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Islamic Banks versus Commercial Banks and Performance: The Context of Saudi Arabia?

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ISLAMICBANKSVERSUSCOMMERCIALBANKSANDPERFORMANCEIN THECONTEXT OFSAUDI ARABIA

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I. INTRODUCTION

Islamic banking is a growing worldwide phenomenon; in particular, the number of Islamic financial institutions has increased significantly in the Middle East and Southeast Asia. Moreover, more International financial Institutions in Europe and the United States are adopting some Islamic.

Instruments to attract investors who prefer the use of Islamic credit instruments, such as Murabaha, Mudaraba, Musharaka and Ijara. "It is expanding not only in nations with majority Muslim populations, but also in other countries where Muslims are a minority, such as the United Kingdom and Japan" (Solé j,2008).

In Saudi Arabia, there are 23 banks of which 12 banks are national and 11 banks are foreign. Out of the 12 national banks, there are only 4 Islamic banks and the remaining 7 are commercial banks. Saudi national banks contribute by 8.2 percent to the total global Islamic finance assets. The total assets of the Saudi banks has increased from SR 1,075 billion (about US\$ 287 billion) in 2007 to SR 1,544 billion (about US\$ 412 billion) in 2011 (SAMA, 2012). The total assets of Islamic banks has increased from SR 7.1 billion (about US\$ 1.9 billion) in 2007 to SR 182.6 billion (about US\$ 49.6 billion) in 2011.

The main aim of this study is to investigate the accounting differences in performance between the Saudi national Islamic banks and national commercial banks. The paper also investigates different factors influencing the two sets of banks' performance. Due to

the impact of the current financial crisis, there is a high demand for Islamic banking services, which encouraged one Saudi conventional bank to switch to Islamic accounting practices and to offer Islamic banking services. This new development in Islamic banking industry motivates the writer to investigate some factors influencing Saudi Islamic banks' accounting performance compared with that of the national conventional banks.

The next section of the paper provides a brief literature review related to the bank performance. Section two presents the methodology employed while section three presents the study estimations and results. In the final section a brief summary of the paper and conclusions of the main results is provided.

II. RELATED LITERATURE

The enormous influence of banking sector on economic growth has encouraged many studies on factors affecting banking accounting performance. Most of the studies have concentrated in few countries, mainly developed countries while few concentrated in developing countries such as Saudi Arabia.

Sun et al. (2010) evaluated the relationship between ownership structure and bank performance for 221 banks in 17 MENA countries. The authors differentiated between private and governmental banks and clarified the effects of numerous structural and reform measures on the inconsistency of bank performance in the MENA region. As a result, private banks, specifically foreign banks, perform better than government banks. Moreover, foreign publicly traded banks from the same region, or any foreign banks are tend to have better performance.

Kosmidou (2008) using an unbalanced pooled time series dataset of 23 banks investigated the determinants of performance of Greek banks during the period of EU financial integration in the period 1990-2002. The author used the ratio of return on average assets (ROAA) as a measurement of bank performance and classified them into internal and external determinants. The internal set included: the cost to-income ratio, the ratio of equity to total assets, the ratio of bank's loans to customer and short-term funding, the ratio of loan loss reserves to gross loans and the bank's total assets. The external set included: the annual change in GDP, inflation rate, the growth of money

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supply, the ratio of stock market capitalization to total assets, the ratio of total assets to GDP and concentration. The results showed that ROAA was found to be associated with well-capitalized banks and with lower cost to income ratios. The results also indicated that the impact of size and the growth of GDP was positive, while inflation had a significant negative impact. Elmoussawi et al. (2009) compared the efficiency of banks with majority of domestic ownership, banks with majority of foreign banks, and foreign banks subsidiaries operating in Lebanon from 1996-2005. They used DEA methodology for three groups of banks to calculate the yearly scores for cost effectiveness, technical and allocation. In addition, they extended their study to determine the factors that shape bank efficiency. Their results didn't show big differences between the three groups. In spite of this, their evaluation of the efficiency scores shows an improvement in the performance of banks with majority foreign ownership, and weakening in performance of banks with majority of domestic ownership and foreign banks subsidiaries. They also concluded that bank efficiency is differently determined based on bank ownership.

Okpara (2009) determined the major factors that influence the banking system in Nigeria. Using factor analysis techniques, the author concluded that undue interference from board members, political crises, undercapitalization, and fraudulent practices are considered the most critical factors that impact the performance of banking system in Nigeria.

Sufian (2009) investigated the determinants of bank profitability in Malaysian financial sector during the period 2000-2004. The results showed that higher credit risk and higher loan concentration lead to lower profitability level. On the contrary, banks with higher income from noninterest sources, higher level of capitalization, and higher operational expenses face higher profitability level.

Tarawneh (2006) divided the commercial banks in Oman in cohesive categories depending on their financial characteristics revealed by financial ratios. Using simple regression analysis, the followings were determined: the effect of asset management, operational efficiency, and bank size on the financial performance of five Omani commercial banks with more than 20 branches. The results indicated that bank with higher total capital, deposits, credits, or total assets do not always represent a better profitability performance. Athanasoglou et al. (2006) investigated the bank-specific, industry-specific and macroeconomic determinants of bank profitability in Greek. The results indicate that all bank specific determinants, excluding size, significantly affect bank profitability in the anticipated way.

Jham et al. (2008) considered satisfaction with banking services as the main determinant of bank Performance, The authors demonstrated how adoption

of satisfaction variables can lead to better performance, and how customer satisfaction was linked with the performance of the banks.

Unal et al., (2007) conducted a comparative performance analysis between the Turkish state-owned and private commercial banks during the period 1997-2006. They used net profit-loss, return on assets and return on equity as proxies to measure profitability. To measure operating efficiency they used net profit, net assets efficiencies relative to total employment and total number of branches. The findings suggested that state-owned banks are as efficient as private banks.

Chirwa (2003) investigates the relationship between market structure measured by concentration and profitability of commercial banks in Malawi using time series data between 1970 and 1994. He concluded that there was a positive relationship between concentration and performance.

Ahmed et al (1999) used three measures of profitability (ROE, ROA and percentage change in earnings per share) as dependent variables and four independent variables (business risk, market concentration, market size and size of the bank). The results indicated that the business risk and the bank size were the main determinants of the banks' performance.

Based on the above previous studies, it can be concluded that several studies have been conducted all over the world that investigated some factors influencing bank performance, however, no studies have investigated Saudi bank accounting performance with full differentiation between Islamic and commercial banks.

III. PRESENTATION OF VARIABLES

In order to examine the determinants of Saudi bank's performance, we try to present a model linking the profitability of banks and a set of factors that takes into consideration the patterns of banks and the macroeconomic situation in Saudi Arabia.

In its simplest form, the linear equation that must be estimated for each bank i at each time period t is:

$$perf_{i,t} = \alpha' Z_{i,t} + \beta' V_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where $perf_{i,t}$ is an indicator of bank's profitability, $Z_{i,t}$ is a vector of the bank's characteristics, $V_{i,t}$ is a vector of macroeconomic indicators and $\varepsilon_{i,t}$ is the disturbance term.

In this study, the dependent variable is the bank profitability. Basing on banking literature, there are several proxies that can measure the performance of banks. Among these proxies, one can cite the return on assets (ROA), the return on equity (ROE), the profit margin (PBT/A) and net non-interest margin. Most studies have used ROA and ROE as a measure of profitability (Sinkey, 2002, Ta Ho et al., 2006, Beck et al., 2005). In our empirical work, we add PBT/A these two

measures to give more explanations about the determinants of performance of Saudi banks.

Concerning the ROA, this proxy is measured as the ratio of net profit after tax over average assets. It reflects the ability of bank to manage its real investment and financial resources. However, the ROE is defined as the net profit after tax over the shareholders' equity. This indicator assesses whether a bank operates perfectly its shareholders funds. The third and last indicator of profitability in this study is the PBTA. The profit margin is expressed as the net profit before taxes as a percent of the total assets. The PBTA shows the ability of a bank to obtain high profits due to the diversification of their portfolio.

In the banking literature, each measure of profitability depends not only on internal-bank factors but also on the macroeconomic situation of the country where the bank is located. For the internal-bank factors, the performance determinants are the capital, the asset quality, the efficiency, the liquidity, the size, the bank's weight, the number of branches. Whereas the GDP growth, the GDP per capital and the inflation are the external-bank determinants.

The ratio of total equity over total assets (TETA) is the most used ratio to measure the capital variable. This ratio reflects the bank's capacity to cover losses. An increase in this ratio can be explained by a decrease in the risk exposure and thus an improvement in the capital adequacy and in bank profitability (Samad, 2004). The asset quality is defined in this paper as loan loss reserves as percentage of gross loan assets (LLRGLA). It is not the only indicator used in the literature to measure the asset quality¹. The LLRGLA expresses the percentage of the total portfolio that has been anticipated but not charged off. For a high profitability, a bank may have lower LLRGLA ratio in order to restrain their credit risk. To measure the bank's efficiency determinant, the majority of studies employs the cost over income ratio (COST) or the overheads over total assets ratio (OVTA). In our empirical work, we use the proxy COST as a measure of the efficiency. We thus expected a negative relationship between the COST and the indicators of performance (Kosmidou et al., 2006). For the measure of bank liquidity, there are several indicators. Among the most wide-spread indicators, we find net loans over total assets ratio (NLTA) and net loans over deposits and short-run funding ratio (NLDF). These liquidity ratios tend to be higher for high-profitability bank due to the increase in interest income. The NLTA will be our proxy to measure the bank liquidity. The bank size is presented by total assets.

Berger et al. (1987) and Shaffer (1985) assumed that size may positively affect the company performance. Therefore, in this study, we consider that there is a positive relationship between bank size and accounting performance. To examine the variables influencing the performance of banks, we try to evaluate the effects of the weight of each bank assets in total assets of Saudi banks and also the effects of the number of branches on the profitability ratios. According to Delis et al., 2009, and Chirwa, 2003, we expected a positive sign for these variables.

Concerning the external variables or the macroeconomic situation that can be affected the accounting Performance, we introduce the GDP growth (gwth), the GDP per capital (RGDPC) and the inflation (INF). For the two first indicators, we expected a positive relationship with the performance ratios if they have an effect (Wang, 2009; Beck et al., 2008 and Tang, 2006). In contrast, it is hypothesized in our study that inflation affects profitability proxies negatively, according to Pasiouras and Kosmidou (2007).

The definitions, the measures and the sources of variables used in descriptive and regression analysis are presented in Appendix A.

IV. DATA DESCRIPTION AND METHODOLOGY

The dataset on profitability ratios, bank's characteristics and macroeconomic variables consists of 12 Saudi banks in the period 2005-2011. Our sample of banks includes 9 commercial banks and 3 Islamic banks. Appendix B lists the Saudi banks in our sample.

Table 1 presented below describes the minimum, maximum, mean and standard deviation values for all dependent and internal explanatory variables for both commercial and Islamic banks.

Our study is elaborate on annual data covering period 1989-2011 for a heterogeneous panel of 38 developed and developing countries. The choice of countries retained in our work was founded on criterion of data availability for variables in definite period.

¹ There are also loan loss provisions over net interest revenue, loan loss reserves over impaired loans, impaired loans over gross loans, net charge-off over average gross loans, and net charge-off over net income before loan loss provision.

Table 1: Descriptive statistics: Commercial bans vs. Islamic banks

		Commercial banks				Islamic banks			
		Min	Max	Mean	S.D	Min	Max	Mean	S.D
Profitability									
	ROA	0.09	13.2	2.58	1.88	-2.1	7.29	2.43	2.39
	ROE	0.58	54.58	20.38	11.08	-8.00	47.63	11.47	15.47
	PBTA	0.01	1.25	0.26	0.18	-0.14	0.69	0.24	0.22
Quality									
	llrgl	0.78	6.00	3.00	1.32	0.21	5.71	3.40	1.51
Capital									
	teta	8.84	27.05	13.10	3.21	14.17	89.80	38.20	28.12
Efficiency									
	cost	17.74	69.64	34.41	10.82	20.41	160	53.03	33.50
	ovta	8e-06	3e-04	1.5e-04	5e-06	6e-10	4.5e-04	2e-04	1.7e-04
Liquidity									
	nlta	39.91	64.7	56.07	6.49	51.55	87.10	65.62	9.50
	nldf	51.28	84.49	68.46	8.13	66.55	133.10	93.23	20.54
Size									
	assets	1.4e+07	3e+08	1e+08	7e+07	7e+06	2e+08	6.3e+07	7e+07
Wgh		1.87	20.48	9.33	5.13	0.94	14.60	5.34	5.58
Branch		21	284	89.78	61	22	528	224.37	202.84

The table suggest that there are differences between both groups of banks, but it is not important. Indeed, the statistics suggest that the commercial banks had higher profitability ratios (ROA, ROE, PBTA), lower efficiency ratios (COST, OVTA), and higher size (ASSETS) and weights (WGH) ratios with a lower levels volatilities measured by the standard deviation than the Islamic banks. Contrariwise, the others proxies of bank characteristics (quality, capital and liquidity ratios and number of branches) are at mean higher in Islamic bank than in commercial bank, but they had higher levels of volatilities.

To check whether these differences are significant, we perform the test of mean equality for each variable in each group of banks. The results are supported in the table 2 (see below).

In comparing the profitability ratios for commercial and Islamic banks, we remark that there are a significant difference only in the ratio ROE but the differences of means for ROA and PBTA are not significant. Commercial banks tend to have more net profit after taxes (as percent of shareholders' equity) than Islamic banks. This result indicates that Saudi commercial banks operate perfectly its shareholders' funds than Saudi Islamic banks. The significant difference in the mean of ROE and the non-significant difference in the mean of ROA and PBTA can be observed in the figures that describe the evolution of profitability ratios in the time. These figures show that the difference in the mean of ROE ratio between Saudi commercial and Islamic banks is very higher compared to ROA and PBTA ratios.

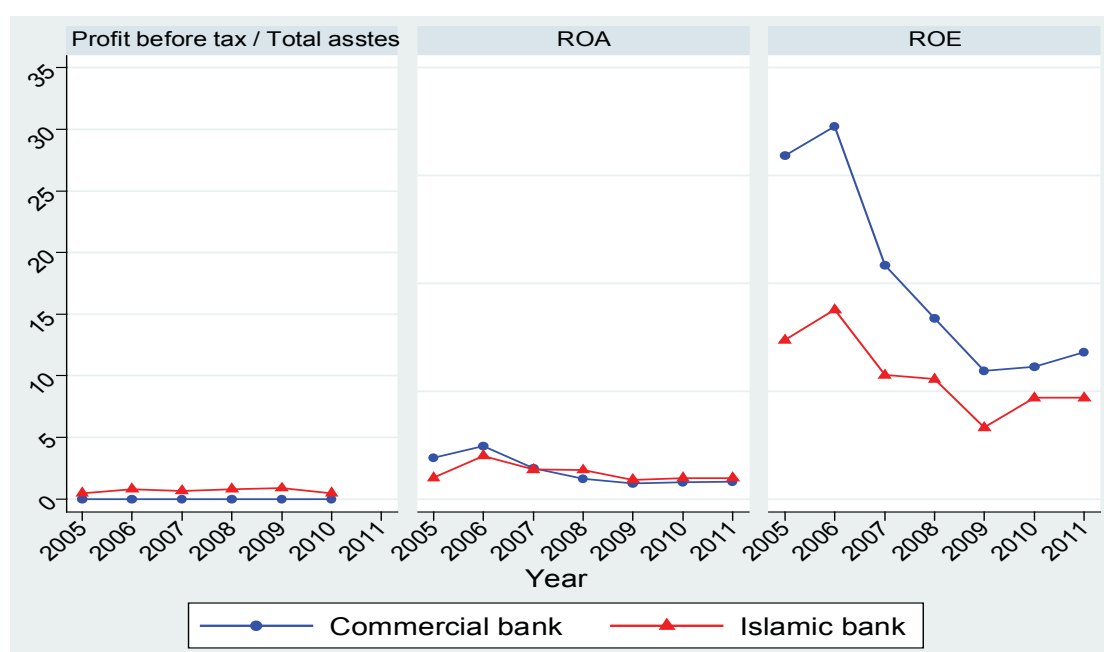


Figure 1 : Trend of profitability ratios : Commercial vs. Islamic banks

When the quality ratios are compared, the test equality of mean shows that there is no difference between commercial and Islamic banks. This result implies that the two groups of banks have the same quality of the loan portfolio.

Another significant difference exists when comparing the capital adequacy. Indeed, the ratio of total equity over total assets is significantly higher in Islamic banks than in commercial banks. This implies that the Islamic banks had a better ability to withstand losses than the commercial banks. Concerning the

efficiency ratios, we observe a significant difference in the cost over income (COST) ratio, but no difference in the ratio overheads to total assets (OVTA). Commercial banks have a lower levels of cost to income than Islamic banks conducting to conclude that commercial banks are more efficient than Islamic banks. This results can be explained as the commercial banks have a higher lending margins than Islamic banks. It also can be explained by high net income from associates or volatile trading income in commercial banks.

Table 2 : Mean-comparison test: Commercial bans vs. Islamic banks

Test equality of mean					
Ratios	Commercial banks		Islamic banks		t-stat
Profitability					
ROA	2.58		2.43		0.28
ROE	20.38		11.47		2.88
PBTA	0.26		0.24		0.39
Quality					
llrgl	3.00		3.40		-1.08
Capital					
teta	13.10		38.20		-7.03
Efficiency					
cost	34.41		53.03		-3.88
ovta	1.5e-04		2e-04		-1.63
Liquidity					
nlta	56.07		65.62		-5.16
nldf	68.46		93.23		-6.88
Size					
assets	1e+08		6.3e+07		2.67
Wgh	9.33		5.34		3.02
Branch	89.78		224.37		-4.23

Notes: *** indicate the significance level at 1%. The reject of the null hypothesis implies that the means of two bank groups are different.

When we test the equality of mean for the liquidity ratios, the two ratios that are net loans to total assets and net loans over deposits and short term funding are significantly different between commercial banks and Islamic banks. These ratios suggest that commercial banks are more liquid than Islamic banks. Generally, the liquidity ratios tend to be higher for the high performance of banks.

The test of size ratio shows that the mean of total assets is significant different between the two

groups of banks. Commercial banks have a bigger size than Islamic banks. About the weights ratios, we find that commercial banks are more weighted than Islamic banks. Finally, the number of branches in Islamic banks is significantly very important than in commercial banks.

V. SPECIFICATION OF MODEL

In order to examine the determinants of Saudi commercial and Islamic banks' profitability, we present the following model:

$$perf_{i,t} = \alpha + \beta * llrgl_{i,t} + \gamma * teta_{i,t} + \delta * nlta_{i,t} + \theta * assets_{i,t} + \partial * cost_{i,t} + \vartheta * wgh_{i,t} + \mu * branch_{i,t} + \rho * gwth_{i,t} + \pi * rgdpc_{i,t} + \sigma * inf_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where $perf_{i,t}$ is the profitability ratios including the ROA, ROE or PBTA proxy, $llrgl_{i,t}$ is the quality proxy, $teta_{i,t}$ is the capital adequacy proxy, $nlta_{i,t}$ is the liquidity proxy, $assets_{i,t}$ is the size proxy, $cost_{i,t}$ is the efficiency proxy, $wgh_{i,t}$ is the weight variable, $branch_{i,t}$ is the number of branches, $gwth_{i,t}$ is the real GDP growth rate, $rgdpc_{i,t}$ is the real GDP per capital, $inf_{i,t}$ is the inflation rate, $\varepsilon_{i,t}$ is the disturbance term, $i=1,2,\dots,N$ is the bank indicator and $t=2005,\dots, 2011$ is the time indicator.

To check for potential multicollinearity between the variables, we perform a correlation analysis for each

group of banks (see Appendix C). Most explanatory variables are not highly and significantly correlated except for the proxy of size, cost, weights and branch variables, particularly in Islamic banks. In order to improve the estimations of our model, we remove the assets proxy because it had a very important correlation with the most explanatory variables and we will introduce the cost, weights and branch variables in separated models.

Thus, the model that will be estimated is:

$$perf_{i,t} = \alpha + \beta * llrgl_{i,t} + \gamma * teta_{i,t} + \delta * nlta_{i,t} + \partial * \left(\frac{wgh_{i,t}}{branch_{i,t} * cost_{i,t}} \right) + \rho * gwth_{i,t} + \pi * rgdpc_{i,t} + \sigma * inf_{i,t} + \varepsilon_{i,t} \quad (3)$$

The profitability model (equation 3) will be estimated using the Prais-Winsten method for each group of banks. Assuming that the disturbances are heteroskedastic and contemporaneously correlated across panels, this technique presents panel-corrected standard error estimates for linear panel models.

VI. RESULTS AND DISCUSSIONS

In this section, we present and analyze the regression results of equation (3) using Prais-Winsten method for Saudi bank sample including 9 commercial banks and 3 Islamic banks over the period 2005-2011. To take into account the multicollinearity problem, several specifications of equation (3) were estimated for each group of banks. The first includes the weights variable (denoted I). The second contains the number of branches (denoted II). The third introduces the cost proxy (denoted III). The four takes in the macroeconomic variables (denoted IV). Tables 3 through 5 detail the estimated coefficients of the panel regression respectively for ROA, ROE et net profit before taxes.

In examining the effect of Loan loss reserves over gross loan ($llrgl$) on profitability measures, we remark a statistically significant negative relationship between $llrgl$, as a measure of asset quality and ROA, ROE or PBTA, particularly in Islamic banks. This

indicates that high asset quality ratio reduces profitability measures of Islamic banks. In the case of commercial banks, the $llrgl$ also has a negative and significant effect on the ROE (Table 4, specifications II and IV) but it has no effect on ROA and PBTA. This implies that asset quality is an important determinant for the profitability of Islamic banks.

Table 3 : Determinants of Return On Assets: Commercial vs. Islamic banks

	Commercial banks				Islamic banks			
Variables	I	II	III	IV	I	II	III	IV
Ratios								
llrgl	-0.233	-0.351	-0.137	-0.254	-0.289***	-0.092	-0.583***	-0.553***
	(-0.64)	(-1.25)	(-0.80)	(-1.46)	(-2.67)	(-0.60)	(-4.90)	(-3.74)
teta	0.348***	0.314***	0.385***	0.367***	0.048***	0.059***	-0.004	-0.003
	(3.19)	(2.87)	(6.25)	(6.81)	(8.26)	(8.27)	(-0.35)	(-0.37)
nlta	-0.086	-0.137***	-0.024	-0.051**	0.011	0.044	-0.000	0.027
	(-1.56)	(-2.61)	(-0.87)	(-2.04)	(0.61)	(0.97)	(-0.01)	(0.95)
wgh	0.046				0.456***			
	(0.81)				(4.54)			
branch		-0.000				0.013***		
		(-0.10)				(3.78)		
cost			-0.123***	-0.091***			-0.093***	-0.093***
			(-6.16)	(-4.73)			(-6.04)	(-5.80)
Macro								
gwth				0.081				-0.038
				(1.11)				(-0.51)
inf				-0.136*				0.051
				(-1.87)				(0.56)
rgdpc				0.005				0.014
				(0.87)				(1.50)
Constant	3.379	7.419**	4.220**	3.148	-1.415	-4.362	9.186***	2.292
	(0.83)	(2.09)	(2.09)	(1.27)	(-1.13)	(-1.48)	(4.15)	(0.48)
Wald	12.75**	38.17***	81.18***	90.31***	115.36***	97.35***	121.35***	99.10***
R ²	0.50	0.65	0.84	0.84	0.73	0.80	0.71	0.79
N	54	43	54	54	17	13	17	17

Notes: Significance levels are denoted by ***: 99%, **: 95%, *: 90%.

Next, the total equity over total assets (teta), as a measures of capital adequacy, has a statistically significant positive effect on ROA, ROE and profit before tax for commercial banks except in specifications I and II when ROE had been choosing as measures of profitability (Table 4). For Islamic banks, the capital measure has a positive and significant effect on ROA, ROE and profit before tax when macroeconomic variables were not controlling, implying that high capital

ratios increases profitability ratios. In introducing these control variables, we find a statistically significant inverse relationship between the equity variable and ROE (Table 4, specification IV). This negative relationship also is verified when including cost to income ratio (Table 4, specification III). We thus can conclude that capital adequacy is a major performance Determinants in both groups of banks.

Table 4 : Determinants of Return On Equity: Commercial vs. Islamic banks

	Commercial banks				Islamic banks			
Variables	I	II	III	IV	I	II	III	IV
Ratios								
llrgl	-2.290	-2.971*	-1.649	-2.580***	-0.710	-0.047	-2.068**	-2.060*
	(-0.99)	(-1.76)	(-1.31)	(-2.61)	(-1.29)	(-0.05)	(-2.20)	(-1.91)
teta	0.840	0.578	0.788**	0.548**	0.078***	0.134***	-0.225***	-0.232***
	(1.34)	(1.06)	(2.30)	(2.09)	(3.31)	(4.40)	(-3.97)	(-4.82)
nlta	-0.392	-0.695**	-0.107	-0.199	0.161*	0.534*	0.144	0.207
	(-1.09)	(-2.10)	(-0.58)	(-1.31)	(1.74)	(1.79)	(1.39)	(1.23)
wgh	0.519				2.863***			
	(1.45)				(5.14)			
branch		-0.006				0.073***		
		(-0.31)				(3.98)		
cost			-0.739***	-0.468***			-0.555***	-0.547***
			(-5.81)	(-4.65)			(-6.12)	(-5.85)

Macro								
gwth				0.823				0.198
				(1.49)				(0.39)
inf				-1.578				-0.018
				(-3.28)				(-0.03)
rgdpc				0.039				0.067
				(1.10)				(1.38)
Constant	36.02	61.940***	49.493***	37.846***	-14.171**	-40.226**	45.097***	16.300
	(1.29)	(2.62)	(3.62)	(2.94)	(-2.10)	(-2.05)	(3.80)	(0.68)
Wald test	8.57*	6.60	45.82***	73.35***	68.12***	43.35***	40.07***	47.66***
R ²	0.48	0.59	0.72	0.83	0.75	0.70	0.76	0.76
N	54	43	54	54	17	13	17	17

Notes: Significance levels are denoted by ***: 99%, **: 95%, *: 90%.

In analyzing the effects of macroeconomic variables used as control variables to isolate the impacts of bank characteristics variables, we find that the effects of GDP growth (gwth) and real GDP per capita (rgdpc) on ROA, ROE and PBTA are all statistically insignificant in both groups of banks (All tables, specification IV). However, the inflation variable has a negative and statistically relationship with the ROA, ROE and profit before tax only in commercial bank indicating that a high rate of inflation tend to decrease the performance of banks.

At 5% level of significance, the coefficients of net loans over total assets (nlta) are statistically

insignificant across all specifications of Islamic banks profitability measures. For commercial banks group, these coefficients however are negative and significant in the ROA (Table 3, specification II and IV), ROE (Table 4, specification II) and PBTA (Table 5, specification II). This result shows an increase in the ratio indicating a decrease in liquidity declines the profitability of commercial banks due to a rise in defaulting borrowers. Generally, in empirical research, the effect of liquidity ratios on banks' profitability is ambiguous. Basing on our estimation results, the liquidity measures cannot be considered as major determinants of commercial and Islamic banks' profitability.

Table 5: Determinants of Profit before taxes/Total assets: Commercial vs. Islamic banks

	Commercial banks				Islamic banks			
Variables	I	II	III	IV	I	II	III	IV
Ratios								
llrgl	-0.019	-0.030	-0.009	-0.022	-0.026**	-0.009	-0.052***	-0.054***
	(-0.55)	(-1.14)	(-0.55)	(-1.33)	(-2.52)	(-0.59)	(-4.51)	(-3.53)
teta	0.033***	0.029***	0.037***	0.035***	0.004***	0.005***	-0.001	-0.001
	(3.25)	(2.80)	(6.92)	(7.20)	(8.16)	(8.02)	(-0.60)	(-0.61)
nlta	-0.008	-0.013***	-0.002	-0.004*	0.001	0.004	-0.000	0.001
	(-1.45)	(-2.63)	(-0.58)	(-1.85)	(0.33)	(0.85)	(-0.15)	(0.52)
wgh	0.005				0.044***			
	(1.03)				(5.13)			
branch		0.000				0.001***		
		(0.16)				(3.94)		
cost			-0.011***	-0.008***			-0.009***	-0.009***
			(-6.26)	(-4.80)			(-6.82)	(-6.51)
Macro								
gwth				0.006				-0.006
				(0.98)				(-0.82)
inf				-0.014				0.002
				(-2.12)**				(0.20)
rgdpc				0.000				0.001
				(0.85)				(1.43)
Constant	0.265	0.678**	0.315*	0.262	-0.110	-0.388	0.888***	0.352
	(0.68)	(2.07)	(1.72)	(1.14)	(-0.89)	(-1.35)	(4.62)	(0.77)
Wald	12.80**	41.40***	84.43***	97.16***	110.69***	101.09***	106.75***	86.72***
R ²	0.50	0.65	0.85	0.85	0.71	0.79	0.72	0.76
N	54	43	54	54	17	13	17	17

Notes: Significance levels are denoted by ***: 99%, **: 95%, *: 90%.

Our results also suggest that there is a positive and statistically significant relationship between bank' weight (wgh) and all performance measures in Islamic banks (All tables, specification II). This indicates that higher bank' weight improves its performances. Contrary, in commercial banks, there is no effect of bank' weight on performance indicators, as all coefficients are statistically insignificant. Thus, the bank' weigh is an important determinant of Islamic bank's performance.

Same Conclusion Were finding when the coefficient of number of branches (branch) is estimated. Indeed, number of branches has a positive and significant effect on the performance measures only in Islamic banks (All tables, specification III). The number of branches appears to be a crucial determinants of performance in Islamic banks.

The cost over income (cost) is our final bank characteristics variable that was estimated. Whatever the type of banks, the cost over income as a proxy of bank efficiency has a important positive and significant effect on the all performance measures (All tables, specification III). This implies that high cost to income ratio reduces the efficiency of banks and thus decreases the bank's performances. The efficiency can be considered as an important determinant of bank's performance.

VII. CONCLUSION

The number of studies that have addressed the issue of determinants of bank performance is very important, but their results are not consensual. In this study, we tried to distinguish the determinants of performance in Saudi commercial and Islamic banks. We have used a data for 12 Saudi banks including 9 commercial banks and 3 Islamic banks over the period 2005-2011. The estimation technique used in this study is the Prais-Winsten method. This technique is employed to ensure that the linear regression is with panel-corrected standard errors.

The estimation results show that there are no a very important and significant differences between conventional banks and Islamic banks in the context of Saudi Arabia for all variables except Bank cost. This finding is consistent with Unal et al (2007) findings.

Performing a comparative study, the empirical results found that efficiency measured by cost to income, capital measured by total equity over total assets, and inflation rate were the most variables affecting the Saudi commercial banks' performance measured by return on assets, return on equity and profit after taxes. Indeed, efficiency, capital and inflation variables could have a negative relationship with banks' performance.

However, Saudi Islamic banks' performance depends heavily on asset quality measured by loan loss reserves over gross loan, capital adequacy, efficiency,

bank' weigh variable measured by assets of each bank over total Saudi banks assets and number of branches. These variables were the most determinants that can affect ROA, ROE and profit before taxes. Asset quality has a negative effect on Islamic banks' performance. This implies that the higher the loan loss reserves over gross loan ratio the poorer will be the quality of the loan portfolio. This concluding is consistent and intuitive with previous works. A high level of capital ratio leads to more return on assets, return on equity and particularly profit before taxes. This finding implies that larger equity over total assets ratio signals decline in risk exposure and thus increased ability of Islamic banks to withstand losses. Therefore, it can improve the performance of Islamic bank. This result is consistent with the works of Kosmidou, Tanna, and Pasiouras (2006), Pasiouras and Kosmidou (2007), Athanasoglou, Brissimis and Delis (2008) and Heffernan and Fu (2008). In addition, costto income ratio measuring efficiency tend to have a big impact on all proxies of Islamic banks' performance. As such, high cost ratio leading to decrease of efficiency substantially reduces Islamic banks' performance (Pasiouras and Kosmidou, 2007 and Olson and Zoubi, 2008). While bank weight and number of branches variables were the most variables affect the performance measured by ROA, ROE and net profit margin. For Instance, weight and number of branches could have a positive impact on banks' performance. In further research, if number of banks increased, we will have more accurate results for evaluating banks' performance.

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APPENDIX A

Definitions and sources of variables used in descriptive and regression analysis

Variables	Definitions	Sources
Profitability		
• Return on assets (ROA)	Ratio of net profit after tax over average assets	BankScope database
• Return on equity (ROE)	Ratio of net profit after tax over average equity	BankScope database
• Profit before taxes (PBTA)	Before-tax profit as a percent of total assets	BankScope database
Quality		
• Loan loss reserves /Gross loan (llrgla)	Reserves for losses as a percent of total loans.	BankScope database
Capital		
• Equity / assets (teta)	Total equity expressed as a percentage of total assets	BankScope database
Efficiency		
• Cost / income (cost)	Expressed as total salaries as a	BankScope database

	percentage of income generated before provisions.	
• Overheads / assets (ovta)	Percentage of total assets in personnel expenses and other non-interest expenses.	BankScope database
Liquidity		
• Net loans / assets (nlta)	Percentage of total assets in net loans.	BankScope database
• Net loans / Dep and ST funding (nldf)	Net loans as a percent of deposits and short term funding	BankScope database
Size		
• Assets (assets)	Total assets	BankScope database
Weights (wgh)	Measured as assets of each bank as a percent of the sum of Saudi bank assets.	BankScope database
Branches (branch)	Number of bank branches	BankScope database
Macroeconomic variables		
• Economic growth (gwth)	Percentage change in GDP	WDI, Word Bank
• GDP per capital (rgdpc)	Ratio of real GDP in constant 2005 US\$ to total population.	IFS, International Monetary Fund (IMF)
• Inflation (inf)	Percentage change of CPI	WDI, Word Bank

APPENDIX B

List of Saudi bank

Commercial bank	Islamic bank
Arab National Bank	Al Rajhi Banking & Investment Corporation-Al Rajhi Bank
Bank Al-Jazira	Bank AlBilad
Banque Saudi Fransi	Islamic Development Bank
National Commercial Bank (The)	
Riayd Bank	
Samba Financial Group	
Saudi British Bank (The)	
Saudi Hollandi Bank	
Saudi Investment Bank (The)	

APPENDIX C

Correlation matrix : Commercial banks

	llrgl	teta	cost	nlta	assets	wgh	branch	gwth	inf	rgdpc
llrgl	1.00									
teta	0.32	1.00								
cost	0.23	0.05	1.00							
nlta	-0.54	-0.52	0.03	1.00						
assets	-0.25	-0.24	-0.27	-0.05	1.00					
wgh	-0.26	-0.25	-0.34	-0.08	0.9*	1.00				
branch	-0.11	-0.13	-0.11	-0.03	0.60	0.77*	1.00			
gwth	-0.13	-0.03	-0.01	0.01	0.01	0.05	0.06	1.00		
inf	-0.30	-0.16	0.18	0.26	0.20	-0.05	-0.23	0.28	1.00	
rgdpc	0.15	0.08	0.03	-0.21	-0.07	-0.05	-0.14	0.04	-0.07	1.00

Notes: * indicate strong correlation

Correlation matrix : Islamic banks

	llrgl	teta	cost	nlta	assets	wgh	branch	gwth	inf	rgdpc
llrgl	1.00									
teta	0.25	1.00								
cost	-0.48	0.09	1.00							
nlta	-0.25	-0.34	-0.24	1.00						
assets	0.15	-0.47	-0.80*	0.24	1.00					

wgh	0.17	-0.51	-0.87*	0.41	0.94*	1.00				
branch	0.14	-0.57	-0.83*	0.36	0.97*	0.99*	1.00			
gwth	-0.15	-0.03	-0.07	-0.02	0.01	0.04	0.02	1.00		
inf	-0.11	0.27	0.28	-0.64	-0.13	-0.33	-0.28	0.37	1.00	
rgdpc	0.39	0.63	0.08	-0.53	-0.36	-0.38	-0.40	-0.01	0.14	1.00

Notes: * indicate strong correlation.

