THE EFFICIENCY'S ANALYSIS OF ISLAMIC BANKS IN MENA COUNTRIES: TRENDS AND PERSPECTIVES

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ABSTRACT

Performance has a central role in the control mechanisms of the banking system. Bank's performance has been the subject to numerous studies and several of them have examined it on the basis of the comparison between conventional banks and Islamic banks. The purpose of this work is the conducting of an empirical analysis of the efficiency and profitability of banks in the MENA region through the comparison of Islamic banks to conventional ones.

In our study, three-dimension-analysis will be introduced. The first is based on the comparison between Islamic banks and conventional banks in terms of banking performance. The second deals with the impact of bank size on performance. The third dimension examines the impact of recent financial crisis on the banking landscape in the MENA region. Recently, the comparisons have shown that the efficiency scores of conventional banks are better than those of Islamic banks in terms of techniques. Besides, this is the same with regard to the cost and allocation level. (Shahid Rehman Niazi and Raoof (2010).

This paper is divided into two parts. In the first one, we will state the literature review, the research methodology and our assumptions. In the second part, we will present our results and interpretations.

Keywords: Bank profitability, profitability ratios, MENA Islamic Banks, Conventional Banks.

Introduction:

The 2007/2008 financial crisis has generated a series of failure for many conventional banks, as observed by the downfall of Bear Stearns. This crisis revealed that the banks' financial structure is important to their resilience (OCDE, 2010). Particularly, for the banks relying mostly on wholesale funding (i.e. funding from other banks, money market funds, corporate treasuries and other non-bank investors) have been severely affected by the crisis. At the opposite, banks which relied mostly on depository funding have been very resilient to the crisis. Also, Islamic Banks have demonstrated a degree of resilience and stability (Shamsh and Akhtar1).In this paper, we want to know if this stability is similar for Islamic and Conventional Banks.

Hasan and Dridi (2010) addressed the resilience of IBs relatively to CBs during the recent global financial crisis. They have analyzed the effects of the crisis on profitability, credit growth, asset growth and external ratings of 120 Islamic and conventional banks in 8 countries. They found that IBs' showed stronger resilience in the early stages of the crisis. However, as the crisis moved to the real economy in 2009, IBs' profitability has steeply declined relatively to the CBs. They conclude that IBs contributed to financial and economic stability during the crisis, given that their credit and asset growth was at least twice as high as that of CBs. Although the study provides a useful analysis for the comparison of the effects of the financial crisis on IBs relatively to CBs, it didn't tell us much about the financial stability's change of the two types of banks. Replicating the

increased role of Islamic finance, the literature on Islamic banking has grown.

Literature Review:

Our assumptions are as follows:

H1: Islamic banks are more efficient than conventional banks.

H2: the size of the bank has a positive impact on performance

H3: the crisis affects more Islamic Banks than conventional banks

Our work is organized into two parts. The first one examines the efficiency level of the studied banks. The second part provides information about the efficiency determinants. We will outline the main empirical literature on bank's performance through two types of measures: measures based on ratios and measures based on the level of efficiency (overall technical efficiency, pure technical efficiency and scale efficiency). Firstly, according to Athanasoglou, Brissimis and Delis (2008), capital clearly explains the bank's profitability and it increases the exposure to credit risk that lowers profits. In addition, the growth of labor productivity has a positive and significant impact on profitability, while operating costs are negatively and significantly related to profitability.

Secondly, Dietrich and Wanzenried (2011) analyzed the profitability of commercial banks in Switzerland during the period from 1999 to 2006. Their results indicated that there are large differences in profitability between the banks of the sample and a significant amount of this variation can be explained by the factors taken into account in their analyses. The best capitalized banks seem to be more profitable. In addition, if the bank lending volume is growing faster than that of the market, the impact on bank profitability becomes positive.

Thirdly, Naceur and Gouied (2001) studied the impact of the Banks's characteristics, financial structure and macroeconomic indicators on net interest margins and profitability in the Tunisian banking sector for the period 1980 - 2000. Their results indicate that the characteristics of each bank account for a substantial part of the intra-country banks interest margins and net profitability. Bank size has a negative and significant impact on its profitability. In addition, they found that the tendency of the Tunisian financial system supports the profitability of the banking sector.

Results:

Our study focused on a sample of 49 conventional banks and 18 Islamic ones in 8 countries from the MENA region (Middle East and North Africa). They were selected over the period 2006-2009. The data are taken from the Bankscope base. All observations are as follows:

Table 1: the sample's Overview

Country	Conventional banks	Islamic bank	Total
Mauritania	1	1	2
Tunisia	11	1	12
Saudi Arabia	9	2	11
Bahrain	6	5	11
Iran	-	1	1
Jordan	8	2	10
Kuwait	5	2	7
UAE	9	4	13
Total	**49**	**18**	**67**

Table 2: Descriptive's variables statistics by Banks's categories

Variables	Conventional banks				Islamic bank			
	Moyenne	Ecart type	Min	Max	Moyenne	Ecart type	Min	Max
Credit	8747.423	10507.66	7.800	58438.190	4730.048	7151.355	2.100	29715.450
Other productive assets	5613.691	7123.265	34.838	33442.870	2292.373	3113.708	6.876	11669.010
Capital	140.578	163.542	1	814.809	197.979	428.416	1.242	2199.238
Personal expensis	117.990	130.007	1.805	627.801	89.144	115.303	0.265	459.120
Deposits and customer deposits	9995.653	11673.05	25.507	54022.040	5451.86	8128.268	4.700	32763.210
Total assets	15873	17678.660	167.268	76899.590	7996.299	11433.240	22.328	45527.980
Total deposits	12384.61	14035.83	40.255	58481.400	6091.982	8811.054	14.392	34390.440
Equity	2017.079	2364.738	-14.008	11420.030	1236.325	1804.205	1.404	7664.250
Net	261.100	506.9423	-3704.449	2072.379	208.193	438.569	-87.900	1947.176
Activity	0.622	0.183	0.002	0.902	0.582	0.217	0.022	0.928
Diversification	0.637	0.249	0.004	0.999	0.619	0.263	0.044	0.997
Observations number	196				72			

Descriptive statistics are given for 49 conventional banks and 18 Islamic banks during the period 2006-2009. Statistics are calculated from annual data. All variables are expressed in millions of U.S. dollars.

Table 2 shows descriptive statistics of the variables included in the balance sheet for each category of banks. We notice the great heterogeneity of banks in our sample. On all variables studied, except for fixed assets, conventional banks have on average higher values than Islamic banks. In fact, they are better capitalized and larger sized. They develop a greater business volume. They emit a better result. They represent the same characteristics in their activity portfolios (trades).

The profitability indices:

Our job is to compare the banks in the MENA region according to two criteria: the nature of the banks (conventional and Islamic) and according to their size (large and small) through economic profitability (EBITDA) and profitability (ESOP). The results generated from the comparison between banks according to their nature are summarized in the following table:

Table 3: The economic and financial profitability evolution of banks by category

Ratios (%)	Years	Conventional banks	Islamic bank
ROAA	2006	2.632	3.146
	2007	1.997	3.038
	2008	1.379	2.347
	2009	1.322	0.055
	2006-2009	1.832	2.146
ROAE	2006	17.025	16.292
	2007	9.638	16.605
	2008	9.815	14.405
	2009	9.711	4.812
	2006-2009	11.547	13.028
N		**196**	**72**

The SOP and ESOP of the two categories of banks tend to decrease between 2006 and 2009. For both ratios, we find that Islamic banks show a return on assets and equity more notably than their conventional counterpart until 2008. In 2009, the trend reversed. This shows that Islamic banks have been affected in the post-crisis period. Indeed, Islamic banks are better capitalized on average and have a greater leverage. The SOP can be decomposed into multiple ESOP and bank equity, which reflects the leverage of the bank. Thus, the ESOP's growth in 2009 does not necessarily mean an improvement in performance, but may result from an increase in leverage for the year 2009. Subsequently, its economic and financial viability will be greater than those of conventional banks.

Figures 1 and 2 show respectively the evolution of the SOP and the ESOP for the two categories of banks.

Figure 1: The evolution of the economic profitability of banks by nature
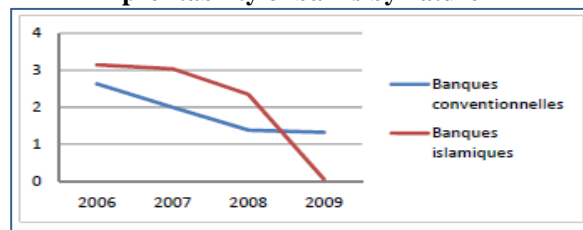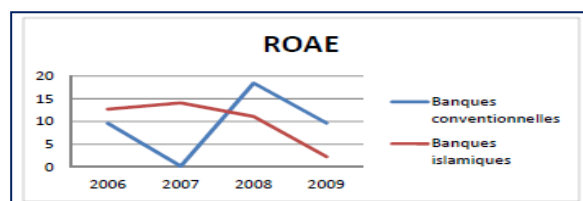

Figure 2: The evolution of the economic profitability of banks by nature

On the other hand, the results generated from the comparison between the two categories of banks in terms of size are summarized in Table 4.

Table 4: the evolution of the economic and financial profitability of banks by size

Ratios (%)	Year	Large banks		Small banks	
		Conventional banks	Islamic bank	Conventional banks	Islamic bank
ROAA	2006	2.787	3.023	1.524	3.392
	2007	2.019	3.0376	1.799	2.964
	2008	1.314	2.436	1.954	2.034
	2009	1.297	0.549	1.693	-1.670
	2006-2009	1.850	2.261	1.742	1.680
ROAE	2006	18.252	18.087	8.237	12.701
	2007	9.878	18.534	7.531	12.748
	2008	9.887	15.291	9.181	11.306
	2009	9.798	4.811	8.945	4.814
	2006-2009	11.954	14.181	8.473	10.392
N		**176**	**52**	**20**	**20**

Regarding the whole sample, the return on assets and capital tends to decrease between 2006 and 2009. Besides, the results observed for the two categories of banks of larger sizes are higher than those of small size. In addition, Islamic banks emerge an a more considerable average return than conventional banks for both large and small sized banks. Similarly, the only category of banks which recorded a negative return is that of the small Islamic banks. It was registered in 2009. (After crisis), Figures 3, 4, 5, and 6 show the evolution of profitability ratios differ depending on the type of banks.

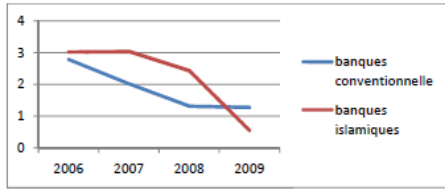**Figure 3: The evolution of profitability for large banks**

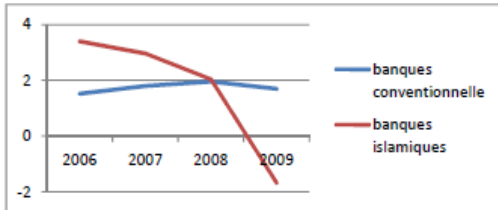**Figure 4: The evolution of profitability for small banks**

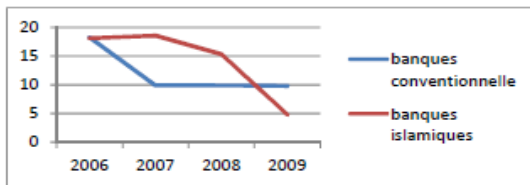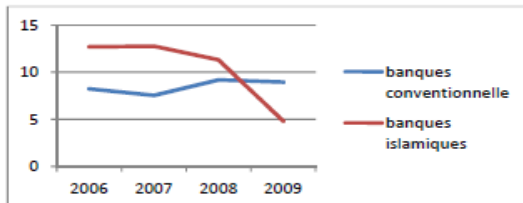**Figure 5: The evolution of profitability for large banks**

Figure 6: The evolution of profitability for small banks

In summary, our results are in agreement with those of Pasiouras et al. (2007), Smirlock (1985) and Bikker et al. (2002). In fact, size has a positive effect on performance. This can be justified by the possibility of

reducing costs by major banks due to economies of scale that this entails. In addition, banks may also raise capital at a lower cost.

Our work consists of comparing the MENA region banks according to two criteria: type of banks (conventional and Islamic) their size (large and small); across the three levels of efficiency (ETG, ETP and EECH). The results generated from the comparison between banks according to their nature are obtained through the program DEAP Version 2.1 and summarized in Tables 5 and 6.

We find that the efficiency average of conventional banks tends to increase from 2006 to 2009. For cons, the average efficiency of Islamic banks recorded a decrease between 2006 and 2008. In other words, we observe that conventional banks are slightly more efficient than Islamic banks for the three performance measures. Indeed, conventional banks could save on average 7.9% of inputs if they operated at constant returns to scale. The economy of inputs is of the order of 12.5% on average, when they operate on the production possibilities frontier with variable returns to scale. Indeed, for Islamic banks, the potential savings of inputs is 7.9% if banks operated on the production possibilities frontier showing constant returns to scale. This saving of 13% is in the presence of variable returns to scale.

The technical efficiency of conventional banks and Islamic banks amounted respectively to the order of 80.6% and 79.8%. The decomposition of overall technical inefficiency indicates that there are two categories of banks of pure technical inefficiency. Then, it seems that the resolution of the majority of problems associated with inefficiency in banks in the MENA region is reflected in the improvement of their pure technical inefficiencies.

Figures 7, 8 and 9 illustrate the evolution of the different levels of efficiency by type of banks.

Table 5: The evolution of efficiency scores by category of banks

Scores d'efficience	Années	L'ensemble de l'échantillon	Banques conventionnelles	Banques islamiques
ETG	2006	0.807	0.805	0.813
	2007	0.776	0.771	0.793
	2008	0.809	0.825	0.765
	2009	0.822	0.823	0.821
	2006-2009	0.803	0.806	0.798
ETP	2006	0.855	0.884	0.888
	2007	0.854	0..853	0.856
	2008	0.878	0.888	0.849
	2009	0.879	0.876	0.887
	2006-2009	0.866	0.875	0.870
EECH	2006	0.914	0.912	0.918
	2007	0.910	0.904	0.928
	2008	0.924	0.929	0.911
	2009	0.936	0.939	0.928
	2006-2009	0.921	0.921	0.921
N		268	196	72

Figure 7: The evolution of the technical overall efficiency of banks by category
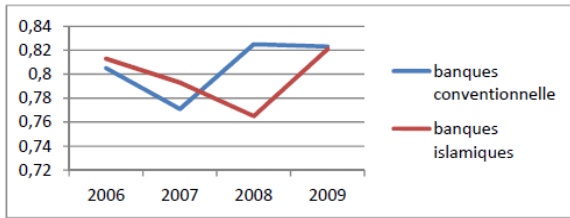

Figure 8: The evolution of the technical overall efficiency of banks by category
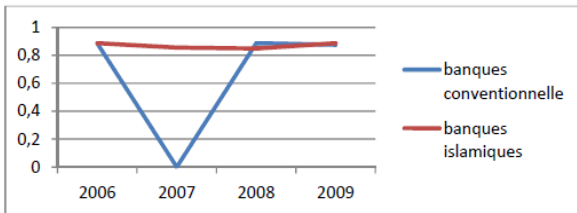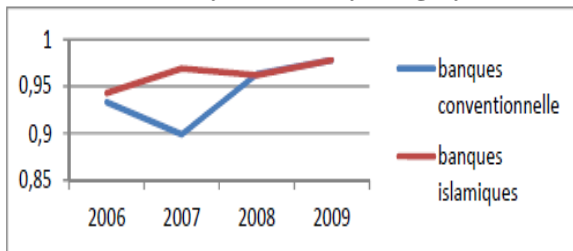

Figure 8: The evolution of the technical overall efficiency of banks by category

On the other hand, the results generated from the comparison between the two categories of banks in terms of size are summarized in Table 6

The efficiency average of large conventional banks tends to increase from 2006 to 2009. However large

Islamic banks have a decreasing level of efficiency during the same period. Furthermore, the efficiency average of small conventional and Islamic banks recorded an increase during this period. This shows that, unlike large banks, small banks were able to resist during and after the crisis. Large conventional banks could save on average 10.7% of inputs if they operated at constant returns to scale.

On average, the input economy is of the order of 10.4% when they operate on the production possibilities frontier with variable returns to scale. For large Islamic banks, the input potential savings is 9.4% if banks operate on the production possibilities frontier showing constant returns to scale. The economy is of 12.2% in the presence of variable returns to scale. For small banks, we find that Islamic banks are more efficient than conventional banks. This may be due to pure technical inefficiency.

Indeed, Islamic banks could save on average 3.7% of inputs if they operated at constant returns to scale. The input economy is of the order of 12.8% on average, when they operate on the production possibilities frontier with variable returns to scale. For conventional banks, the potential savings of inputs is 5.7% if banks operated on the production possibilities frontier showing constant returns to scale. The economy is 30.5% in the presence of variable returns to scale.

The decomposition of overall technical inefficiency indicates that it comes from an almost equivalent pure technical inefficiency and scale inefficiency for large banks (conventional and Islamic). By cons, for small banks (conventional and Islamic), technical inefficiency stems rather from the pure technical inefficiency. The majority of problems are related to the inefficiency in small banks through improving their pure technical inefficiencies.

Table 6: The efficiency's evolution scores by size

Score d'efficience	Années	Grandes banques		Petites banques	
		Banques conventionnelles	Banques islamiques	Banques conventionnelles	Banques islamiques
ETG	2006	0.820	0.834	0.697	0.770
	2007	0.793	0.827	0.567	0.727
	2008	0.846	0.724	0.641	0.909
	2009	0.835	0.779	0.718	0.964
	2006–2009	0.823	0.791	0.655	0.842
ETP	2006	0.902	0.925	0.754	0.812
	2007	0.878	0.907	0.627	0.752
	2008	0.913	0.823	0.667	0.940
	2009	0.893	0.859	0.732	0.986
	2006–2009	0.896	0.878	0.695	0.872
EECH	2006	0.909	0.905	0.933	0.943
	2007	0.904	0.908	0.899	0.969
	2008	0.926	0.896	0.963	0.962
	2009	0.934	0.914	0.978	0.978
	2006–2009	0.893	0.906	0.943	0.963
N		172	56	24	16

Figures 10, 11, 12, 13, 14 and 15 respectively illustrate the evolution of ETG, ETP and EECH for both categories of banks: large and small.

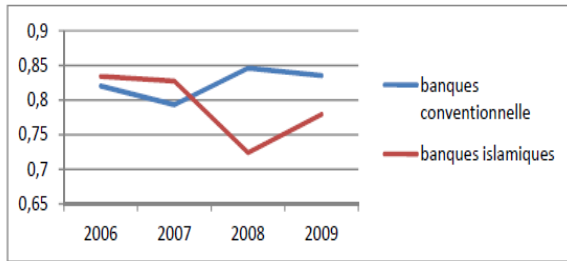**Figure 10: The evolution of the overall technical efficiency for large banks**

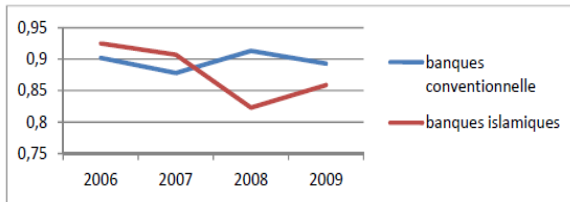**Figure 11: The evolution of the overall technical efficiency for large banks**

Figure 12: The evolution of the overall technical efficiency for large banks
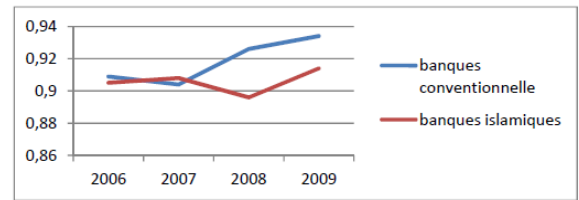

Figure 13: The evolution of the overall technical efficiency for small banks
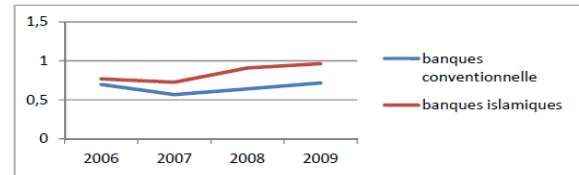

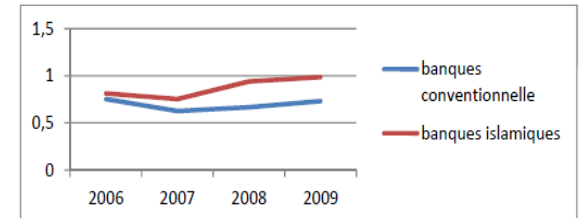**Figure 14: The evolution of the overall technical efficiency for small banks**

Figure 15: The evolution of the overall technical efficiency for small banks

Table 7: Tobit Estimation for the entire sample

	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH
Nature de banques	-0.007 (-0.19)	0.016 (0.46)	-0.027 (-1.57)
Crise	0.025* (1.96)	0.002 (0.22)	0.027*** (3.16)
Taille	-0.065 (-1.11)	-0.064 (-1.29)	0.003 (0.09)
Depot	0.102** (2.29)	0.104*** (2.79)	-0.006 (-0.23)
Arabie saoudite	0.042 (0.85)	0.029 (0.62)	0.023 (1.02)
Bahreïn	-0.092* (-1.67)	-0.079 (-1.52)	-0.023 (-0.92)
Iran	0.137 (0.91)	0.238 (1.66)	-0.168** (-2.32)
Jordanie	-0.030 (-0.56)	-0.041 (-0.81)	0.004 (0.14)
Kuwait	-0.157*** (-2.76)	-0.149*** (-2.76)	-0.021 (-0.80)
Mauritanie	-0.018 (-0.17)	0.053 (0.51)	-0.118** (-2.35)
Tunisie	-0.064 (-1.07)	-0.027 (-0.47)	-0.067** (-2.34)
Capitalisation	-0.039 (-1.64))	-0.013 (-0.65)	-0.038*** (-2.63)
Intermédiation	-0.285*** (-3.62)	-0.265*** (-3.66)	-0.008 (-0.21)
diversification	-0.243*** (-4.75)	-0.168*** (-3.68)	-0.077*** (-2.81)
Sigma	0.088*** (19.640)	0.073*** (19.41)	0.060*** (19.87)
Log vraisemblance	203.529	245.947	333.359
Observation	268	268	268
*, **, *** signifient un estimateur significativement différent de 0 à 10%, 5% et 1%			
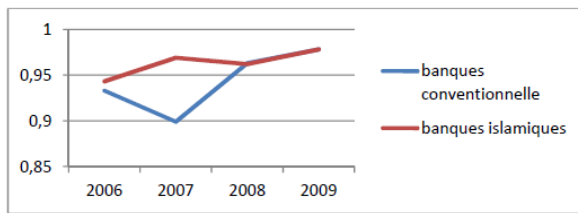
Accordingly, scale inefficiencies dominate the pure technical inefficiencies for both categories of banks. This indicates that the inefficiency is more important when there are more overuses than inappropriate returns of inputs to scale. Our results indicate that conventional banks are more efficient than Islamic banks. This is consistent with the work of (Shahid Rehman Niazi and Raoof (2010)) and Sufian et al. (2008)). Small banks are more efficient than large banks. Therefore, the size is of a positive impact on the performance of small banks.

We have shown here that conventional banks have efficiency average higher than that of Islamic banks. This result suggests that conventional banks are better managed than Islamic banks. Efficiency results are in contradiction to those worn on the economic and financial profitability.

This can be explained by the fact that profitability measures focus on the overall performance of the bank. By cons, measures based on efficiency examined the level of wastage of resources. We have, however, previously observed the existence of significant differences between Islamic and conventional banks in terms of size, structure and activities of the current crisis. As a result, we then analyze the determinants of bank efficiency.

In this step, our work is to estimate the three equations shown below in STATA 11. The results are summarized in Tables 7, 8, 9[1].

Given that the coefficients associated with the variable "nature of banks" weren't significant in any of the three regressions. This means that the advantage of bank efficiency is not influenced by this factor, for the same size.

This is our first hypothesis; the second one is, however, not verified.

The associated coefficient with the variable crisis is crucial in terms of overall technical efficiency and scale efficiency. It is significantly positive. This indicates that banks have improved their efficiencies after the crisis. This result can be justified by the fact that banks, under pressure of the crisis, tried to consolidate their activities by limiting the waste of resources.

Table 8: Tobit Estimation bank category

	Banques conventionnelles			Banques islamiques		
	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH
Crise	0.0234 (1.66)	-0.003 (-0.28)	0.029*** (2.97)	0.560** (2.03)	0.043* (1.85)	0.028 (1.46)
Taille	0.0949 (1.33)	0.086 (1.47)	0.009 (0.21)	0.350*** (-2.60)	-0.303*** (-2.65)	-0.082 (-1.05)
Dépôts	-0.019 (-0.35)	-0.015 (-0.33)	-0.009 (-0.26)	0.278*** (3.56)	0.271*** (4.17)	0.046 (0.91)
Arabie saoudite	0.054 (0.97)	0.009 (0.20)	0.059** (2.32)	-0.027 (-0.24)	0.078 (0.66)	-0.061* (-1.71)
Bahreïn	-0.115 (-1.77)	-0.117** (-1.99)	0.0004 (-0.01)	-0.062 (-0.60)	-0.013 (-0.12)	-0.066*** (-2.11)
Iran	-	-	-	0.041 (0.16)	0.193 (0.70)	-0.376 (-4.18)
Jordanie	0.0185 (0.30)	-0.012 (-0.23)	0.040 (1.39)	-0.146 (-1.16)	-0.135 (-1.02)	-0.735* (-1.85)
Kuwait	0.120 (-1.83)	-0.148** (-2.48)	0.020 (0.66)	-0.232** (-2.12)	-0.124 (-1.09)	-0.111*** (-3.50)
Mauritanie	0.0291382 (0.22)	0.038 (0.32)	-0.034 (-0.55)	-0.157 (-0.80)	0.017 (0.07)	-0.317*** (-5.39)
Tunisie	-0.045 (-0.70)	-0.033 (-0.57)	-0.035 (-1.16)	-0.040 (-0.19)	0.026 (0.14)	-0.166*** (-3.07)
Capitalisation	-0.065 (-2.58)	-0.035* (-1.73)	-0.034** (-2.17)	-1.56 (0.49)	0.037 (0.53)	-0.036 (-0.90)
Intermédiation	-0.249 (-2.74)	-0.210** (-2.53)	-0.0003 (-0.01)	-0.261 (-0.89)	-0.220 (-1.73)	0.257 (0.34)
Diversification	-0.1946705 (-3.01)	-0.107* (-1.92)	-0.104*** (-2.94)	1.542*** (-2.56)	-0.200** (-2.06)	-0.035 (-0.86)
Sigma	0.082*** (16.71)	0.066*** (16.61)	0.058*** (16.94)	0.093*** (9.60)	0.076*** (9.09)	0.0657 (9.45)
Log vraisemblance	162.096	197.647	251.25169	51.150	61.153	93.145***
Observations	196	196	196	72	72	72
*, **, *** signifient un estimateur significativement différent de 0 à 10%, 5% et 1%						

The coefficient associated to the variable "Deposits" is significantly positive determinant in terms of overall technical efficiency and pure technical efficiency. Indeed, under the assumption of variable returns to scale pure technical efficiency is an increasing function of the volume of deposits (input) shows that banks in the MENA region working with increasing returns to scale. This result can be justified by the youth of the banking sector in the region. The coefficients for the dummy variable, Country, are significantly different from zero and negative for three models (1, 2 and 3). This means that the banks have an advantage over Emarates banks of Bahrain, Iran, Kuwait and Mauritania in terms of scale efficiency and pure technique, which is reflected in the overall technical efficiency.

Banks capitalization level is crucial for scale's efficiency.

The variable "Equity" is significantly negative in the regression 3. This suggests that the capitalization of banks reduces the level of efficiency of banks.

Measures related to the business lines have negative and significant impact on efficiency. This reflects that the specialization in trade wholesale (market) improves the efficiency level of banks. In addition, the variables have the effect of calling the highest marginal. Hence, business performance is equally important as a factor in this analysis.

We make the following estimate based on the size of the banks. It is presented in Table 8.

The coefficient associated to the variable crisis is significantly positive for conventional banks for regression 1. However, it is significantly positive for both models (1 and 2) for Islamic banks. This means that the crisis enhances the level of efficiency in terms of scale for conventional banks and improves the level of efficiency in terms of waste which reflects the overall technical efficiency.

Hence our third hypothesis is verified.

Given that the coefficients associated with the variable "Size" aren't significant in any of the three regressions for conventional banks, this means that the advantage of the efficiency of conventional banks is not influenced by this factor.

However, for Islamic banks, these coefficients are significantly positive for regressions (1) and significantly negative for regression (2). This means that the size reduces the level of pure efficiency and improves the level of overall technical efficiency.

The level of capitalization of banks is crucial in terms of scale efficiency and pure technical efficiency. Equity variable is significantly negative in regressions (2 and 3).

Table 9: Tobit Estimation according to size

	Grandes banques						Petites banques					
	Banques conventionnelles			Banques islamiques			Banques conventionnelles			Banques islamiques		
	Modèle (1) ETG	Modèle (2) ETG	Modèle (3) EECH	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH	Modèle (1) ETG	Modèle (2) ETP	Modèle (3) EECH
Crise	0.197 (1.33)	-0.006 (-0.56)	0.027*** (2.57)	0.041 (1.57)	0.022 (0.95)	0.029 (1.21)	0.088*** (2.77)	0.045 (1.22)	0.069*** (2.81)	0.104** (2.01)	0.096** (1.98)	0.007 (0.61)
Taille	-0.063 (-0.54)	-0.059 (-0.64)	-0.019 (-0.26)	-0.410*** (-3.36)	-0.139 (-0.85)	-0.133 (-1.44)	0.734*** (4.57)	0.748*** (4.18)	0.114 (1.16)	-0.607** (-2.34)	-0.667*** (-2.73)	0.124** (2.09)
Dépôts	0.088 (0.86)	0.091 (1.09)	0.005 (0.08)	0.270*** (2.82)	0.101 (0.73)	0.070 (-1.16)	-0.326*** (-5.00)	-0.303*** (-4.18)	-0.063 (-1.36)	0.303*** (3.04)	0.329*** (3.51)	-0.046** (-2.02)
Arabie saoudite	0.054 (10.7)	0.008 (0.19)	0.057** (2.15)	-0.085* (-1.94)	0.044 (0.27)	-0.055 (-1.44)	-	-	-	-	-	-
Bahreïn	-0.130** (-2.20)	-0.124 (-2.38)	-0.013** (-0.40)	0.005 (0.12)	-0.022 (-0.15)	-0.073** (-2.15)				-0.280*** (-3.21)	-0.253*** (-3.08)	-0.045** (-2.26)
Iran	-	-	-	-	-	-	-	-	-	-0.001 (-0.00)	-0.189 (-0.47)	0.208** (2.12)
Jordanie	-0.017 (-0.32)	-0.037 (-0.76)	0.023 (0.76)	-0.146	-0.139 (-0.75)	-0.076 (-1.64)				-0.216* (-1.75)	-0.183 (-1.58)	-0.069* (-2.47)
Kuwait	-0.131** (-2.15)	-0.158 (-2.94)	0.015*** (0.46)	-0.243*** (-6.40)	-0.129 (-0.80)	-0.112*** (-3.32)						
Mauritanie	-	-	-	-	-	-	-0.313* (-1.93)	-0.213 (-1.62)	-0.017 (-0.51)	-0.351** (-2.54)	-0.337*** (-2.59)	-0.0006 (-0.02)
Tunisie	-0.009 (-0.16)	0.002 (0.05)	-0.023 (-0.76)	-	-	-	-	-	-	-	-	-
Capitalisation	-0.390 (-1.55)	-0.12 (-0.62)	-0.026 (-1.55)	0.120** (2.22)	0.071 (1.04)	-0.024 (-0.53)	-0.236 (-1.43)	-0.317** (-2.33)	-0.089 (-1.34)	0.123 (0.67)	0.108 (0.63)	-0.012 (-0.30)
Intermédiation	-0.301*** (-2.69)	-0.252 (-2.61)	-0.032*** (-0.49)	0.188* (1.70)	0.112 (0.47)	-0.017 (0.24)	-0.650*** (-2.84)	-0.623*** (-2.86)	0.052 (0.84)	-1.342*** (-3.82)	-1.201*** (-3.66)	-0.187** (-2.33)
Diversification	-0.228*** (-3.17)	-0.143** (-2.39)	-0.103** (-2.34)	-0.205*** (-3.00)	-0.080 (-0.66)	-0.028 (0.55)	-0.528*** (-3.49)	-0.422*** (-2.74)	-0.092 (-1.30)	0.202 (0.80)	0.163 (0.69)	0.014 (0.26)
Sigma	0.082*** (16.04)	0.064*** (15.97)	0.059*** (16.04)	0.079*** (10.01)	0.061*** (1.71)	0.072 (10.20)	0.049*** (4.35)	0.057*** (5.15)	0.041*** (6.48)	0.069*** (6.32)	0.065*** (6.32)	0.015*** (6.32)
Log vraisemblance	151.119	187.619	222.241	39.437	46.994	62.862968	25.229	23.431	37.176	24.910	26.132	54.390
Nombres d'observations	175	175	175	52	52	52	21	21	21	20	20	20

*, **, *** signifient un estimateur significativement différent de 0 à 10%, 5% et 1%

This suggests that the capitalization of banks reduces the level of efficiency of conventional banks. By cons, capitalization has no impact on Islamic banks.

The coefficients for the dummy variables (Saudi Arabia, Bahrain, Jordan, Kuwait, Mauritania and Tunisia) are significantly negative and different from zero for both models (1, 2 and 3) for the two categories of banks. This indicates UAE banks represent an advantage over other banks in terms of pure technical efficiency and scale, which is reflected in the overall technical efficiency.

On the other hand, we make an estimate based on the size of banks. They are presented in Table 9.

Coefficients associated to the variable "crisis" are significantly positive for regression (3) for large and small conventional banks. This means that the crisis enhances the level of efficiency of scale and improves the overall technical level, which is the case with Islamic banks as well (check!!) .

According to their coefficient, variable "size" reduces the level of efficiency for small and large Islamic banks and improves the level of efficiency of small conventional banks.

Coefficients associated to the variable "Deposits" is significantly positive in regression (1) for large and small Islamic banks and significantly negative for small conventional banks. This means that the activity structure improves the level of efficiency for the two categories of banks (large and small Islamic banks). By cons, for small conventional banks structure activity reduces the level of efficiency.

The coefficient associated with the variable "equity" is significantly positive in model (1) for large Islamic banks. This means that the funding level improves efficiency. Thus, the coefficient on this variable is significantly negative in the regression (2) for small conventional banks.

This indicates that the capitalization has a negative impact in terms of waste. Therefore, our second hypothesis is verified only for small Islamic banks.

Conclusion:

This paper analyzes banks performances in MENA countries   based on a sample of 67 banks, 18 Islamic banks and 49 conventional banks, from 2006 and 2009. We conducted a performance analysis by the ratios and the efficiency outcome. Then we analyzed the determinants of efficiency in the MENA region. Our main results are summarized in the following:

- In terms of overall profitability (Economic and Financial), Islamic banks show a return on assets and equity higher than their conventional counterparts until 2008. In 2009 the conventional banks won. Performance levels for the two categories of banks of large size are higher than those of smaller size. In addition, Islamic banks emerge average profitability better than conventional banks for both types of banks (large and small).

- In terms of efficiency, conventional banks are slightly more efficient than Islamic banks for the three performance measures. The decomposition of overall technical inefficiency indicates that for both categories of banks pure technical inefficiency is at stance. It seems then that the resolution of the majority of problems associated with inefficiency in banks in the MENA region is reflected in the improvement of their pure technical inefficiencies.

- From the review of the determinants of performance, measures related to the business lines have negative and significant impact on efficiency. This reflects that the specialization in trade wholesale (market) improves the efficiency level of banks. In addition, the variables have the effect of calling the highest marginal rate.

- Hence, business performance is equally important as a factor in this analysis. The coefficient associated with the variable crisis is crucial in terms of overall technical efficiency and scale efficiency. It is significantly positive.

- This indicates that banks have improved their efficiencies after the crisis. This result can be justified by the fact that banks, under pressure of the crisis, tried to consolidate their activities by limiting the waste of resources. The coefficient associated to the variable "Deposits" is significantly positive.

- Indeed, according to the assumption of variable returns to scale, pure technical efficiency is an increasing function of the volume of deposits (input) showing that banks in the MENA region are working with increasing returns to scale. This result can be justified by the youth of the banking sector in the region. The coefficients for the dummy variable, Country, are significantly negative. This means that the banks have an advantage over Emirates banks of Bahrain, Iran, Kuwait and Mauritania in terms of scale efficiency and pure technique, which is reflected in the overall technical efficiency. A capitalization level bank is crucial for efficiency of scale. The variable "Equity" is significantly negative. This suggests that the capitalization of banks reduces the level of efficiency of banks.

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