OWNERSHIP STRUCTURE AND BANK PERFORMANCE: EVIDENCE FROM THE MIDDLE EAST AND NORTH AFRICA

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Abstract

This paper makes a strong contribution to business literature by investigating the effects of organizational form and ownership structure on firm performance. The paper traces the ownership details of 249 banks in 20 Middle Eastern and North African countries (MENA), with a total of 567 observations during the sample years of 2000-2002. The results reveal that private banks, especially banks with substantial foreign private ownership, perform significantly better than all other sample bank groups. Government banks have the weakest performance and substantially lag behind other sample bank groups. Banks involved in the stock exchanges and banks with foreign ownership within the MENA region perform well in most estimations. Importantly, the evidence shows that the extent of the overall presence of foreign banks in a given country is associated with better performance of individual banks. An additional robustness check shows that findings are strong and consistent even after adjusting for time and country differences among the sample banks. In summary, the findings of this paper highlight a sector of the MENA economy rarely investigated in such detail in the past despite its tremendous importance in the development process. It also reveals that the combined effort of domestic and foreign investors is beneficial to firm performance and growth.

ملخص

يقدم هذا البحث مساهمة قوية في مراجع إدارة الأعمال حيث يتقصي تأثير الشكل التنظيمي وهيكل الملكيـة علـى أداء المؤسسات، حيث يتتبع البحث تفاصيل الملكية الخاصة بـ 249 مصرفا فى 20 دولة في منطقة الشرق الأوسط وشمال إفريقيا (MENA) بإجمالي 567 عملية مراقبة خلال سنوات العينة 2000-2002. تُظهر النتائج أن أداء المـصارف الخاصة - على الأخص تلك ذات ملكية أجنبية بصورة كبيرة- أفضل بشكل ملحوظ عن كافة مجموعـات المـصارف الأخرى ضمن العينة. أما بالنسبة لأداء المصارف الحكومية فهو الأضـعف، حيـث تتخلـف بدرجـة كبيـرة وراء المجموعات الأخرى للمصارف ضمن العينة. و قد ظهر أن المصارف المـشتركة فـي أسـواق الأوراق الماليـة و المصارف ذات الملكية الأجنبية منشأة ضمن منطقة الشرق الأوسط وشمال إفريقيا (MENA) لها تأثير إيجابي فعـال على الأداء بالنسبة لمعظم التقديرات. و من الجدير بالذكر أن الدليل يوضح أن مدى التواجد الكلي للمصارف الأجنبيـة في أى دولة يرتبط بأداء أفضل للمصارف الفردية، حيث يظهر بحثا إضافيا عن القوة أن نتائج البحث صحيحة ومتسقة حتى بعد تعديل فروق الوقت والدول بين المصارف ضمن عينة البحث.باختصار يمكننا القول بأن نتائج هـذا البحـث تعمل على إلقاء الضوء على قطاع من اقتصاد منطقة الشرق الأوسط وشمال إفريقيا (MENA) نادرا ما تم بحثه بهذا التفصيل في الماضي على الرغم من أهميته الكبيرة في عملية التطوير، كما تظهرهذه الدراسة أن الجهـود المـشتركة للمستثمرين المحليين والأجانب ذات فائدة للوصول إلى أداء ونمو ثابت.

1. Introduction and Motivation

The importance of restructuring and privatizing the financial sector has received renewed attention in the ongoing effort to revitalize developing economies (World Bank, 1996; Sachs, 1997; Scholtens, 2000). A growing research literature has underscored the importance of banking and the financial sector to economic growth. Several studies found a positive relationship between financial sector development and levels of income and growth (Levine, 1997; Khan & Senhadji, 2000). Further time series evidence suggests that the causality runs from finance to growth (Neusser and Kugler, 1998; Rousseau and Wacthel, 1998, 2000; Calderon & Liu 2003).

While the restructuring initiatives in the Middle East and North Africa are not as vibrant as those taking place in Eastern Europe and parts of Asia, nevertheless several MENA countries are witnessing new eras in privatization, bank regulation, market-oriented financial institutions and entries of privately owned banks of different organizational structure (Omran, 2004). Within the region, countries that have been most successful in privatizing their banking institutions have also been involved in opening up their markets to foreign participants. For example, Lebanon took the lead in the late 1960s in welcoming foreign banks. Later, similar approaches were taken by Bahrain and Jordan. Within a short period of time, the foreign banking sectors in these countries became a dominant force in the financial service industry as well as in the economy. These latest developments in terms of privatization and foreign entry underscore the need to examine their bearing on bank performance in the MENA region.

The aim of this paper is therefore two-fold. First it aims to fill a gap in the banking literature by focusing on the banking sector in the MENA region. Financial researchers have paid little attention to MENA countries despite the growing role of banks and the current changes that are taking place in that region. In fact, a recent paper documenting studies on bank performance in various countries of the world excluded all countries in the region except for Turkey (Berger and Humphrey, 1997). Among the few papers that did examine the performance of banks in MENA countries, the majority spotlighted one country or lacked comparative or regional analysis (El-khawaga & El Antari, 1996; Hakim & Saad, 1997; Khababa & Abdulkader, 1997; Isik and Hassan, 2003).

The second aim of this paper is to gain an insight and understanding of a significant determinant mostly associated with firm performance, namely ownership structure (Gedajlovic and Shapiro, 2002; Thomsen and Pedersen, 2000; Stijin and Simeon, 1999; Lauterbach and Vaninsky, 1999). Ownership structure can be defined by looking at two attributes: concentration and identity of the owner(s) (Gursoy and Aydogan, 2002). The choice of ownership—foreign, local, public, private, state, etc.—is important in the context of non-bank firms but becomes crucial in the context of a bank (Boubakri, et al., 2005) and is an essential element for the development of a healthy banking system in developing countries (Lang & So, 2002). Changes in ownership structure without a supporting regulatory and supervisory body in place is likely to lead to a banking crisis (Boubakri, et al.).

Although bank ownership structure and its impact on performance is an important concern, only a handful of research initiatives have specifically focused on MENA countries and most of those have looked only or primarily at Turkey (Isik and Hassan, 2003). Most of the available studies on the ownership-performance relationship have concentrated on developed countries**,** or on a single market, mainly the United States (Lang & So, 2002). Authors have cautioned that evidence from other developed countries are not transferable to developing countries because of the absence of a well-defined market for corporate control and weak property rights (De, 2003), and evidence from the United States cannot be comprehensive due to the lack of state-owned banks in the country (Altunbas et al., 2001). Thus this paper will fill a gap by examining ownership-performance relationship within the MENA region.

Interestingly, while most of the MENA countries have been following the similar goals of decreasing intervention, improving the efficiency of their monetary policies and opening their banks to more competition, their ensuing financial and monetary performances have varied from country to country (MENA trend report 2002).[1] This paper will therefore shed some light on the impact of ownership structure in determining the variability of bank performance in MENA countries.

2. Banks' Form, Ownership Structure and Performance

As suggested earlier, there has been a paucity of research exploring bank ownership structure in the MENA region. Available research that examined the overall financial sector (Abdelali et al., 1997; Nashashibi et al., 2001; Creane et al. 2004; ERF, 2002), noted substantial variations in the degree of financial development among MENA countries. In most countries, state banks still dominate, entry of new banks is difficult and a few large local banks control most of the banking assets. The financial markets in the region continue to lag far behind Asia and Latin America. In more than half of the countries the banking sector is highly concentrated, with assets of the three largest banks accounting for over 65 percent of total commercial bank assets. Finally, of the world's 500 largest banks in terms of capital, only 26 are Arab banks.

Although the overall condition of the current banking sectors in MENA countries is not optimal, there are positive steps being taken. Governments in the region are continuing their efforts to promote financial reform, privatize state banks and give commercial banks greater freedom to expand their activities. While these are worthy efforts, more work is still needed at the governmental and academic level. Therefore, as a step in that direction, it is hoped that the findings of this paper will offer a new insight about the financial environment in the MENA region. The paper will examine aspects of state, private and foreign ownerships and the impact of ownership on bank performance.

2.2. State Ownership

Following the 2002 World Development Report, Boubakri et al. suggested three arguments in favor of state over private ownership of banks. They averred that private banks are more prone to crisis, that excessive private ownership may limit access to credit for many sectors of society and finally that the government is more fitted to allocate capital to certain areas of investment (Boubakri et al., 2005). Two additional theories have also been advanced for government participation in the financial market, namely, the development view and the political view. The development view suggests that in some countries where the economic institutions are not well developed, government ownership of strategic economic sectors such as banks is needed to jumpstart both financial and economic development and foster growth. The political view suggests that governments acquire control of enterprises and banks in order to provide employment and benefit to supporters in return for votes, contributions and bribes. This approach is more common in countries with underdeveloped financial systems and poorly developed property rights. Under the development view, the government finances projects that are socially desirable. In both views, the government finances projects that would not get privately financed (La Porta, et al., 2002).

While such arguments have some validity, recent evidence points to the costs of government ownership of banks, suggesting that state ownership has a depressing impact on overall growth (La Porta, et al., 2002**)**. There is a strong negative correlation between the share of sector assets in state banks and a country's per capita income level. Greater state ownership

[1] Economic Trends in the MENA Region, 2002. The Economic Research Forum for the Arab Countries Iran and Turkey. The America University in Cairo Press. Cairo – New York.

of banks tends to be associated with lower bank efficiency, less saving and borrowing, lower productivity and slower growth (Barth, et al., 2000). Even government residual ownership is likely to have an effect on performance (Boubakri, et al., 2005; Littlechild, 1981). The majority of research indicates that private ownership of banks is associated with superior economic performance (Lang and So, 2002; Cornett, et al., 2000; Creane, et al., 2004).

Theoretically this is consistent with the agency relationship hypothesized by Jensen and Meckling (1976). State ownership is deemed inefficient due to the lack of capital market monitoring, which, according to the Agency theory, would tempt managers to pursue their own interest at the expense of the enterprise. Managers of private banks will have greater intensity of environmental pressure and capital market monitoring punishing inefficiencies and making privately owned firms economically more efficient (Lang and So, 2002).

Based on above findings with regard to private and state banks, and considering that state banks still dominate in most MENA countries with high government intervention in credit allocation, losses and liquidity problems and wide interest rate spreads (Creane, et al., 2004), it is expected that state banks will be found to have inferior performance levels compared to private banks. Or stated otherwise:

Hypothesis 1: Private (both domestic and foreign) banks perform better than the state- or government-owned banks.

2.2. Foreign Ownership

Evidence gathered from many countries indicates that foreign banks are, on average, less efficient than domestic banks (DeYoung and Nolle, 1996; Hasan and Hunter, 1996; Mahajan et al., 1996; Chang et al., 1998). A more recent cross-border empirical analysis of France, Germany, Spain, the United Kingdom and the United States found that domestic banks have both higher cost efficiency and profit efficiency than foreign banks (Berger et al., 2000). It is important to note however, that similar to other banking research, most of the literature has focused primarily on developed countries, particularly the United States (Clarke et al., 2003). Studies that have not used the United States as the host nation in the analysis have found that foreign banks have almost the same average efficiency as domestic banks (Vander, 1996; Hasan and Lozano-Vivas, 1998). Also, studies that compare industrialized and developing countries have found that while foreign banks have lower interest margins, overhead expenses and profitability than domestic banks in industrialized countries, the opposite is true in developing countries (Claessens, et al., 2000; Demirgüç-Kunt and Huizinga, 1999). Claessens et al. (2000) reported that in many developing countries (for example Egypt, Indonesia, Argentina and Venezuela) foreign banks actually report significantly higher net interest margins than domestic banks and in Asia and in Latin America foreign banks achieve significantly higher net profitability than domestic banks.

There have been different lines of reasoning put forward for the relatively lower performance of foreign banks compared with domestic in industrialized countries. These include the different market, competitive and regulatory conditions between industrialized and developing countries (Claessens et al., 2000); home field advantage of domestic banks (Clarke et al., 2001); and, for within the United States, valuing growth above profitability (DeYoung & Nolle, 1996). Within developing countries, the reasoning suggested for the improved performance of foreign over domestic banks includes exemption from credit allocation regulation and other restrictions, market inefficiencies and domestic use of outmoded banking practices that allow foreign banks to outperform them (Claessens, Demirgüç-Kunt and Huizinga, 2000). Considering that MENA countries are more likely to have characteristics similar to developing countries, it would be expected that the performance of their banking sector echo would those of developing countries as well. Therefore,

Hypothesis 2: Private Foreign banks perform better than Private Domestic banks (as well as Government Banks).

Continuing with the theme of foreign ownership, further research suggests that cultural connections might also affect the ability of foreign banks to take full advantage of local opportunities (Clarke, et al., 2001). Most sources agree that the more similar the cultural backgrounds of those involved in the interaction process, the greater the likelihood of achieving market closeness (Ford, 1989). Cultural affinity is an important determinant of a firm's ability to estimate the needs and requirements of various stakeholders (Holden and Burgess, 1994). It may even be the catalyst in the interaction process. While trust and experience are only gained (or lost) through interaction, cultural affinity can be influential before interaction even begins (Swift, 1999).

Therefore, it is safe to suggest that foreign banks headquartered in distant countries with a very different market environment, language, culture and supervisory/regulatory structure could be at higher disadvantages from those located within the MENA region. Analyzing lending practices between foreign-owned banks in Argentina that are headquartered within the South American region versus those located outside the region Berger, Klapper and Udell (2000) find that foreign-owned banks headquartered within the South American region are more likely to lend to some classes of Argentine small businesses than foreign banks headquartered outside the region. The assumption is that similar culture and language would offer advantages to South American banks over institutions from other places (Clarke et al., 2001). These finding suggest that of any specific advantages foreign banks are likely to have over domestic banks, such advantages are likely to be greater for foreign banks headquartered within the MENA region. This could be attributed to shorter distances from the home-country and similarity in language and culture. In fact the impact of these factors have also been observed in other financial phenomena as well, and have been used to explain home bias effect of investors who tend to be averse to including foreign stocks in their portfolio (Grinblatt and Keloharju, 2001). Thus, within the MENA region we would expect that:

Hypothesis 3: Foreign banks from the MENA region perform better than foreign banks outside of the MENA region.

Finally, further research suggests that the extent and concentration of foreign banks will also have an impact on performance. Boubakri et al. (2005) suggest a significant effect of the type and concentration of ownership on economic efficiency. The authors found that the higher the concentration by local shareholders, the higher the net interest margin, thus the lower the bank's contribution to economic efficiency. On the other hand, the higher the concentration by foreign shareholders, the lower the net interest margin and thus the higher the contribution to economic efficiency. Hasan and Marton (2003) reported that the higher presence of foreign banks have created a more competitive environment and impacted the overall performance of all banks in Hungary, thus enhancing the profit efficiency of all banks.

A recent study points out that for most countries a larger foreign ownership share of banks is associated with a reduction in the profitability and margins of domestically-owned banks. The same study also found that the number of entrants is more important than their market share. The authors pointed that this indicates that the impact of foreign bank entry on local bank competition is felt immediately upon entry rather than after they have gained substantial market share (Claessens et al., 2000). Based on the above finding we would expect that:

Hypothesis 4: The extent of the presence of private foreign banks in a given MENA country has a positive impact on the overall bank performance.

Traded Bank

Both finance and management literature offer evidence to suggest that ownership and corporate decisions are related (Rozeff, 1982; Kim and Sorensen, 1986) and that individuals'

vested interest and firm performance are highly correlated (Green and Berry, 1985; Rich and Larson, 1984; Rosen et al., 1986; Rosen and Quarrey, 1987; Oswald and Jahera, 1991).

Agency theory suggests that managers acting as an agent for owners tend to pursue strategies that meet their own goals rather than those of the owners (Jensen and Meckling, 1976). Unless monitored and constrained by owners, manager-controlled firms are more likely to engage in decisions that have the potential to shift wealth from owners to managers. Such suboptimal decisions lead to costs that could adversely affect the overall performance of the company (Oswald and Jahera, 1991). Generally speaking, organizations that prevail in a given industry are the ones able to minimize agency costs stemming from lost revenues generated from the conflicting interests and incentives of various stakeholder groups, most notably the manager (Cummins et al., 2004).

Based on this notion of managerial opportunism, ownership and control, several opinions have been advanced about efficient and profitable ownership structure. The conventional wisdom is that stock organizations are more likely to outperform other types of organizations such as mutual organizations (Valnek, 1999). The former is considered to be more effective than the latter because it has greater access to capital, provides superior mechanisms for owners to monitor and control managers (Cummins et al., 2004), can concentrate ownership and has a greater ability to handle risk and benefit from higher return (Fama and Jensen, 1983a, 1983b). Unlike stock institutions, the mutual form of organizations does not have direct monitoring or profit making pressure from stockholders (owners). Therefore their managers may have different goals and strategies (Hasan and Lozano-Vivas, 1998) and a higher likelihood of agency problems (Mester, 1991).

With regards to state-owned firms, Parker and Hartley (1991) noted that we would expect efficiency to increase as we move toward stock corporations since such corporations were precisely selected to limit political intervention, introduce commercial goals and provide incentives for managerial efficiencies. State-owned organizations with direct political control are less efficient since they are more likely to be managed with a view to meeting political and social goals. Finally, with regards to private banks, recent papers found little evidence that they are more efficient than banks with a stock ownership structure (Altunbas et al., 2001). In fact recent studies by Mester (1989, 1993) reported that stock banks have slight cost and profit advantage over their private counterparts (Lang and So, 2002). Based on above findings we would expect that in the MENA region:

Hypothesis 5: Private traded banks listed in the stock exchanges perform better than the non-traded banks.

Group Bank

Group banks are related in ownership structure to private banks. As opposed to independent banks, certain banks in the MENA region are affiliated with a wider network of banks. Studies have suggested that such group structure is valuable especially in developing countries as it enables businesses to overcome market imperfections commonly found in the developing world. It also helps to reduce transaction costs and increase market performance by utilizing economies of scale and scope (Chang and Choi, 1988). Hoshi et al. (1991) have further argued that a group structure is superior as it is likely to mitigate information problems. By placing their employees in key managerial positions of associated firms, group banks are able to ease the flow of information between the bank and their client firms. Within the MENA region we would expect that:

Hypothesis 6: Banks linked to or associated with a banking group or corporation perform better than banks not associated with such groups.

3. Data and Methodology

Bank financial statements for the time period of 2000-2002 will be taken from the Thompson's BankScope data base. This period is chosen based on the availability of a broader coverage of accurate ownership information. The ownership structure data is taken primarily from the Bankscope 2001 June listings where banks are listed by name, country of origin and percentage ownership stake in some cases. In certain cases, I have collected additional information from particular banks' websites. I choose the years 2000-2002 assuming that these are the years that are within a comfortable vicinity of the ownership data. The data started with 253 banks with 608 bank observations with detailed available ownership information in 22 MENA countries. Later, a number of bank observations were deleted due to inconsistent information or lack of information on all relevant variables used in this paper. A total of 41 bank observations were eliminated. The final sample is based on 249 banks with 567 bank observations over the sample years. Our sample banks are limited to commercial banks. Central banks, development banks, investment banks, export-import banks and cooperative banks are excluded from the sample.

Ownership concentration is divided into three mutually exclusive and collectively exhaustive categories: majority foreign, majority domestic and majority state or government ownership. The foreign and domestic groups combined are called the private banking group in a given country. The definition of "majority" is defined when the bank has at least 50% of ownership of a given category. In five cases, there was no clear majority of ownership, I have designated them to the group with the highest ownership in order to create mutually exclusive distinct groups within the foreign, domestic and government banks. Additionally, in order to operationalize hypothesis 3, I developed a sub-group within the majority foreign banks, called "MENA Foreign Group," to identify foreign-owned banks that come from within the MENA region.

In defining bank performance, we depend on several popular measures of bank performance. The most common use of performance variables are the return on assets (ROA) and return on equity (ROE) (Claessens et al., 2000; Demirgüç-Kunt and Huizinga, 1999; Mahajan et al., 1996). In recent years, a number of papers used X-efficiency as a performance measure employing a stochastic frontier approach (SFA) to estimate performance (DeYoung and Nolle, 1996; Hasan and Marton, 2003; Miller and Parkhe, 2002).[2] This paper also estimates profit efficiency scores as an alternative performance variable. First, I report extensive univariate or descriptive statistics to investigate the validity or support of the hypotheses outlined above. Later, I employ a series of OLS regressions to further verify the support (or lack thereof) for my hypotheses. To do so, I focus on the correlations between the organizational structure variables with different measures of firm performance while controlling for other relevant variables such as banks' portfolio positions, management practices and risk.

Regression Model(s)

$$\text{Performance (ROA, ROE, and Profit X-Efficiency)}_i = a_0 + a_1 \text{PRIVATE}_i + a_2 \text{CONTROL Variables} + e_i \quad (1)$$

The equation above is primarily focused on hypothesis 1. As the private banks consist of foreign-owned private banks and domestic-owned private banks, I employ two separate organizational structure variables, FOREIGN and GOVERNMENT (given FOREIGN,

[2] The econometric, or "stochastic," frontier approach was introduced by Aigner, Lovell and Schmidt (1977), and was made tractable by Jondrow, Lovell, Materov and Schmidt (1982). Bauer (1990) offers an overview of these methods. For an extensive review of the banking literature on efficiency, see Berger, Hunter and Timme (1993), Berger and Humphrey (1997), Kumbhakar and Lovell (2000) and Miller and Parkhe (2002).

DOMESTIC and GOVERNMENT are mutually exclusive variables and constitute the entire sample, the intercept term would capture the omitted variables whereas the other coefficients of the other two variables are likely to provide a relative comparisons with the omitted variable. In this case, the omitted variable is DOMESTIC and the variables used explicitly are FOREIGN and GOVERNMENT. This new equation 2 is focused on hypothesis 2.

$$= b_0 + b_1 FOREIGN_i + b_2\, GOVERNMENT + b_3 LASSET_i + b_4 LOANR_i + b_5 DEPOSITR_i + b_6 NINTEXPR_i + b_7 LLPR_i + e_i \quad (2)$$

Then, I add additional organizational characteristics such as banks involved in the stock exchange (STOCK) or banks associated with a banking group or consortium (GROUP) in our estimate. I also attempt to portray the extent of foreign presence in a given country by estimating a macro variable that traces the overall share of foreign banks in a given country for a given year (FSHARE). This estimation can simultaneously verify hypotheses 1, 2, 4, 5 and 6.

$$= c_0 + c_1 FOREIGN_i + c_2\, GOVERNMENT + c_3\, STOCK_i + c_4 GROUP_i + c_5 FSHARE_i + c_6 LASSET_i + c_7 LOANR_i + c_8 DEPOSITR_i + c_9 NINTEXPR_i + c_{10} LLPR_i + e_i \quad (3)$$

In order to see whether a sub-sample of foreign banks with over 50 percent of the ownership is within the banks and companies of MENA region (hypothesis 3), I need to estimate the above regression within the sub-sample of foreign banks.[3]

$$= d_0 + d_1 FOREIGN_i + d_2\, GOVERNMENT + d_3\, STOCK_i + d_4 GROUP_i + d_5 FSHARE_i + d_6 MENAFOR + d_7 LASSET_i + d_8 LOANR_i + d_9 DEPOSITR_i + d_{10} NINTEXPR_i + d_{11} LLPR_i + e_i \quad (4)$$

These four models are re-estimated after adjusting for the different year and different country associated with the sample, time effect and country effect i.e., by adding year dummy and country dummy variables in models 1-4.

Performance $_i$ = Return on Assets, Return on Equity and Profit X-Efficiency scores, (Dependent Variables). ROA=Net income to Assets ratio whereas ROE=Net income to equity ratio. X-Effciency score captures the efficiency scores of banks calculated from a relative score of a best practiced bank within the sample.

PRIVATE = All private banks irrespective of the status of majority foreign or domestic ownership i.e., all non-government banks. A dummy variable that takes a value of 1 if the banks is either majority FOREIGN or DOMESTIC bank, otherwise the value is a 0.

FOREIGN = Majority ownership is FOREIGN-owned. Here the majority is considered as at least 50 percent of foreign-ownership. A dummy variable that takes a value of 1 if the majority of the ownership places it in the FOREIGN category, otherwise it takes a value of 0.

DOMESTIC = Majority ownership is DOMESTIC-owned. This is our omitted variable where majority is considered as at least 50 percent of domestic-ownership. A dummy variable that takes a value of 1 if the majority of the ownership places it in the DOMESTIC category, otherwise it takes a value of 0.

[3] I have also added a dummy variable with MENA foreign as 1 and other banks as 0 finding a positive and significant impact on performance with a 5 percent statistical significance level of the MENA Foreign variable's coefficient. This estimation shows the relative importance of MENA foreign banks compared to all banks but does not provide a direct comparison with other FOREIGN banks from non-MENA region. To do so, one needs to limit the sample only to the foreign banks. Column 4 or regression 4 provides such an estimation.

GOVERNMENT = Majority ownership is held by the STATE or GOVERNMENT. Here, over 50 percent of the ownership is concentrated to a state or government entity. A dummy variable that takes the value of 1 if the majority of the ownership is GOVERNMENT, otherwise it takes a value of 0.

STOCK = A dummy variable that takes a value of 1 if the bank is traded in the stock exchange, otherwise it takes a value of 0.

GROUP = A dummy variable that takes a value of 1 if the bank is a member of a banking group (sort of holding company or is associated with a corporate consortium), otherwise it takes a value of 0.

FSHARE = The total share of foreign bank assets to overall bank assets in a sample country in a given sample year.

LASSET = Logarithm of end-of-year Total Assets of the bank. The variable represents the size of the bank.

LOANR = A ratio of total loan to total assets. The variable represents the asset management style of the bank.

DEPOSITR = A ratio of total deposit to total assets. The variable represents the liability management style of the bank

NINTEXPR = A ratio of noninterest expenses to total assets of the bank. The variable represents the efficiency of non-interest related activities of the bank.

LLPR = A ratio of total loan loss provision to total assets. The variable represents the potential risk associated with the bank.

ΣYEARDUM = Year dummy variables for all sample years. For example, if year is 2000 then $yeardum_{2000} = 1$ otherwise $yeardum_{2000} = 0$.

ΣCOUNTDUM = Country dummy variables for all sample countries. For example, if country is Bahrain then BAHdum= 1 otherwise BAHdum=0.

e_i = error term.

The independent variables in the model are proxies for ownership structures and forms; size, asset-liability management practices, riskiness of banks and, in summary, the current portfolio commitments of individual banks. Each model mentioned above will be estimated on three separate sets of regressions: (a) a return on assets as a dependent variable; (b) a return on equity as the dependent variable; and (c) a profit efficiency test that uses profit X-efficiency as a dependent variable. All variables used above are consistent with the literature and are used in relevant literature.

4. Empirical Results

Table 1 provides the frequency distribution of the sample banks of 20 MENA countries. As mentioned earlier, we had to delete banks from Iraq and Libya due to lack of consistent information. In total, the paper evaluates 249 banks with 567 bank observations during the three sample years with 210, 197 and 160 bank observations during 2000, 2001 and 2002 respectively. In categorizing the sample, we ended with 160 bank observations termed as "majority FOREIGN," 203 termed as "majority DOMESTIC" and 204 "majority GOVERNMENT" banks. Of the 160 FOREIGN owned banks, 84 fit the sub-sample of foreign ownership within the MENA region. Although our final sample contains primarily the largest banks of the sample countries, they represent healthy varieties with respect to size and management practices. Egypt, Lebanon and Turkey constitute a larger portion of the sample whereas Mauritania, Syria and Yemen have only a few bank observations.

Table 2 and 3 provide descriptive statistics of all relevant variables by each country (table 2) and by ownership structure (table 3). In general it can be said that banks in the region are still primarily dependent on deposits as the financing source. Investment banking activities are increasingly popular along with the traditional lending activities. The expense ratios and loan loss provisions (risk proxy) are on par with the commercial banks in the other regions of the world. As mentioned earlier, the sample is biased towards a selection of large banks. We report the mean average of the variables and their standard deviations are in the parentheses. In table 3, the descriptive statistics of the overall sample is reported in column 1, which is a summation of columns 3, 4 and 5. Column 6 is simply a component of column 3, the FOREIGN group. Same is true for columns 7 and 8, which are some components of the total sample. In order to maintain clarity of our reporting above, we do not report the t-statistics associated with the differences across different ownership categories in the table. However, it should be noted that with regards to the performance variables ROE and ROA, the banks in the "majority foreign" group was significantly higher than the "majority domestic" and "majority government" groups at the 1 percent significance level. The "majority domestic" group had a significantly higher ROA and ROE relative to the "majority government" group at the 1 percent significance level. The "MENA foreign" sub-group performed significantly better relative to all groups including the overall "majority foreign" group and the difference was statistically significant at least at the 1 percent significance level. Additionally, banks involved in the stock exchanges performed significantly better than all other groups and the difference of mean performance variables are statistically significant from all groups at the 1 percent significance level. All t-statistics of the performance, as well as for other variables, are available upon request.

Similar and consistent evidence is portrayed in table 4 where I report the performance variable X-efficiency scores separately.[4] Given my focus is not the estimation technique of any particular performance variable (e.g., X-efficiency), I refer the readers Appendix 1 and Kumbhakar and Lovell (2000) for estimation details rather than providing them in the text. The evidence indicates that the sample banks are still substantially far away from the maximum potential performance, as the overall efficiency score for the sample is reported at 72.90 percent, a deviation of almost 28 percent from the best-practiced bank. The foreign banks are substantially more efficient with scores over 80 percent and government banks lagged substantially behind with a score of less than 60 percent. The banks involved in the stock markets or banks associated with a group or consortium did report a higher score than the government as well as the domestic private banks, however, these scores of around 70 percent efficiency were substantially lower than the foreign bank sub-samples.

It should be noted here that the reported efficiency scores are based on a pooled sample of all observations assuming a common frontier for all sample institutions. Again, in order to keep clarity of the table, I do not report the t-statistics associated with the differences across different groups. In summary, the banks in the "majority foreign" group reported significantly higher profit efficiency relative to the "majority domestic" and "majority government" groups at the 1 percent significance level. The "majority domestic" group had a significantly higher efficiency relative to the "majority government" group at the 5 percent significance level. The "MENA foreign" group did not have a significant difference from the overall "majority foreign" group but reported higher efficiency than the other two groups at the 1 percent significance level.

[4] The X-efficiency production model assumes that banks produce loan, investment, deposits and other assets (outputs) given the inputs of labor (non-interest expenses that include employee and office expenses) and cost of funds (interest cost for deposits) with loan loss provision and capital ratio as netputs (see Berger and Humphrey, 1997) in order to accommodate risk components of the banks.

In our descriptive statistics as well as in the correlation table we have included some additional variables such as investment to asset ratio and equity to asset ratio along with the other asset-liability management variables of the bank outlined in the model. The investment to asset ratio simply takes assets in non-lending or investment areas as a ration of total assets whereas the equity ratio is the total equity to total assets ratio. Two issues are clear from these two variables. First, all the sample banks are stable banks as far as equity is concerned with an average equity to asset ratio substantially higher than the Basle capital minimum of around 8 percent for an average risky bank. Second, the investment to asset ratio is relatively high for the sample banks. In our reported multivariate analysis, we do not focus on these two variables because these two variables are significantly correlated with assets and loan ratio variables as portrayed in table 5, the correlation matrix table. I should, however, mention clearly here that even if I substitute these two variables into my estimations over assets and loan ratios, the magnitude and statistical significance of the organizational structure variables do not change in any material way the conclusion of the paper developed from the models without using these two variables. The correlation matrix in table 5 provides a similar picture as we have seen in the descriptive statistics in earlier tables. That is, foreign banks are positively associated with performance whereas government banks are negatively associated with performance. Banks with stock market affiliations and foreign banks with MENA ownership connection are associated with better performance, irrespective of whatever is considered as the performance proxy.

In summary the univariate analyses portrayed in tables 2-5 clearly support all of our hypotheses. However, we cannot conclude with confidence before we investigate them in multivariate settings. Tables 6A, 6B and 6C focus on the regression estimates where we employ a simple regression (see column 1) with a dummy variable Private, which takes a value of 1 for all foreign and domestic private entities and takes a value 0 for government banks, along with the control variables, size, loan ratio, deposit ratio, noninterest expenditure ratio and loan loss provision ratio. Positive and significant statistics of the private dummy coefficient in all three dependent variables clearly indicate that the evidence strongly supports hypothesis 1. This is true even when the estimations are adjusted for year and country differences in time and country fixed effect estimates as shown in column 5 in all three tables. Next, we employ the “majority FOREIGN” and “majority GOVERNMENT” bank dummies in column 2 with “majority DOMESTIC” banks as the omitted variable. The positive and statistically significant coefficient on FOREIGN variable in all estimations in the three tables and the negative and statistically significant in most of the estimations clearly supports the notion that foreign banks in general are better performer and more specifically better than the omitted DOMESTIC variable and overall the GOVERNMENT banks are performing less and specifically worse than the DOMESTIC banks. The results are similar when estimated with adjustments for year and country effects as shown in column 6 in all three of the tables portraying regression results. These results strongly support hypothesis two.

In columns 3 and 7, I report estimations where we add the STOCK dummy and GROUP dummy variables representing groups of sample banks that are traded in the market and banks affiliated with a specific banking group or consortium respectively. Additionally, I add a country level variable, FSHARE, which represents the extent of foreign bank presence in the country. The variable is estimated by taking the total foreign bank assets as a percentage of total banking assets in the country at the year’s end for each of the sample years and countries. Evidence shows that the positive and significant contribution of the FSHARE variable in most of the estimations clearly support hypothesis 4, implying that the foreign presence is associated with better performance. The interesting component of these findings here is that not only is the impact of FSHARE positive for profit efficiency regressions (table

6C) but it also impacts positively in the ROA and ROE regressions. I explain the evidence as the learning curve, increasingly become more efficient and finding additional ways to compete when the local banks start competing with foreign banks for the same businesses. The coefficient on the STOCK and GROUP variables show some lukewarm support for hypothesis 5 but no support for hypothesis 6.

In order to investigate hypothesis 3, I limit my estimations to only the sub-sample where there is clear foreign majority in the ownership structure. Then I develop a variable MENAFOR, which takes a value of 1 if the bank's majority ownership (at least 50 percent) stems from a foreign country and the foreign country is a country within the sample MENA countries. A positive and significant MENAFOR is only visible in ROA regression whereas the significances are statistically significant in the ROE and Profit Efficiency regressions. This only provides a soft support for the hypothesis that foreign banks with regional know-how and exposure perform better than foreign banks from other regions.

The control variables do not provide any significant unexpected magnitude and significance and it is consistently seen that banks with higher non-interest operating expenditure and higher loan loss provision are associated with lower performance in all estimations. The model statistics of the regressions show robust and strong estimations. In relative comparisons of the three performance regressions, we must keep in mind that the profit efficiency estimations simply attempt to correlate some of the key independent variables with the dependent variable and should not be considered as the relative factors that cause variability in X-efficiency across firms.[5]

5. Conclusion and Policy Recommendations

Using ownership details of 249 banks in 20 MENA countries, with a total of 567 observations during the 2000-2002 sample years, this paper sheds some light on the association and impact of ownership structure affecting bank performance. Overall, the results show that private banks, especially foreign ones, are significantly better performer than all sample groups. Government banks are lagging behind other banks substantially and performed the worst among the sample banks. Banks involved in the stock exchanges and foreign banks with majority ownership within the MENA region seem to perform better. Importantly, the extent of foreign bank presence in the country is associated with better performance by the sample banks. These findings are strong and consistent even after adjusting for time and country differences among the sample banks.

Consistent with the banking experience in other parts of the world, this paper also found state-owned banks to have the weakest performance among the sample banks. Such result re-emphasize the need to accelerate the privatization process. In the meantime, two steps could be implemented in order to boost performance: One is to encourage and facilitate private monitoring of state bank. Two is to gradually introduce competition from private banks in certain product or service lines. This will force the state banks to become more efficient in order to survive and will limit their use as a source of political influence to attract or maintain government supporters by granting jobs, credit or other benefits.

When comparing foreign with domestic banks, the findings in this paper suggest that foreign banks and domestic private banks with substantial foreign ownership are significantly better performer. In this regards, this author along with several others would encourage MENA countries to facilitate entry of foreign banks and ease local ownership. Foreign banks provide

[5] Many of the independent variables are associated with constructing the X-efficiency variable and therefore any claim that these variables determine the efficiency scores are redundant information. See Kumbhakar and Lovell (2000, Chapter 7) on the advantages and disadvantages associated with incorporation of exogenous influences on efficiency scores.

numerous benefits to the domestic banking sector. They can improve the quality and availability of financial services (Levine, 1996), increase competition and promote the upgrade of institutional framework for banking activities (Clarke et al., 2003; Demirgüç-Kunt and Detragiache, 1998). They force domestic bank managers to relinquish their sheltered "quiet life" and work toward increased efficiency in order to survive in the new competitive environment (Berger and Hannan, 1998). Finally, foreign banks can indirectly benefit small borrowers by improving their access to credit from displaced domestic banks that are now forced to seek new market niches ignored by foreign banks (Bonin and Abel, 2000; Jenkins, 2000).

It is important to note that foreign banks are interested in exploiting opportunities in host countries. They are attracted to markets with low taxes and prospect for growth, and prefer to make investments in countries with fewer regulatory restrictions on banking activity (Clarke et al., 2001; Focarelli and Pozzolo, 2000). Therefore, offering tax incentives could be one way of encouraging foreign banks to enter MENA countries.

Another finding of this paper is that banks with majority foreign ownership held by the foreign banks or investors from the MENA region had significant effect on performance. Such findings suggest that in the case of restructuring or sale to foreign investors, consideration should be given to investors from the same region. Any specific advantages foreign banks may have over domestic banks, such advantages are likely to be greater for foreign banks headquartered within the same region. This regional bias could be due to shorter distances and similarity in language and culture (Berger et al., 2000). It would offer advantages to Arab foreign banks over institutions from outside the MENA region. This result should also encourage consideration of cross-border consolidation with other MENA banks. The above finding is valuable to the effort to promote the advantage of regional cooperation in the banking sector or in other industries.

While a policy of encouraging the entry of foreign banks is generally beneficial, caution is also necessary. Foreign ownership of banks can be a source of instability if not carefully monitored and integrated into the domestic market. Competition from foreign banks can cause domestic banks to fail. In the case of economic crisis in the host country, foreign banks can have a negative effect if they decide to reduce their exposure in their host country. They can also have negative effect by potentially exposing their host countries to contagion effect caused by economic fluctuation in their home countries or in other foreign countries where they have significant operations (Clarke et al., 2001). In order to minimize contagion effect it is advisable to have foreign entrants from a diversified group of countries with a diversified portfolio of assets.

Another potential hazard of excessive foreign bank ownership is diminished government control of the economy, since foreign banks tend to be less sensitive to government wishes (Claessens et al., 2000). Furthermore, the concentration of foreign ownership especially from developed countries should be carefully monitored, as foreign banks can become a source of financial imperialism if their holdings exceed domestic holding (Lang and So, 2002). Therefore, when privatizing or restructuring state banks it is important to consider the potential effect of foreign banks, whose large holdings can influence the policy making of the banking systems of respective MENA countries. A recommendation would be to diversify foreign ownership so that no single or few foreign investors have significant control.

Finally, with regard to banks involved in the stock market, the number of such banks active in the market is limited in the MENA region. However, their relative superior performance brings new understanding and support for banks interested in going public and competing for financing in the capital market rather than depending on the traditional deposit financing. Therefore, policies to facilitate and endorse such process should be considered.

In summary, the findings of this paper highlight a sector of the MENA economy rarely investigated in such detail despite its tremendous importance in the development process. It also reveals that the combined effort of domestic and foreign investors is beneficial to firm performance and growth. This paper filled a void in the banking literature by analyzing the banking sectors in the MENA region. As mentioned earlier, financial and management researchers have paid little attention to MENA countries despite the growing role of banks there and the current changes that are taking place in that region. As new and old firms enter and exit the region, this paper also provides insight and understanding about a significant determinant mostly associated with firm performance, namely ownership structure.

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Table 1: Frequency Distributions by Country

Name of the Country in the MENA Region	Number of Banks	Total Number of Bank (Obs.)	Year 2000	Year 2001	Year 2002	Majority Foreign	Majority Domestic Private	Majority Govern-ment	Majority MENA Foreign
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Algeria	6	12	6	5	1	4	4	4	3
Bahrain	9	20	8	7	5	4	9	7	2
Egypt	29	71	27	25	19	16	24	31	10
Israel	18	40	13	16	11	9	9	22	0
Iran	7	10	5	3	2	0	3	7	0
Jordan	8	22	7	8	7	3	8	11	2
Kuwait	6	18	6	6	6	3	6	9	2
Lebanon	50	105	45	33	27	44	48	13	27
Morocco	11	24	9	8	7	6	9	9	3
Mauritania	3	6	3	3	0	3	0	3	3
Oman	8	18	7	6	5	5	3	10	3
Palestine	1	2	1	0	1	0	0	2	0
Qatar	5	15	5	5	5	6	6	3	3
Saudi Arabia	9	27	9	9	9	6	12	9	3
Sudan	2	2	1	1	0	0	1	1	1
Syria	1	2	1	1	0	0	0	2	0
Tunisia	16	34	13	10	11	14	9	11	7
Turkey	39	81	26	31	24	27	33	21	10
UAE	16	45	14	15	16	9	16	18	5
Yemen	5	13	4	5	4	0	3	10	0
Total	249	567	210	197	160	160	203	204	84

Note: Column 2 = Column (3+4+5) or Column (6+7+8). Column 9 is a component of Column 6.

Table 2: Descriptive Statistics of Balance Sheet Items by Country

Name of the Country in the MENA Region	Return On Assets	Return On Equity	Loan to Assets Ratio	Investment to Assets Ratio	Deposit to Asset Ratio	Equity to Asset Ratio	Non – Interest Expense to Asset Ratio	Loan Loss Provision to Asset Ratio	Total Assets ($000)
	ROA	ROE	LOANR	INVESTR	DEPOSITR	EQUITYR	NINTEXPR	LLPR	TASSET
Algeria	0.9741	7.89	45.70	63.92	50.27	10.00	2.41	0.705	3,363,812
	(1.16)	(5.59)	(23.69)	(25.30)	(17.45)	(7.24)	(2.07)	(1.21)	(2,987,634)
Bahrain	1.474	12.19	49.04	69.73	81.22	11.19	2.10	0.445	7,056,276
	(0.68)	(5.01)	(10.27)	(6.37)	(4.20)	(2.34)	(0.86)	(0.39)	(9,379,002)
Egypt	0.8149	9.488	49.64	59.37	84.14	8.89	3.01	1.16	2,980,487
	(1.01)	(8.44)	(12.13)	(13.32)	(6.15)	(4.19)	(1.16)	(0.93)	(5,265,230)
Iran	3.699	16.36	48.81	61.47	62.43	27.65	3.74	0.977	3,744,719
	(2.34)	(9.97)	(12.22)	(14.71)	(21.53)	(19.51)	(2.25)	(1.65)	(6,779,445)
Israel	-0.5271	-2.660	69.54	74.89	87.73	7.58	3.92	1.49	12,600,550
	(4.15)	(29.17)	(16.10)	(13.28)	(4.40)	(4.83)	(4.12)	(4.01)	(17,107,433)
Jordan	0.9627	9.132	42.04	53.64	66.47	9.26	3.11	0.771	3,979,039
	(0.77)	(8.34)	(7.07)	(6.47)	(12.49)	(3.43)	(0.70)	(0.47)	(7,411,847)
Kuwait	1.785	16.030	44.36	51.27	57.02	11.17	1.440	0.328	6,588,302
	(0.567)	(6.28)	(6.75)	(5.90)	(7.14)	(1.43)	(0.37)	(0.33)	(4,146,303)
Lebanon	0.5481	4.523	29.60	35.08	87.16	8.83	2.81	0.365	1,146,638
	(1.03)	(29.98)	(10.61)	(12.10)	(6.43)	(5.58)	(1.24)	(0.47)	(1,555,195)
Morocco	0.9125	9.48	49.29	66.69	84.91	9.32	4.17	0.952	3,569,416
	(0.62)	(6.17)	(20.30)	(11.12)	(4.50)	(1.48)	(2.25)	(0.50)	(1,904,599)
Mauritania	1.955	10.59	50.61	62.56	60.26	18.89	8.30	3.451	83,649
	(0.29)	(2.46)	(19.73)	(15.00)	(5.84)	(4.07)	(1.40)	(1.95)	(9,983)
Oman	1.200	10.18	74.16	79.14	77.81	15.13	4.35	1.537	1,616,240
	(1.86)	(11.17)	(5.69)	(5.33)	(9.61)	(9.71)	(1.87)	(1.76)	(1,180,771)
Palestine	0.760	8.99	30.69	32.41	88.90	8.65	4.81	0.911	247,550
	(0.46)	(5.84)	(4.06)	(4.88)	(0.55)	(0.35)	(0.58)	(0.07)	(11,808)
Qatar	1.628	11.64	43.47	57.00	68.45	26.97	3.27	1.079	2,337,533
	(1.78)	(8.77)	(18.28)	(11.26)	(31.90)	(32.94)	(1.47)	(1.39)	(2,867,432)
Saudi Arabia	2.040	21.86	40.93	63.91	85.18	10.00	2.26	0.416	13,442,162
	(0.66)	(8.22)	(6.29)	(16.19)	(3.37)	(2.39)	(0.68)	(0.41)	(7,331,159)
Sudan	0.9350	11.43	39.29	58.00	66.23	7.96	5.94	0.567	226,208
	(0.62)	(7.24)	(4.33)	(5.08)	(3.18)	(1.57)	(8.27)	(0.19)	(63,658)
Syria	0.1600	12.16	25.95	30.26	40.44	1.21	2.67	0.065	6,094,291
	(0.08)	(5.51)	(5.45)	(4.90)	(2.54)	(0.15)	(3.62)	(0.07)	(1,745,864)
Tunisia	0.9529	10.14	71.28	80.85	74.61	10.95	3.68	0.974	1,324,031
	(.6653)	(5.14)	(11.96)	(13.65)	(15.14)	(6.29)	(0.91)	(0.48)	(785,034)
Turkey	-1.109	-3.91	30.71	44.89	68.68	10.06	9.47	1.429	5,338,028
	(6.281)	(55.44)	(13.91)	(18.18)	(16.16)	(8.09)	(4.31)	(1.98)	(6,337,758)
UAE	2.461	14.50	56.72	67.75	78.16	17.77	2.57	0.436	3,223,344
	(0.78)	(3.94)	(15.57)	(14.17)	(6.91)	(5.89)	(1.46)	(0.40)	(3,287,359)
Yemen	0.4515	5.66	25.48	32.88	89.21	7.11	4.85	1.54	133,080
	(0.73)	(9.29)	(14.19)	(15.00)	(2.73)	(2.01)	(1.72)	(1.35)	(59,212)
Average	0.7521	7.23	45.34	56.14	78.18	11.10	4.06	0.914	4,431,015
	(2.94)	(27.11)	(19.46)	(20.19)	(14.69)	(9.03)	(3.28)	(1.15)	(8,008,387)

Note: Standard Deviation in s in parentheses

Table 3: Descriptive Statistics

	Overall Sample Mean	Mean By Ownership Category			Mean By Organizational Form		
		Majority Foreign	Majority Domestic Private	Majority Government	MENA Foreign	Individual Bank or Parent Bank is Traded in the Stock Market	Bank Subsidiary or Part of a Group or Consortium
	1	3	4	5	6	8	7
Return on Assets	0.7521	1.5488	0.8676	-4.4241	2.4797	2.9735	1.2658
ROA	(2.94)	(1.27)	(1.106)	(6.848)	(1.51)	(2.17)	(1.91)
Return on Equity	7.23	13.79	8.404	-17.39	18.32	18.95	10.42
ROE	(27.11)	(9.36)	(9.59)	(3.21)	(9.99)	(13.99)	(12.99)
Loan to Asset Ratio	45.34	45.96	45.11	41.82	48.22	41.73	47.66
LOANR	(19.46)	(18.27)	(20.20)	(25.18)	(17.82)	(18.06)	(19.77)
Investment to Asset Ratio	56.14	56.63	56.69	50.01	58.82	57.32	57.28
INVESTR	(20.19)	(19.29)	(20.57)	(23.91)	(18.95)	(19.89)	(20.02)
Deposit to Asset Ratio	78.18	78.36	77.38	79.21	75.82	72.22	76.86
DEPOSITR	(14.69)	(13.61)	(16.38)	(15.62)	(13.23)	(18.94)	(18.00)
Equity to Asset Ratio	11.10	11.22	11.60	8.58	13.98	18.53	12.93
EQUITYR	(9.03)	(6.28)	(12.22)	(10.56)	(8.02)	(16.97)	(16.01)
Non-interest Expenditure	4.06	3.349	3.99	8.78	3.733	4.074	4.464
to Asset Ratio NINTEXPR	(3.28)	(2.25)	(2.23)	(6.49)	(3.05)	(3.23)	(3.48)
Loan Loss Provision to Asset	0.914	0.694	0.819	2.887	0.700	0.788	0.903
Ratio	(1.15)	(0.81)	(0.89)	(4.40)	(0.842)	(1.07)	(1.23)
LLPR							
Total Assets (000s $)	4,431,015	4,541,559	4,136,958	4,849,666	4,236,704	4,112,530	5,115,371
TASSET	(8,008,387)	(7,508,817)	(9.030,070)	(6,747,800)	(5,918,912)	(7,393,986)	(9,673,515)
Logarithm of Assets	14.16	14.28	13.95	14.24	14.27	13.95	14.01
LASSET	(1.59)	(1.54)	(1.63)	(1.73)	(1.54)	(1.72)	(1.76)
No. of Observations	567	160	203	204	84	40	36

Note: Standard Deviations are in the parentheses. Overall Sample in column 1 is a combination of columns (3+4+5). Column 6 is a component of column 3. Columns 7 and 8 are components of the total sample. In order to keep clarity of our reporting above, we do not report the t-statistics associated with the differences across different ownership categories. Importantly, with regards to the performance variables ROE and ROA, the banks in the "majority foreign" group were significantly higher than the "majority domestic" and "majority government" groups at the 1 percent significance level. The "majority domestic" group had a significantly higher ROA and ROE relative to the "majority government" group at the 1 percent significance level. The "MENA foreign" group performed significantly better relative to all groups including the overall "majority foreign" group and the difference was statistically significant at least at the 1 percent significance level. Additionally, banks involved in the stock exchanges performed significantly better than all other groups and the difference of mean performance variables are statistically significant from all groups at the 1 percent significance level. All t-statistics of the performance as well as for other variables are available upon request.

Table 4: Summary of Average Profit Efficiency Scores

	Mean	Standard Deviation	Minimum	Maximum
Overall Profit Efficiency	72.90	10.02	53.77	97.01
By Year				
2000	78.73	9.76	61.10	97.01
2001	70.71	8.57	57.17	80.92
2002	67.90	8.09	53.77	76.38
By Ownership Structure				
Majority Any Foreign	80.32	5.35	72.60	97.01
Majority Private Domestic	63.99	4.68	55.90	89.30
Majority Government	59.58	3.70	54.11	71.31
Majority Regional Foreign	*81.29*	6.16	72.64	*97.01*
By Organizational Form				
Member of a Group or Consortium	*71.49*	10.50	56.35	*89.30*
Involved in Stock Market	*70.61*	9.72	57.29	*94.18*

Note: Efficiency scores are based on a pooled sample of all observations assuming a common frontier for all sample institutions. Again, In order to keep clarity of our reporting above, we do not report the t-statistics associated with the differences across different groups. In summary, the banks in the "majority foreign" group reported significantly higher profit efficiency relative to the "majority domestic" and "majority government" groups at the 1 percent significance level. The "majority domestic" group had a significantly higher efficiency relative to the "majority government" group at the 5 percent significance level. The "MENA foreign" group did not have a significant difference from the overall "majority foreign" group but reported higher efficiency than the other two groups at the 1 percent significance level. The banks involved in the stock exchanges or banks that are part of a group or consortium and banks traded in the stock exchange reported a lower average profit efficiency than the average mean efficiency scores of "majority foreign" and "MENA foreign" group at the 1 percent significance levels. All t-statistics of the performance as well as for other variables are available upon request.

Table 5: Correlation Matrix of Sample Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Return on Assets	1.00																	
2. Return on Equity	0.50***	1.00																
3. Profit Efficiency	0.31***	0.28***	1.00															
4. Loan to Asset Ratio	0.08*	0.04	0.07*	1.00														
5. Investment to Asset Ratio	0.08**	0.09**	0.06*	0.83***	1.00													
6. Deposit to Asset Ratio	-0.16***	-0.02	-0.002	0.029	-0.07*	1.00												
7. Equity to Asset Ratio	0.29***	0.05	0.014	-0.55***	0.059	-0.57***	1.00											
8. Non-interest Expenditure To Asset Ratio	-0.56***	-0.30***	-0.30***	-0.12***	-0.11**	-0.19***	0.04	1.00										
9. Loan Loss Provision to Asset Ratio	-0.46***	-0.42***	-0.18***	0.111**	0.06*	-0.064	0.046	0.57***	1.00									
10. Logarithm of Assets	0.05	0.08*	0.03	0.115**	0.85***	0.050	-0.69***	-0.18**	-0.13***	1.00								
11. All Private (Foreign + Domestic) Dummy	0.57***	0.52***	0.43***	0.048	0.07*	-0.38	0.089**	-0.44***	-0.34***	-0.01	1.00							
12. Foreign Dummy	0.31***	0.29***	0.85***	0.037	0.027	0.014	0.015	-0.25***	-0.16***	0.08**	0.37***	1.00						
13. Domestic Private Dummy	0.027	0.030	-0.62***	-0.008	-0.019	-0.038	0.038	-0.014	-0.04	-0.09**	0.23***	-0.81***	1.00					
14. State or Government Dummy	-0.50***	-0.57***	-0.37***	-0.051	-0.08**	0.019	-0.07*	0.41***	0.36***	0.013	-0.88***	-0.33***	-0.20***	1.00				
15. MENA Foreign Dummy	0.35***	0.24***	0.11***	0.053	0.056	-0.10*	0.21***	0.07	-0.001	0.001	0.042	0.115	-0.10**	-0.04	1.00			
16. Banks in Stock Market Dummy	0.20***	0.11***	-0.03***	-0.051	0.016	-0.11**	0.52***	0.001	-0.022	-0.03	0.08**	-0.05	0.11**	-0.07*	0.38***	1.00		
17. Banks in Group or Consortium Dummy	0.045	0.03	-0.05	0.031	0.014	-0.02	0.054*	0.030	-0.001	-0.02	0.08**	-0.09**	0.15***	-0.07*	0.21***	0.07*	1;00	
18. Extent of Foreign Share	0.33***	0.35***	0.51***	0.083	0.100**	-0.05	0.16***	-0.26***	-0.20***	0.01	0.35***	0.41***	-0.20***	-0.36***	0.16***	0.09**	0.007	1.00

Note: ***, **, * are significant at 1, 5 and 10 percent significance levels respectively.

Table 6A: Ordinary Least Squared Regressions on the Impact of Organizational and Ownership Structure on Performance

	Dependent Variables: Return on Assets (ROA)							
	Estimations With No Year and Country Dummy				Estimations With Year and Country Dummy			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
IIntercept	0.031 (2.93)***	0.068 (6.93)***	0.059 (6.05)***	-0.301 (0.56)	0.054 (4.57)***	0.084 (7.95)***	0.079 (7.15)***	0.140 (1.78)*
Private (Foreign + Domestic) Dummy	0.034 (10.34)***	-	-	-	0.031 (9.55)***	-	-	-
Majority Foreign Dummy	-	0.063 (3.34)***	0.067 (3.39)***	-	-	0.067 (3.59)***	0.069 (3.54)***	-
Majority Government Dummy	-	-0.026 (6.87)***	-0.023 (6.06)***	-0.014 (1.98)**	-	-0.023 (1.22)	-0.019 (5.16)***	-0.015 (2.52)**
Bank Stock Dummy	-	-	0.019 (5.62)***	0.019 (9.16)***	-	-	0.015 (4.46)***	0.017 (8.25)***
Bank Group or Consortium Dummy	-	-	0.003 (0.97)	0.002 (1.41)	-	-	0.003 (0.95)	0.003 (1.26)
Extent of Foreign Bank Asset Share in the Country	-	-	0.003 (1.12)	0.006 (4.31)***	-	-	0.004 (1.45)	0.001 (6.15)***
MENA Foreign Dummy, i.e., MENA Foreign=1 and Other Foreign =0	-	-	-	0.051 (2.89)***	-	-	-	0.024 (2.47)**
Log of Assets	-0.00034 (0.63)	-0.001 (1.01)	-0.004 (0.90)	0.004 (2.56)**	-0.0005 (0.88)	-0.007 (1.23)	-0.006 (1.08)	0.005 (1.18)
Loan to Assets	*0.064* (1.40)	0.061 (1.30)	0.068 (1.49)	0.018 (0.64)	*-0.015* *(0.28)*	*-0.012* *(0.22)*	*0.011* *(0.20)*	*-0.005* *(1.73)**
Deposit to Assets	*-0.046* (7.75)***	-0.049 (8.09)***	-0.045 (7.57)***	-0.015 (0.50)	*-0.053* *(7.51)****	*-0.057* *(7.87)****	*-0.054* *(7.56)****	*-0.013* *(3.49)****
Non-interest Expenditure to Assets	*-0.035* (9.57)***	-0.038 (10.32)***	-0.038 (10.53)***	0.061 (2.35)**	*-0.044* *(3.82)****	*-0.048* (11.82)***	*-0.047* *(11.79)****	*0.020* *(0.71)*
Loan Loss Provision to Assets	*-0.289* *(4.09)****	-0.284 (3.89)***	-0.280 (3.95)***	-0.903 (1.15)	*-0.266* (3.82)***	*-0.256* *(3.56)****	*-0.258* (3.66)***	*-0.109* *(1.34)*
Adjusted R^2	*0.5199*	0.4952	0.5236	0.4018	*0.5756*	*0.5403*	*0.5582*	*0.5136*
F-Statistics	*103.14****	80.31***	63.20***	23.81***	*37.02****	*32.68****	*30.80****	*16.81****
No. of Observations	*567*	567	567	345	*567*	*567*	*567*	*345*

Note: The absolute values of the t-statistics are in parentheses. The standard errors are consistent estimates with White's Heteroscedasticity corrections. Alternative regressions not reported here included additional independent variables e.g. investment to assets ratio and equity to assets ratio. These excluded variables are very highly correlated with total assets or loan to assets variables. These results are available upon request. ***, **, * are significant at 1, 5 and 10 percent significance levels respectively.

Table 6B: Ordinary Least Squared Regressions on the Impact of Organizational and Ownership Structure on Performance

	Dependent Variables: Return on Equity (ROE)							
	Estimations With No Year and Country Dummy				Estimations With Year and Country Dummy			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Intercept	-0.421 (3.68)***	0.029 (0.30)	0.125 (1.25)	-0.282 (5.20)***	0.038 (2.90)***	0.091 (0.01)	0.091 (0.77)	0.240 (3.68)***
Private (Foreign + Domestic) Dummy	0.041 (11.57)***	-	-	-	0.040 (10.85)***	-	-	-
Majority Foreign Dummy	-	0.049 (2.56)**	0.029 (1.47)	-	-	0.047 (2.38)**	0.028 (1.37)	-
Majority Government Dummy	-	-0.004 (12.57)***	-0.004 (11.57)***	-0.005 (1.66)*	-	-0.048 (11.76)***	-0.043 (10.46)***	-0.036 (0.92)
Bank Stock Dummy	-	-	0.077 (2.23)**	0.013 (6.34)***	-	-	0.010 (1.97)**	0.018 (6.96)***
Bank Group or Consortium Dummy	-	-	-0.009 (0.27)	-0.001 (0.51)	-	-	-0.004 (0.13)	-0.001 (0.18)
Extent of Foreign Bank Asset Share in the Country	-	-	0.111 (3.44)***	0.076 (5.56)***	-	-	0.141 (3.84)***	0.126 (7.51)***
MENA Foreign Dummy, i.e., MENA Foreign=1 and Other Foreign =0	-	-	-	0.012 (1.31)	-	-	-	0.015 (1.38)
Log of Assets	-0.008 (1.49)	-0.009 (1.63)	0.010 (1.83)*	0.007 (7.13)**	-0.007 (1.13)	-0.008 (1.33)	-0.009 (1.39)	0.001 (5.42)***
Loan to Assets	*0.096* (1.96)**	0.082 (1.75)*	0.077 (1.65)	0.064 (2.89)***	*-0.058* *(0.96)*	*-0.051* *(0.87)*	*0.066* *(1.15)*	*-0.005* *(1.46)*
Deposit to Assets	*-0.038* (0.60)	-0.052 (0.85)	-0.021 (0.35)	-0.046 (1.71)*	*-0.038* *(0.05)*	*-0.032* *(0.39)*	*-0.054* *(0.07)*	*-0.018* *(2.67)***
Non-interest Expenditure to Assets	*0.069* (1.76)*	-0.064 (1.73)*	-0.074 (2.03)***	0.061 (3.08)***	*-0.065* *(1.44)*	*-0.053* (1.21)	*-0.067* *(1.58)*	*0.048* *(1.85)**
Loan Loss Provision to Assets	*-0.565* *(7.46)****	-0.504 (6.88)***	-0.494 (6.83)***	-0.112 (1.72)*	*-0.594* (7.57)***	*-0.520* *(6.81)****	*-0.515* (6.85)***	*-0.146* *(2.46)***
Adjusted R^2	*0.3462*	0.3977	0.4141	0.3015	*0.3408*	*0.3882*	*0.4073*	*0.3214*
F-Statistics	*50.95****	54.39***	41.00***	15.36***	*15.63****	*18.10****	*17.21****	*11.88****
No. of Observations	*567*	567	567	345	*567*	*567*	*567*	*345*

Note: The absolute values of the t-statistics are in parentheses. The standard errors are consistent estimates with White's Heteroscedasticity corrections. Alternative regressions not reported here included additional independent variables e.g. investment to assets ratio and equity to assets ratio. These excluded variables are very highly correlated with total assets or loan to assets variables. These results are available upon request. ***, **, * are significant at 1, 5, and 10 percent significance levels respectively.

Table 6C: Correlates between Organizational and Ownership Structure and Efficiency

	Dependent Variables: Profit Efficiency (PEFF)							
	Estimations With No Year and Country Dummy				Estimations With Year and Country Dummy			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Intercept	0.062 (13.27)***	0.069 (10.72)***	0.063 (11.86)***	-0.075 (11.47)***	0.045 (10.11)***	0.056 (44.18)***	0.055 (43.42)***	0.060 (45.14)***
Private (Foreign + Domestic) Dummy	0.012 (8.79)***	-	-	-	0.016 (10.05)***	-	-	-
Majority Foreign Dummy	-	0.016 (16.32)***	0.0153 (13.15)***	-	-	0.016 (17.02)***	0.015 (17.51)***	-
Majority Government Dummy	-	-0.029 (3.19)***	-0.016 (1.79)*	-0.045 (1.78)*	-	-0.031 (7.07)***	-0.026 (5.97)***	-0.002 (0.19)
Bank Stock Dummy	-	-	-0.008 (1.02)	-0.001 (0.35)	-	-	0.011 (2.79)**	0.002 (0.90)
Bank Group or Consortium Dummy	-	-	0.004 (0.55)	0.003 (0.46)	-	-	-0.002 (0.73)	-0.004 (0.76)
Extent of Foreign Bank Asset Share in the Country	-	-	0.057 (7.71)***	0.077 (8.51)***	-	-	0.013 (3.54)***	0.012 (4.29)***
MENA Foreign Dummy, i.e., MENA Foreign=1 and Other Foreign =0	-	-	-	0.003 (0.67)	-	-	-	0.004 (1.54)
Log of Assets	-0.0008 (0.35)	-0.003 (2.34)**	-0.002 (2.17)**	-0.001 (1.84)*	0.005 (2.23)**	0.001 (1.81)*	0.001 (1.93)*	0.001 (0.74)
Loan to Assets	*0.015* 0.77)	0.018 (1.67)*	0.012 (1.17)	0.003 (0.25)	*-0.008 (0.39)*	*-0.005 (0.86)*	*0.001 (1.22)*	*0.004 (1.21)*
Deposit to Assets	*-0.013* (0.50)	-0.018 (1.26)	-0.011 (0.80)	-0.031 (1.45)	*-0.025 (0.93)*	*-0.010 (1.27)*	*-0.007 (0.93)*	*-0.007 (1.09)*
Non-interest Expenditure to Assets	*-0.005* (3.25)***	-0.002 (3.09)***	-0.002 (2.66)**	-0.005 (2.78)**	*-0.002 (0.95)*	*-0.001* (2.09)***	*-0.0001 (1.76)**	*-0.001 (1.03)*
Loan Loss Provision to Assets	*0.259 (0.84)*	0.097 (0.56)	0.150 (0.91)	0.471 (1.33)	*0.121* (0.46)	*-0.016 (0.20)*	*-0.018* (0.15)	*-0.016 (1.26)*
Adjusted R^2	*0.2021*	0.7517	0.7746	0.2816	*0.4473*	*0.9484*	*0.9502*	*0.7917*
F-Statistics	*24.90***	245.78***	195.50***	13.96***	*23.90***	*496.13***	*451.20***	*200.16***
No. of Observations	*567*	567	567	345	*567*	*567*	*567*	*345*

Note: The absolute values of the t-statistics are in parentheses. The standard errors are consistent estimates with White's Heteroscedasticity corrections. Alternative regressions not reported here included additional independent variables e.g. investment to assets ratio and equity to assets ratio. These excluded variables are very highly correlated with total assets or loan to assets variables. These results are available upon request. ***, **, * are significant at 1, 5, and 10 percent significance levels respectively.