E. Stiglitz. (1987): "Privatization, Information, and Incentives." *Journal of Policy Analysis and Management*. 6. no.4 (1987):567-582.
- Sarkar, J. and Sarkar, S. "Large shareholder activism in corporate governance in developing countries: evidence from India". *International Review of Finance*. (2000):161-194.
- Sarker, Md. Abdul Awwal. "Islamic banking in Bangladesh: performance, problems and prospects." *International Journal of Islamic Financial Services*. 1/ No.3 (1999): 15-36.
- Shleifer, A. "State versus Private Ownership." *Journal of Economic Perspectives*. 12 (1998): 133-150.
- Shleifer, A. and Vishny, R. "Large shareholders and corporate control." *Journal of Political Economy*. 94. No. 3 (1986): 461-88.
- Shleifer, A. and Vishny, R. "A survey of corporate governance." *The Journal of Finance* . 52 (1997):737-83.
- Sinkey, Joseph. F. and Mary B. Greenwalt. "Loan-Loss Experience and Risk-Taking Behavior at Large Commercial Banks." *Journal of Financial Services Research*. 5 (1991): 43-59.
- Smith, A.J. "Corporate ownership structure and performance, managerial ownership and the size effect." *Journal of Portfolio Management*. 16 (1996): 33-39.
- Smith, B. and Amoako-Adu. "Management succession and financial performance of family controlled firms." *Journal of Corporate Finance* 5 (1999): 341-368.

- Stulz, R., “ Managerial control of voting rights.” *Journal of Financial Economics*. 20 (1998): 25-59.
- Stulz, Rene, M. “Globalization of equity markets and the cost of capital.” NBER working paper, 1999
- Sufian Fadzlan, Habibullah Muzafar Shah. “ Does Foreign Banks Entry Fosters Bank Efficiency? Empirical Evidence from Malaysia.” *Engineering Economics*. 2010. 21. no.5 (2010): 464-474.
- Sufian, F. “Size and returns to scale of the Islamic banking industry in Malaysia: Foreign versus domestic banks.” *IJUM Journal of Economics and Management*. 14.no. 2 (2006).
- Sufian, Fadzlan. “Does foreign presence foster Islamic banks’ performance? Empirical evidence from Malaysia.” *Journal of Islamic Accounting and Business Research*.”1. No. 2(2010): 128-147.
- Thomsen, S. and Pedersen, T. “Ownership structure and economic performance in the largest European companies.” *Strategic Management Journal*. 21. June (2000): 689–705.
- Villalonga, B. and Amit, R.H. “How Do Family Ownership, Control and Management Affect Firm Value?” *Journal of Financial Economics*.80(2006): 385-417.
- Wu, S. and Cui, H. “Consequences of the concentrated ownership structure in Mainland China – evidence of Year 2000.” Working paper, City University of Hong Kong, Hong Kong, 2002.
- Xu, X. and Wang, Y. “Ownership structure, corporate governance, and corporate performance: the case of Chinese stock companies”, Working paper 1794. The World Bank, Washington, DC, 1997
- Zeitun, Rami.” Ownership structure corporate performance and failure: evidence from panel of emerging markets: the case of Jordan.” *Corporate Ownership & Control*.6, no. 4 Summer (2009).
- Zeitun, Rami and Tian, Gary Gang “Does ownership affect a firm’s performance and default risk in Jordan? *Corporate governance*. 7 N° 1(2007): 66-82.

Table 1: List of Sample Selection

Country	Number of banks
Bahrain	13
kuwait	8
Malaysia	7
United Arab Emirates	5
Arabie Saudia	3
Britain	3
Pakistan	3
Egypt	2
Yemen	2
Qatar	2
Indonesia	1
Swiss	1
Sudan	1
Tunisia	1
Turkey	1
	53

Table 2: Correlation Matrix

	C1	C3	C5	INST	GOV	FAM	FORG	CAR	LEV	SIZE	AGE	GDP	INFL	CRISIS
C1	1.00													
C3	0.86	1.00												
C5	0.76	0.98	1.00											
INST	0.17	0.09	0.06	1.00										
GOV	0.04	0.07	0.05	-0.69	1.00									
FAM	-0.29	-0.19	-0.13	-0.62	-0.13	1.00								
FORG	-0.45	-0.32	-0.21	-0.08	-0.04	0.15	1.00							
CAR	-0.21	-0.29	-0.29	0.12	-0.05	-0.11	0.16	1.00						
LEV	0.02	-0.02	-0.02	-0.11	0.20	-0.07	-0.23	0.25	1.00					
SIZE	0.03	0.09	0.09	-0.13	0.02	0.15	-0.18	-0.48	-0.26	1.00				
AGE	-0.02	0.08	0.09	-0.08	0.07	0.04	-0.09	-0.28	-0.01	0.26	1.00			
GDP	-0.03	0.00	-0.01	0.05	0.02	-0.09	0.09	0.07	-0.11	0.02	0.04	1.00		
INFL	-0.13	-0.04	0.00	-0.03	0.08	-0.05	0.13	-0.18	0.03	0.42	0.06	0.22	1.00	
CRISIS	0.00	-0.01	-0.02	-0.01	0.00	0.00	0.00	-0.15	0.06	0.15	-0.04	-0.40	0.21	1.00

Notes: Where C1: the percentage of shares held by the largest shareholders; C3: the percentage of the first three largest shareholders; C5: the percentage of the first five largest shareholders; FORG: dummy variable that takes the value of one if there is presence of foreign shareholders and zero otherwise; INST: Dummy variable which takes one if the largest owner is institutional and 0 otherwise; GOV: Dummy variable which takes one if the largest owner is the government and 0 otherwise ; FAM : Dummy variable which takes one if the largest owner is a family and 0 otherwise ; LEV: Total debts scaled by total asset; CAR : capital adequacy ratio which measures bank capitalization ; SIZE : The logarithm of total assets of the bank; AGE : the logarithm of age of bank from the date of incorporation; GDP : Gross Domestic Product Growth; INFL: Inflation rate; CRISIS: dummy variable which captures respectively the impact of 2008 crisis which takes one for 2008 and 2009 years and zero otherwise.

Table 3: Ownership Concentration Measures

	Mean	Min	SD	Max	p25	p50	p75
C1	48,71	3,21	30,18	100	25	37,2	73,68
C3	63,96	6,39	28,29	100	41,09	65,9	89,87
C5	69,76	6,52	27,90	100	47	80	98,87

Table 4: Distribution of Bank-Years by Ownership Share

Ownership share	C1	C3	C5
0-10%	2	1	1
10-20%	7	2	3
20-30%	9	3	1
30-40%	9	5	3
40-50%	5	6	5
≥50%	21	36	40
TOTAL	53	53	53

Table 5: Performance Measures and Control variables

Year		ROA	ROE	LEV	CAR	SIZE	AGE
2005	Mean	3.97	10.42	12.52	32.77	1.88E+07	12.20
	Median	2.34	10.29	0.52	23.25	1526400	6.5
	Min.	-25.78	-68.15	0.00	1.45	25961	0
	Max.	38.26	43.75	277.75	98.90	3.06E+08	45
	S.D.	8.88	18.68	53.72	24.67	5.32E+07	12.42
2006	Mean	3.51	10.89	15.79	33.15	2.03E+07	13.15
	Median	2.36	11.76	0.45	23.40	2599757	7.5
	Min.	-25.78	-50.81	0.00	-2.10	70347	0
	Max.	26.11	46.81	512.67	95.00	3.33E+08	46
	S.D.	7.39	16.33	79.69	24.28	5.68E+07	12.48
2007	Mean	3.15	11.89	11.35	29.40	2.68E+07	14.15
	Median	2.43	13.56	0.40	18.70	3690029	9.5
	Min.	-7.49	-27.86	0.00	5.30	100653	2
	Max.	15.29	39.03	306.87	99.00	3.73E+08	48
	S.D.	4.40	11.92	54.49	22.52	6.72E+07	12.47
2008	Mean	0.61	6.82	19.52	24.85	2.86E+07	15.15
	Median	1.50	10.11	0.57	17.00	4968381	9.5
	Min.	-36.71	-76.19	0.00	4.80	95026	2
	Max.	13.76	30.19	447.20	92.30	3.00E+08	48
	S.D.	7.40	18.84	87.15	18.55	6.37E+07	12.48
2009	Mean	-2.52	-6.12	25.90	24.05	4.09E+07	16.15
	Median	0.50	4.02	0.71	15.40	6414914	10.5
	Min.	-44.35	-168.09	0.01	5.10	74256	3
	Max.	12.70	28.71	577.55	90.10	3.42E+08	49
	S.D.	9.09	31.79	110.92	20.33	8.45E+07	12.48
	Mean	1,71	6,73	16,99	28,82	2,73E+07	14,16
	Median	1,49	10,07	0,54	18,3	3805500	9
	Min.	-44,35	-168,09	0	-2,1	25961	0
	Max.	38,25	46,81	577,55	99	3,73E+08	49
	S.D.	7,93	21,55	79,62	22,34	6,61E+07	12,45

Table 6: Measures Performance Based in Mix Ownership

		GOVERNMENT		FOREIGN		INSTUTIONAL		FAMILY	
		ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
Mean	0	1.4	5.8	2.3	8.0	3.7	11.2	1.5	6.5
median		1.3	9.7	1.2	9.9	2.5	13.1	1.4	9.8
MIN.		-44.4	-168.1	-22.9	-81.1	-9.9	-56.5	-44.4	-168.1
MAX.		38.3	46.8	27.2	46.8	23.2	43.7	38.3	46.8
S.D.		8.2	22.7	7.1	21.2	6.3	18.2	8.0	21.1
Mean	1	3.7	12.6	1.3	5.8	1.1	5.4	3.7	9.2
Median		2.4	13.5	1.6	10.1	1.1	9.7	4.0	12.8
MIN.		-9.9	-21.0	-44.4	-168.1	-44.4	-168.1	-7.5	-56.5
MAX.		23.2	28.6	38.3	41.7	38.3	46.8	16.8	43.7
S.D.		6.0	9.9	8.5	21.9	8.3	22.3	6.8	25.8

Table 7: Multiple Regressions for ROA Models

	M1			M2			M3		
	ROA	ROA	ROA	ROA	ROA	ROA	ROA	ROA	ROA
C1	-0.00507 (-0.51)	-0.0072 (-0.75)	-0.0011 (-0.11)						
C3				-0.0104 (-0.95)	-0.0137 (-1.40)	-0.007 (-0.63)			
C5							-0.0126 (-1.31)	-0.0172* (-1.89)	-0.010 (-1.03)
FORG	-1.104** (-2.03)	-0.967* (-1.75)	-0.681 (-1.21)	-0.998** (-1.98)	-0.846* (-1.79)	-0.695 (-1.42)	-1.049** (-2.40)	-0.965** (-2.24)	-0.727* (-1.66)
LEV	-0.002 (-0.45)	-0.002 (-0.36)	-0.0017 (-0.32)	-0.002 (-0.40)	-0.00098 (-0.17)	-0.0012 (-0.20)	-0.0016 (-0.32)	-0.00102 (-0.19)	-0.0008 (-0.16)
CAR	0.0209 (1.48)	0.0171 (1.24)	0.0163 (1.15)	0.0142 (0.95)	0.0101 (0.70)	0.0114 (0.77)	0.0108 (0.84)	0.00763 (0.59)	0.0077 (0.59)
SIZE	0.168 (1.38)	0.154 (1.28)	0.118 (0.89)	0.155 (1.25)	0.130 (1.15)	0.118 (0.92)	0.161 (1.47)	0.187* (1.69)	0.116 (0.98)
AGE	0.412 (1.06)	0.326 (0.88)	0.378 (0.95)	0.432 (1.15)	0.353 (1.03)	0.386 (1.04)	0.441 (1.33)	0.459 (1.44)	0.387 (1.15)
GDP	0.253*** (4.93)	0.259*** (4.97)	0.238*** (4.61)	0.240*** (4.69)	0.256*** (4.89)	0.232*** (4.48)	0.241*** (5.03)	0.245*** (5.04)	0.233*** (4.78)
INFL	0.0112 (0.26)	0.00367 (0.08)	0.0141 (0.33)	0.0122 (0.28)	-0.00047 (-0.01)	0.00826 (0.19)	0.0184 (0.47)	0.00830 (0.20)	0.0116 (0.30)
CRISIS	-0.941*** (-2.85)	-0.870** (-2.57)	-0.875*** (-2.64)	-0.974*** (-2.93)	-0.896*** (-2.59)	-0.909*** (-2.72)	-0.943*** (-3.07)	-0.901*** (-2.85)	-0.842*** (-2.71)
INST	-1.704*** (-3.35)			-1.609*** (-2.98)			-1.556*** (-3.21)		
GOV		1.008* (1.72)			1.041* (1.83)			1.001* (1.80)	
FAM			2.447*** (2.63)			2.201** (2.34)			2.020** (2.29)
constant	-1.361 (-0.53)	-2.310 (-0.95)	-2.330 (-0.87)	-0.667 (-0.27)	-1.305 (-0.61)	-1.708 (-0.70)	-0.569 (-0.26)	-1.978 (-0.93)	-1.348 (-0.61)
<i>N</i>	234	234	234	230	230	230	227	227	227
<i>Wald test</i> χ^2	69.3	55.08	57.64	64.61	55.54	57.14	73.83	62.60	61.05

Notes: Where C1: the percentage of shares held by the largest shareholders; C3: the percentage of the first three largest shareholders; C5: the percentage of the first five largest shareholders; FORG: dummy variable that takes the value of one if there is presence of foreign shareholders and zero otherwise; LEV: Total debts scaled by total asset; CAR: capital adequacy ratio which measures bank capitalization; SIZE: The logarithm of total assets of the bank; AGE: the logarithm of age of bank from the date of incorporation; GDP : Gross Domestic Product Growth; INFL: Inflation rate; CRISIS : dummy variable which captures respectively the impact of 2008 crisis which takes one for 2008 and 2009 years and zero otherwise; INST : Dummy variable which takes one if the largest owner is institutional and 0 otherwise ; GOV : Dummy variable which takes one if the largest owner is the government and 0 otherwise ; FAM : Dummy variable which takes one if the largest owner is a family and 0 otherwise. Notes: Significance at: *10, **5 and ***1 percent levels, respectively; values in parentheses are t-statistics. Estimations were performed using generalized least squares (GLS).

Table 8: Multiple Regressions for ROE Models

	ROE	M1 ROE	ROE	ROE	M2 ROE	ROE	ROE	M3 ROE	ROE
C1	0.005 (0.13)	0.0061 (0.18)	0.010 (0.25)						
C3				-0.039 (-1.17)	-0.030 (-1.27)	-0.035 (-1.07)			
C5							-0.042 (-1.54)	-0.0398 (-1.37)	-0.0401 (-1.43)
FORG	-2.214 (-1.02)	-1.886 (-0.93)	-1.890 (-0.83)	-2.266 (-1.26)	-2.007 (-1.60)	-2.155 (-1.22)	-2.244 (-1.35)	-1.979 (-1.14)	-2.037 (-1.22)
LEV	-0.0084 (-0.48)	-0.00563 (-0.33)	-0.007 (-0.39)	-0.0063 (-0.34)	0.0082 (0.65)	-0.0009 (-0.05)	-0.0053 (-0.29)	-0.0057 (-0.31)	-0.00249 (-0.14)
CAR	-0.050 (-1.11)	-0.047 (-1.10)	-0.0504 (-1.13)	-0.0761* (-1.85)	-0.0915** (-2.52)	-0.0791** (-1.99)	-0.0462 (-1.53)	-0.0407 (-1.34)	-0.0518* (-1.70)
SIZE	0.706* (1.76)	0.670* (1.75)	0.700 (1.63)	0.758** (1.99)	0.530** (2.01)	0.689* (1.80)	1.128*** (2.84)	1.178*** (2.77)	1.159*** (2.78)
AGE	2.853** (2.02)	2.528** (1.97)	3.056** (2.14)	2.702** (2.05)	2.244** (2.47)	2.823** (2.26)	2.858** (2.51)	2.734** (2.32)	2.870** (2.53)
GDP	0.932*** (5.12)	0.980*** (5.50)	0.94*** (5.25)	0.953*** (5.40)	1.008*** (6.29)	0.969*** (5.55)	1.081*** (6.86)	1.124*** (7.13)	1.065*** (6.85)
INFL	0.209* (1.88)	0.212* (1.84)	0.213* (1.75)	0.191* (1.79)	0.225** (2.14)	0.206* (1.80)	0.181 (1.51)	0.170 (1.38)	0.201 (1.59)
CRISIS	-4.561*** (-4.12)	-4.555*** (-4.11)	-4.02*** (-3.49)	-4.570*** (-4.27)	-6.574*** (-7.28)	-4.444*** (-4.01)	-3.479*** (-3.39)	-3.162*** (-3.05)	-3.446*** (-3.27)
INST	-6.016*** (-3.18)			-6.230*** (-3.36)			-6.377*** (-3.46)		
GOV		5.477*** (2.68)			5.177*** (3.42)			5.291** (2.31)	
FAM			5.301 (1.59)			4.799 (1.55)			5.372* (1.72)
constant	-6.480 (-0.76)	-11.49 (-1.43)	-12.82 (-1.44)	-3.457 (-0.47)	-4.731 (-0.86)	-8.649 (-1.19)	-10.69 (-1.59)	-17.89*** (-2.62)	-16.97** (-2.52)
<i>N</i>	234	234	234	230	230	230	227	227	227
<i>Wald test</i> χ^2	120.37	139.83	108.48	142.26	158.79	137.69	220.61	201.62	205.25

Notes: Where C1: the percentage of shares held by the largest shareholders; C3: the percentage of the first three largest shareholders; C5: the percentage of the first five largest shareholders; FORG: dummy variable that takes the value of one if there is presence of foreign shareholders and zero otherwise; INST: Dummy variable which takes one if the largest owner is institutional and 0 otherwise; GOV: Dummy variable which takes one if the largest owner is the government and 0 otherwise ; FAM : Dummy variable which takes one if the largest owner is a family and 0 otherwise ; LEV: Total debts scaled by total asset; CAR : capital adequacy ratio which measures bank capitalization ; SIZE : The logarithm of total assets of the bank; AGE : the logarithm of the age of a bank from the date of incorporation; GDP : Gross Domestic Product Growth; INFL: Inflation rate; CRISIS : dummy variable which captures respectively the impact of 2008 crisis which takes one for 2008 and 2009 years and zero otherwise. Notes: Significance at: *10, **5 and ***1 percent levels, respectively; values in parentheses are t-statistics. Estimations were performed using generalized least squares (GLS).

Table 9: Robustness Tests (Herfindhal Index and Concentration Dummy Variable)

	ROA	M1 ROA	ROA	ROA	M2 ROA	ROA	ROE	M1 ROE	ROE	ROE	M2 ROE	ROE
CONC	-0.0454 (-0.05)	-0.134 (-0.16)	0.685 (0.66)				-1.018 (-0.35)	-0.870 (-0.34)	0.271 (0.09)			
HERF				-0.000053 (-0.62)	-0.00082 (-0.94)	-0.00002 (-0.25)				-0.000050 (-0.15)	-0.000045 (-0.15)	-0.0000 (-0.03)
FORG	-0.979* (-1.96)	-0.729 (-1.61)	-0.781 (-1.62)	-1.079** (-2.04)	-0.956* (-1.79)	-0.670 (-1.24)	-2.219 (-1.22)	-2.013 (-1.18)	-2.038 (-1.04)	-2.545 (-1.22)	-2.209 (-1.16)	-2.288 (-1.05)
LEV	-0.002 (-0.51)	-0.001 (-0.21)	-0.001 (-0.33)	-0.002 (-0.49)	-0.00227 (-0.41)	-0.001 (-0.33)	-0.008 (-0.44)	-0.00511 (-0.30)	-0.0086 (-0.46)	-0.008 (-0.47)	-0.00498 (-0.30)	-0.0062 (-0.34)
CAR	0.0261 (1.59)	0.0207 (1.33)	0.0242 (1.46)	0.0201 (1.44)	0.0163 (1.19)	0.0155 (1.12)	-0.0640 (-1.39)	-0.0566 (-1.34)	-0.0599 (-1.28)	-0.0475 (-1.11)	-0.0489 (-1.22)	-0.0474 (-1.14)
SIZE	0.172 (1.33)	0.119 (0.94)	0.119 (0.87)	0.164 (1.34)	0.157 (1.30)	0.114 (0.87)	0.725* (1.75)	0.707* (1.77)	0.691 (1.52)	0.743* (1.88)	0.672* (1.83)	0.739* (1.78)
AGE	0.544 (1.42)	0.413 (1.20)	0.531 (1.41)	0.397 (1.04)	0.332 (0.91)	0.345 (0.89)	2.720* (1.94)	2.449* (1.91)	2.908** (1.99)	2.685* (1.93)	2.388* (1.90)	2.909** (2.07)
GDP	0.249*** (4.75)	0.263*** (4.83)	0.230*** (4.32)	0.254*** (4.95)	0.259*** (4.96)	0.239*** (4.63)	0.944*** (4.96)	0.997*** (5.37)	0.918*** (4.86)	0.956*** (5.36)	0.999*** (5.74)	0.972*** (5.54)
INFL	0.0201 (0.47)	0.00985 (0.21)	0.0145 (0.34)	0.00819 (0.19)	-0.00120 (-0.03)	0.0120 (0.28)	0.205* (1.85)	0.206* (1.78)	0.211* (1.70)	0.206* (1.87)	0.213* (1.91)	0.214* (1.79)
CRISIS	-0.966*** (-2.89)	-0.892** (-2.55)	-0.880*** (-2.61)	-0.902*** (-2.71)	-0.822** (-2.39)	-0.860** (-2.57)	-4.486*** (-4.03)	-4.483*** (-4.01)	-3.964*** (-3.38)	-4.578*** (-4.20)	-4.703*** (-4.35)	-4.12*** (-3.65)
INST	-1.622*** (-2.96)			-1.688*** (-3.28)			-5.932*** (-3.15)			-6.119*** (-3.25)		
GOV		1.051* (1.93)			0.974 (1.63)			5.680*** (2.71)			5.572*** (2.77)	
FAM			2.734** (2.41)			2.419*** (2.62)			4.770 (1.47)			5.273 (1.59)
constant	-2.291 (-0.89)	-2.523 (-1.09)	-3.524 (-1.35)	-1.333 (-0.53)	-2.402 (-1.02)	-2.144 (-0.83)	-5.268 (-0.68)	-10.70 (-1.46)	-11.69 (-1.38)	-6.105 (-0.74)	-10.56 (-1.37)	-12.57 (-1.48)
<i>N</i>	234	234	234	234	234	234	234	234	234	234	234	234
<i>Wald test χ^2</i>	66,12	57,98	57,19	67,05	52,67	56,80	111,51	133,16	95, 08	135,59	158,53	125,30

Where CONC: a dummy variable which takes the value of 1 if the ultimate owners, as the largest controlling shareholders, exceed 20 percent in the bank; HERF: the Herfindahl index of ownership concentration which represents the sum of squared percentage of shares controlled by each top five shareholders; FORG: dummy variable that takes the value of one if there is a presence of foreign shareholders and zero otherwise; LEV: Total debts scaled by total asset; GOV: Dummy variable which takes one if the largest owner is the government and 0 otherwise ; FAM : Dummy variable which takes one if the largest owner is a family and 0 otherwise CAR : capital adequacy ratio which measures bank capitalization ; SIZE : The logarithm of total assets of the bank; AGE : the logarithm of the age of the bank from the date of incorporation; GDP : Gross Domestic Product Growth; INFL: Inflation rate; CRISIS : dummy variable which captures respectively the impact of the 2008 crisis which takes one for the years 2008 and 2009 and zero otherwise; INST : Dummy variable which takes one if the largest owner is institutional and 0 otherwise.

Notes: Significance at: *10, **5 and ***1 percent levels, respectively; values in parentheses are t-statistics. Estimations were performed using generalized least squares (GLS).

