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# Banks' Performance in KSA during Financial Distress: A Comparative Study Islamic and Conventional Banks

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**Abstract**

This paper compares the relative performance of Islamic and conventional banks, during the last financial crisis in Saudi Arabia. It aims to test whether one bank type is better positioned to withstand large exogenous financial shocks. Bank performance will be measured by 9 profitability, efficiency and risk accounting ratios. Data is gathered from the financial statements of 11 biggest Saudi banks (7 conventional banks and 4 Islamic banks), over the period 2005-2014. A Panel Logit Regression (PLS) is conducted on 110 bank-year observations. Our results show that the Islamic financial system has better resisted to crisis than the conventional one and bring more evidence on the effectiveness of the Islamic financial system during periods of crisis.

**Keywords:** Financial crisis; Islamic banks; Conventional banks; Bank performance

## Introduction

The 2008 global financial crisis that started in the US in late 2007 has given a wide array of impacts to the operating and financial performance of many banks all over the world [1,2]. Therefore, great losses have been reported in the financial statement of many banks across the world. The crisis has even forced more than 120 banks in the US to file for bankruptcy in the year, such as American giant bank Lehman Brother. Thanks to the Islamic corporate governance mechanisms, Islamic banks seemed to undergo less financial damage when compared to conventional one. This finding has been supported by several economists and experts at the international scale. The shariaa principles such as the prohibition of riba, asset-linked financial transactions.... were highlighted during the financial crisis by experts in Islamic finance. An important trend of conceptual studies put forward the Islamic financial system as an alternative solution for the actual crisis. Most of these studies concluded that the financial crisis has raised public interest on Islamic banks since they are said to be relatively much less affected by the crisis.

Islamic banks are currently spread all over the world both in Muslim and non-Muslim countries. In GCC context, Molyneux et al. [3] found that Islamic banks held nearly 74% of total assets in 2002. The universal largest Islamic banks are concentrated in the following markets: Iran, Kuwait, Malaysia, Saudi Arabia and the UAE. Thus, KSA could be considered one of the countries leader in promoting Islamic finance around the world and in GCC region particularly that have played an important role in the development of Islamic banking and finance. Saudi Arabia is the second largest Islamic finance economy globally with assets worth $ 270 billion. The Kingdom also has the largest Islamic banking market with total assets of $ 217 billion. The combined assets of full-fledged Islamic banks in the kingdom generated an impressive cumulative growth of 93.02 percent between 1990 and 2010 [4]. Despite the weight of the Islamic banking sector in KSA, we notice a lack of academic studies that tested its effectiveness compared to the conventional banking. Given the importance of Islamic banking in KSA, it will be interesting to analyse the added value of such banking system compared to conventional banking. This research tries to test the effectiveness of the Islamic banking industry. It tries to bring a contribution to the existing literature on the relationship between financial crisis and banking financial performance, particularly in the Islamic banking industry in KSA.

## Important Differences between Islamic and Conventional Banks

Theoretically, many significant differences exist between the two types of banks. Specifically, sharia-compliant finance does not allow using interest for delayed payment transactions (*riba*), does not allow obtaining gains from speculation or gambling (*gharar*) and prohibits participating in certain lines of activities recognized Haram (*as alcohol, tobacco, pornography*….). This last restriction may be the major explanation for the limited market share occupied by Islamic banks.

Simultaneously, Sharia-Compliant finance is funded on a golden rule that profit, loss and thus risk sharing, issued from assets and liabilities should result from real economic transaction and sustained by a tangible asset. This rule could constitute a major disparity in Islamic and conventional financial system. Recently and in front of the biggest challenges and competition, Islamic scholars and experts have, however, created new financial products that compensate for interest rate payments used by conventional banks. Some of these instruments are equity-like contracts such as *Musharakah* (partnership) and *mudharabah* (trust financing) and some of them are debt-like contracts such as *Murabaha* (cost plus financing, *Ijara* (leasing), *Bay mouajjil* (deffered payment financing), *Istesne* (progressive payment) and *Quardh el hasan* (benevolent loan)[1].

## Literature Review and Hypothesis

The extent of literature on Islamic banking may be divided into theoretical and empirical dimensions. Theory does not make clear

[1] There is a large literature available to understand how these financial products work and can replace the provision of interest. See for example Siddiqqi, 1983a; Ahmad, 1984; Iqbal and Mirakhor, 1987).

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predictions whether Islamic banks perform better than conventional banks. In the Islamic financial model and from the point of view of the agency theory, equity like savings type and investment deposits could play principal roles in monitoring banks and that might be used by depositors. Mutually, we should notice that incentives of the Islamic banks to monitor borrowers might be distorted by the equity like nature of deposits. In fact, borrowers will not face the threat of an immediate depositors withdrawal. Thus, we thought that a less monitoring may result in less costs of supervising and then leads to a better performance. However, we should not ignore that this increase in performance is generally accompanied with an increase of the overall riskiness of assets. In addition, sharia guidelines are oriented to emphasize asset concentration and to reduce the use of hedging instruments for banks. Another concern deals with the efficiency of Islamic banks. Beck et al. [5] showed how the higher complexities degree of Islamic products could reduce their efficiency due to supplementary costs of handling Islamic banking contracts. However, we have already noticed the restricted supervising and screening costs in Islamic banks given the lower agency problems. Finally, compared to conventional banks, the Islamic banks are younger which obviously leads to a higher cost of first settlement and structure and therefore limit the efficiency of Islamic banks at least in short term running.

The Earliest empirical studies dealing with the performance of Islamic banks compared to conventional with respect to profitability, risk and efficiency during and after crisis period are discussed in the following:

## Profitability

Recently, Al-smadi et al. [6] demonstrate that the Islamic banking system is able to sustain, survive and compete with the conventional banking system especially during the global financial crisis.

Kassim et al. [7] conduct a study on the effect of the financial distress (the 1997 and the 2007 financial shocks) on the Islamic banks *vs* the conventional banks in Malaysia. Using IRF analysis, the study shows that Islamic banks responded significantly to macroeconomics shocks in both non-crisis period and 2007 crisis. Results seems to be mixed when changing the empirical tools. Thus, authors found that both Islamic and conventional banks were affected by the crisis. Similarly and using different measures of performance, Ahmed [8] found no statistical evidence proving that Islamic banking has resisted against the financial crisis compared to conventional one.

During economic prosperity period, Karim et al. [9] found that Islamic Banks opt raising funds from depositors rather than shareholders. Respecting the principle of Sharing Profits and Losses in Islamic banks, the profitability should be higher for these banks than conventional banks. In Malaysian context, Rosly et al. [10] registered a higher profitability level associated to Islamic banks than other banks during the period 1996-1999. In an international scale, Bashir [11] have conducted an empirical analysis based on data over period 2007-2010. The sample is constituted by 120 IBs and CBs in eight countries in order to test the effect of the financial shocks on both types of banks. The statistical results obtained from the study show that Islamic banks are more profitable than Conventional one in 2008. The profitability is appreciated through return on equity, credits and assets growth. Moreover, authors found that the profitability of Islamic Banks has decreased for less than 10 percent, whereas the profitability of conventional banks was collapsed for more than 35 percent in 2008 compared with 2007.

## Efficiency

In accordance with previous literature, Zehri et al. [12] confirm that Islamic banks are less efficient than conventional banks in an international perspective. The limited efficiency of Islamic banks has been explained by the absence of usury practice in all transactions on the one hand and the prohibition of certain profitable and commercial activities recognized by shariaa as Haram on the other hand. However, it is well known that interest income and earnings from these forbidden activities might constitute the main revenues for conventional banks and therefore explain why these banks could be more efficient than Islamic banks.

In the same way, Barth et al. [13] noticed the lack of efficiency in the Islamic banks. This finding is obtained through an empirical and comparative analysis between the two types of banks using twenty six accounting ratios among them we found efficiency indicators. Muni S [14] in order to test banks' efficiency observed three types of banks in Malaysia: full-fledged Islamic banks, Islamic windows and Conventional banks. The methodological approach to measure cost-efficiency of several banks is based on the stochastic frontier approach. The authors showed that, generally, the efficiency of the overall Islamic banking Industry has increased compared to conventional banks. Moreover, the authors found that full-fledged IBs are more efficient than Islamic windows whereas Islamic Windows of foreign banks seemed to be more efficient than those of local banks.

Still with Malaysian banks context, a different result was issued from Rosly et al. [10]. The study investigated the efficiency of Islamic and mainstream banks. The authors use six financial ratios to measure banks' efficiency for the period 1996-1999. Empirical analysis confirms that the operating efficiency ratios and the use of assets are statistically lower for Islamic banks than the conventional banks.

Consistent with the majority of studies, Turen [15] showed that Islamic banks were less efficient than other banks. The methodology used in this research to test efficiency is based on the data-envelopment analysis applied to a sample of Islamic and conventional banks implanted in GCC countries IBs. One of reason given by author to explain the limited efficiency of Islamic banks consisted in the miss of economies of scale which can't be achieved properly by Islamic banks given their small size. Finally, Turen [15] give evidence that despite being affected by the crisis Islamic banks still perform better than conventional banks Islamic banks suffered in 1998-1999.

## Risk

Zehri et al. [12] using a sample of 26 banks(both conventional and Islamic) found a negative sign for the risk ratio suggesting that the Islamic Banks are less risky than Conventional ones. This result is explained by the reliance of conventional banks on shareholder capital.

However, Ahmad et al. [16] conduct a comparative study to measure the risk level of 12 Islamic banks and 12 conventional bank in GCC region within crisis context. The results obtained from the empirical analysis show that Islamic banks are more volatile than conventional banks excluding crisis. However, the risk ratios used in the study show that Islamic banks are less risky than conventional banks during the crisis period. Especially, a major funds resource for Islamic banks is constituted by self-funds (shareholder equities) rather than deposits. This particularity in financial structure of Islamic Banks not only provide voluntarily more cash relative to deposits than conventional banks but also let the Islamic banks less exposed to the risk of withdrawal of deposits.

Conducting a comparative analysis between Islamic and conventional banks based on accounting ratios, Olson and Zantioti [17] explain that the greater risk faced by Islamic banks could explain their

higher profitability during financial crisis compared to conventional banks profitability.

Moreover, D 'Hulster [18] noticed that cash from shareholder equity is much important for Islamic banks since these banks make less use of external funds provided by debtors relative to conventional banks. So, it is expected that level risk should be smaller for Islamic banks compared to conventional one.

Relying on the previous literature, we can withdraw the following hypothesis:

Hypothesis 1: There is a significant association between bank's type and profitability during global financial crisis in KSA.

Hypothesis 2: There is a significant association between banks' type and efficiency during global financial crisis in KSA.

Hypothesis 3: There is a significant association between banks' type and risks during the financial crisis in KSA.

## Research Design

### Sample, data collection and research variable

In this study, seven conventional banks and four Islamic banks are considered. The aggregate data of the Islamic and conventional banks for the period 2005-2014 (which leads to 110 year-observations) are collected manually from the annual reports downloaded from Saudi stock market "Tadawul. We use in our empirical analysis financial items related to the balance sheet and the income statement[2] of bank. By investigating financial statements of Islamic banks and conventional banks of KSA, this study utilizes nine ratios to measure the performance of Islamic vis-à-vis conventional banks. Obviously, we have taken into account differences in applying some accounting principles in both types of bank such as how to calculate zekkat and ignore interest in Islamic banks. In reality, the use of ratio measures is not a new method in literature. Chang [19] and Claessens [20] as used this method in the early 1970The most important advantage of using the ratio method is that it compensates bank disparities relative for example to size.

**Research design:** These accounting measures of performance are placed under three categories:

- Profitability measures
- Risk measures
- Efficiency measures

The following Table 1 summarizes the research variables:

We have also divided our research period into two sub-periods: the pre-crisis period and the crisis and post-crisis period.

**Empirical approach:** In evaluating bank's performance with respect to profitability, risk and efficiency, this study uses ratio measures. We first run a descriptive analysis to determine the relevant ratios that allow us a better distinction between Islamic banks and conventional banks. After that, we suggest to carry out a logistic regression in order to compare the two types of banks and to assess the impact of the last financial crisis.

[2] Rules for establishing financial statements differ between conventional and Islamic banks. While conventional banks use IFRS edited by the IASB, Islamic banks have to apply the financial accounting rules established by the AAOIFI. Because the two groups of accounting principles are so different, it will be interesting to make comparisons between the accounting ratios of conventional banks and Islamic banks.

| | |
|---|---|
| **Bank profitability ratios** | |
| ROA | Return on assets = NI/ATA = net income/average total assets |
| ROE | Return on equity = NI/SE = net income/average stockholders' equity |
| NINC_OPINC | NI/OI = net income/operating income |
| **Bank efficiency ratios** | |
| IINC_LAD | Interest income to expenses = (IN−IE)/ATLA = (interest revenues−interest expenses)/average total loans and advances |
| OPEX_TAS | Operating expense to assets = OE/ATA = operating expenses/ average total assets |
| OPINC_TAS | Operating income to assets = OI/ATA = operating income/average total assets |
| **Risk ratios** | |
| C_TAS | cash to assets = cash/average total assets |
| DEP_TAS | deposits to assets = ATD/ATA = average total customer deposits/ average total assets |
| TL_EQ | total liabilities to equity = TL/SE = average total liabilities/average stockholders' equity |

**Table 1:** List of research variables.

## Results and Discussion

### Descriptive statistics and univariate analysis

At first, Firstly, we will make comparison of Saudi Islamic banks to Saudi conventional ones. The comparison is relative to all the accounting ratios and over the whole period 2005-2014. Then, to evaluate the impact of the current financial crisis on Islamic banks compared to conventional ones, we compare the two kinds of banks during the two periods: the pre-crisis period on the one hand and the crisis and the post -crisis period on the other hand using the time condition variable named: "Crisis".

Tables 2-4 display descriptive statistics for both types of banks. We respectively present results for profitability ratios, efficiency ratios and risk ratios. We show the results of the student test for equality of means[3] between the Islamic and conventional group of banks for each of the nine financial ratios in the last column of each table. The test statistic and degrees of freedom are calculated assuming equal, rather than unequal, population variances[4]. Overall, seven ratios present significant different means between the two groups of banks. Three of the seven ratios are significant at the 1% level whereas four ratios are significant at 5%. We also noticed that the period matter in determining the significance of some accounting ratios. Thus, we found differences from the before crisis period and the crisis and post-crisis period.

**Profitability ratios:** As shown in Table 2, the three profitability ratios (ROA, ROE and NINC_OPINC) are higher for Islamic banks during the period 2005-2014 in Saudi context. The ROA is of 4.63% for Islamic banks versus 3.68% for conventional banks but the difference is not significant. ROE (which is the Net Income divided by capital equity) is getting around 30% for Islamic banks versus 15% for conventional banks and the difference is significant at 1% level. When comparing the two periods, we found that during the pre-crisis period the difference was significant at 10% and become more significant during crisis and post crisis period (p-value=0.0133).

[3] The use of parametric tests is legitimate as the normality assumption is not violated in our sample. We check for normality using the Kolmogrov-Smirnov test for normality.

[4] The student t test is approximately the same as for the simpler case of equal variance where both groups are assumed to come from the same population. Hence, $t=(x_1-x_2)/\sqrt{[(S_1^2/n_{1)}+(S_2^2/n_2)]}$ where x1 and x2 are the means of a financial ratio for conventional banks (group 1) and for Islamic banks (group2), s1 and s2 denote standard deviations, and n1 and n2 are the number of observations for each group of banks.

| The full period 2005-2014 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Variable** | **N** | | **Mean** | | **Standard deviation** | | **t-test for equality of means** | |
| | Conventional | Islamic | Conventional | Islamic | Conventional | Islamic | t-value | p-value |
| ROA | 80 | 30 | 0.0368803 | 0.046374 | 0.0485827 | 0.0704003 | -0.8020 | 0.4243 |
| ROE | 80 | 30 | 0.1593201 | 0.293294 | 0.1324615 | 0.3819383 | -2.7442 *** | 0.0071 |
| NINC_OPINC | 80 | 30 | 0.5359138 | 0.802445 | 0.1480546 | 1.204967 | -1.9541** | 0.0533 |
| **The pre-crisis period 2005-2006** | | | | | | | | |
| ROA | 24 | 9 | 0.0541993 | 0.083016 | 0.0736946 | .1164002 | -0.8498 | 0.4019 |
| ROE | 24 | 9 | 0.2091673 | 0.419243 | 0.1017159 | 0.5746052 | -1.7635* | 0.0877 |
| NINC_OPINC | 24 | 9 | 0.5907044 | 0.992690 | 0.177863 | 1.772697 | -1.1259 | 0.2689 |
| **crisis and post- crisis period 2007-2014** | | | | | | | | |
| ROA | 56 | 21 | 0.0294579 | 0.030670 | 0.0305308 | 0.0300627 | -0.1558 | 0.8766 |
| ROE | 56 | 21 | 0.137957 | 0.239316 | 0.1390216 | 0.2631639 | -2.1925** | 0.0314 |
| NINC_OPINC | 56 | 21 | -0.5124321 | 0.720912 | 0.0171051 | 0.198215 | -1.6914* | 0.0949 |

**Table 2**: Descriptive statistics for profitability ratios.

| The full period 2005-2014 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Variable** | **N** | | **Mean** | | **Standard deviation** | | **t-test for equality of means** | |
| | conventional | Islamic | Conventional | Islamic | Conventional | Islamic | t-value | p-value |
| IINC_LAD | 80 | 30 | 0.0501231 | 0.0148230 | 0.0209706 | 4.821986 | -2.1220** | 0.0361 |
| OPEX_TAS | 80 | 30 | 0.0178479 | 0.0405224 | 0.0057322 | 0.0498278 | -4.0299*** | 0.0001 |
| OPINC_TAS | 80 | 30 | 0.0392191 | 0.0768425 | 0.0080234 | 0.0900032 | -3,4307*** | 0.0009 |
| **The pre-crisis period 2005-2006** | | | | | | | | |
| IINC_EXP | 24 | 9 | 0.0582519 | 0.0086264 | 0.0206855 | 0.528708 | -2.2465** | 0.0319 |
| OPEX_TAS | 24 | 9 | 0.0188659 | 0.0601533 | 0.0059466 | 0.0898521 | -2.2997** | 0.0284 |
| OPINC_TAS | 24 | 9 | 0.0469392 | 0.0779319 | 0.0084098 | 0.0398525 | -3.6876*** | 0.0009 |
| **crisis and post- crisis period 2007-2014** | | | | | | | | |
| IINC_EXP | 56 | 21 | 0.0423537 | 0.0235897 | 0.0193784 | 0.027816 | 1.5605 | 0.1228 |
| OPEX_TAS | 56 | 21 | 0.0174115 | 0.0321092 | 0.0056359 | 0.0110895 | -7.6697*** | 0000 |
| OPINC_TAS | 56 | 21 | 0.0359104 | 0.0760899 | 0.0006779 | 0.0229905 | -2.5906** | 0.0115 |

**Table 3:** Descriptive statistics for efficiency ratios.

| The full period 2005-2014 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Variable** | **N** | | **Mean** | | **Standard deviation** | | **t-test for equality of means** | |
| | Conventional | Islamic | Conventional | Islamic | Conventional | Islamic | t-value | p-value |
| C_TAS | 80 | 30 | 0.1384614 | 0.1634322 | 0.0387659 | 0.1058462 | -6.7630*** | 0000 |
| DEP_TAS | 80 | 30 | 0.9058759 | 1.019713 | 0.8325607 | 1.13293 | -0.5762 | 0.5657 |
| TL_EQ | 80 | 30 | 7.296714 | 5.565912 | 5.09826 | 1.877383 | 1.8096* | 0.0731 |
| **The pre-crisis period 2005-2006** | | | | | | | | |
| C_TAS | 24 | 9 | 0.1253461 | 0.2237017 | 0.0417502 | 0.1556266 | -2.8972*** | 0.00068 |
| DEP_TAS | 24 | 9 | 1.133855 | 1.414377 | 1.511162 | 2.088929 | -0.4273 | 0.6721 |
| TL_EQ | 24 | 9 | 7.720932 | 3.766019 | 1.404731 | 1.319591 | 7.3148*** | 0000 |
| **crisis and post- crisis period 2007-2014** | | | | | | | | |
| C_TAS | 56 | 21 | 0.1440822 | 0.2327294 | 0.0363649 | 0.0808172 | -6.6530*** | 0000 |
| DEP_TAS | 56 | 21 | 0.8081707 | 0.8505711 | 0.0908933 | 0.1246463 | -1.6406 | 0.6438 |
| TL_EQ | 56 | 21 | 7.114907 | 6.33725 | 6.03299 | 1.526921 | 0.5815 | 0.5627 |

**Table 4:** Descriptive statistics for risk ratios.

The profit margin (NINC_OPINC) (which is the Net Income divided by operating income) is larger for Islamic banks and the difference is significant at the 5% level. During the pre-crisis period, the NINC_OPINC was bigger for Islamic banks with 99.26% vs. 59% for conventional banks but the difference was not significant. However, during the crisis and post-crisis period Islamic banks still more profitable compared to conventional banks and the difference become significant at 10% level. These preliminary descriptive data show clearly that Islamic banks are more profitable than conventional ones in Saudi context within crisis period.

**Efficiency indicators:** Results in Table 3 show that the ratio IINC_LAD is significantly larger for conventional banks. However, the equality of mean test shows that the difference become not significant post-crisis period. This result show that although conventional banks in Saudi context lose in efficiency during crisis period, they remain more efficient to Islamic ones. The analysis of the OPEX_TA ratio lead to similar results. This ratio significantly higher for Islamic banks before and after the crisis. This proves that Islamic banks have higher operating expenses and thus less efficient than conventional banks. The crisis does not seem to affect the banks operating expenses as they remain nearly constant before and after the crisis. This result confirms again the lower efficiency of Islamic banks relative to conventional banks in Saudi context before and after the crisis. Meanwhile, the

analysis of the OPINC_TAS ratio (operating income to assets) led to opposite results. This ratio is significantly superior for Islamic banks relative to conventional ones and therefore proves the higher efficiency of Islamic banks. The results of the descriptive analysis does not lead to clear evidence about the efficiency of Islamic banks vs conventional ones. While Islamic banks show more efficiency with respect to their operating income over total assets, they have significantly larger OPEX_TAS and less IINC_EXP which prove that they are less efficient regarding these measures. These mixed results need therefore a deeper analysis of the efficiency of Islamic banks vs conventional banks in Saudi Arabia.

**Risk indicators:** The risk ratios' descriptive statistics are shown in Table 4. Two ratios (C_TAS: Cash to assets and DEP_TAS: deposits to assets) are larger for Islamic banks than those of conventional banks. But only C_TAS shows a significant difference at 1 % level. In fact, we note that Islamic banks have a mean of 0.22 for C_TAS ratio vs 0.12 for conventional banks before the crisis and this difference is very significant at 1% level. The same results are obtained in the crisis and post-crisis period that is to say that Islamic banks are more liquid than conventional banks in KSA.

Moreover, we found that the difference of the values of means of deposits to assets ratio (DEP_TAS) is not significant at all neither before nor after the crisis. Whereas, TL_EQ which is total liability to equity ratio, has a mean of 7.296 for conventional banks and 5.565912 for Islamic banks with a difference significant at 10% level for the period 2005-2014. The important value of equities according to liabilities for Islamic banks in KSA can be explained by the fact that the main sources of finance in Islamic banking is self-funds rather than debts. Generally, the above statistics may suggest that Islamic banks are less risky than conventional banks.

## The Logit regression

**Correlation analysis:** As the Logit regression takes up more than one independent variable, it is important to check the existence of multicollinearity. To examine the correlation between the independent variables, Pearson product moment correlation coefficients (r) are computed. Multicollinearity may be a problem when the correlation between independent variables is 0.80 and above. Our results show that the magnitude of the correlation between the variables seems to indicate no multicollinearity problems as all correlations are under the level of 0.7 (Annex).

**The Logit model:** To further explore the association nature between the accounting ratios and the type of bank in the context of financial crisis, a logit regression is conducted to check the influence of the global financial crisis on Islamic Banks compared to conventional banks. The logit approach regression allow predicting the probability that a bank will be classified one as opposed to the other of the two types of banks.

In order to evaluate the impact of the financial crisis on the Islamic banks compared to the conventional banks, we have used a dummy variable labeled CRISIS which takes the value of 1 if the observation is related to the crisis period and zero if not. We recall that, our analysis period is divided in two different periods: Before the crisis on one hand and on the other hand during and after the crisis.

We obtained the following model:

Bank = -12.180 + 52.45 ROA + 69,47 ROE – 15.51 MINC_PINC + 3.10 IINC_LAD + 401,238 OPEX_TASS+

(-0,84) (0.36) (1.96) (-1.32) (0.25) (2.08)

16.69 OPINC_TAS22.24+ C_TAS - 4.98 DEP_TAS -1.57 TL_EQ +6.4 CRISIS + e

(0.11) (1.05) (-0.26) -2.09) (1.78)

The z-statistics are shown in parentheses below their respective coefficients. e is the error term for the regression. The model is very significant with a chi2 probability = 0.000. The rate of correct classification of the model is 97.27% which means that almost all the banks are properly classified by the model.

Over nine independent variables, 7 are not significant. These variables are ROA, MINC_PINC, IINC_EXP, OPEX_TASS, OPINC_TAS, C_TAS, and DEP_TAS. This indicates that these variables don't differentiate between the two types of banks during the crisis period. In other words, there is no significant difference between the Islamic banks and the conventional ones regarding the mentioned ratios or variables.

The variables ROE, OPEX_TASS and TL_EQ are significant at the 5% level. The increase of the return on equity (ROE) during crisis period for one unit increases the probability that the bank is Islamic rather than conventional by 69,469 units. There is a significant, with respect to profitability, difference between Islamic banks and conventional ones in KSA during the crisis and after crisis period. The positive coefficient of ROE shows that Islamic banks are more profitable than conventional banks during crisis period and after the crisis. Thus, they better reward their shareholders. Our results are coherent with Mosab [4] in Saudi Context and Zehri et al. [12] on international context.

The positive and high coefficient of OPEXP_TASS shows that during the crisis, the increase of the operating expenses to total assets for one unit increase the probability that the bank is Islamic rather than conventional by 401,238 units. Islamic banks have higher operating expenses relative to their total assets than conventional banks. They are therefore less efficient than conventional banks during the crisis period. The inefficiency of Islamic banks compared to conventional banks during the crisis period can be explained by their higher complexities that might result in higher costs and thus lower efficiency. Further, their younger age might imply higher cost structures and lack of experience in dealing with the crisis period.

The risk indicator TL_EQ that is equal to total liabilities over equity is a good discriminator between the two types of banks during the crisis. The increase of TL_EQ by one unit decreases the probability that the bank is Islamic rather than conventional by 1,568 units. The negative coefficient (-1,568) means that Islamic banks are less risky during the crisis and this ratio increases when the bank is not Islamic. In fact, Islamic banks have more equity than conventional banks. During the crisis, the liabilities of conventional banks have increased due to the insolvency of the subprime credits.

Our findings confirm the hypothesis that Islamic banks are less affected by the last financial crisis. It does not mean that Islamic banks are not affected at all by the crisis but it means that they better support the economy turbulences caused by the crisis and after crisis period. In fact, the very nature of the Islamic banking's prohibition of dealing in derivatives and speculative assets has served to protect Islamic banks from the adverse effects of the economic crisis.

## Conclusion

This research aims to measure the financial performance of Islamic and conventional banks relying on financial ratios during the global

economic period crisis and tests the superiority of Islamic banking model on conventional banking model in KSA. We use a sample of 11 Saudi listed banks (7 conventional and 4 Islamic) and we calculated accounting ratios related to profitability, efficiency and risk. Then we performed a logit panel regression.

Our empirical results show that the measures of some bank characteristics such as the profitability ratios, the efficiency ratios as well as the risk ratios are good discriminators between the Islamic and the conventional banks in KSA. Islamic banks are more profitable, less risky but less efficient during and after the last financial crisis. The strict and prudent instructions imposed by shariaa in the Islamic finance may explain the relative stability of the Islamic banking system in KSA.

The risk of financial bubbles and artificial wealth is almost nonexistent in Islamic banks since shariaa prohibit earning interest from depositors and usury practice. Moreover, another corporate governance aspect related to Islamic banking is the strict application of the PLS principle which provide a reconciliation of divergent interests between the bank and stake holders( depositors, investors....). When interests become common for all actors we should expect an improvement in the welfare and wellness of the investment project thanks to the profit Losses share rule. Islamic banks should also pay more attention in selecting projects to finance. The investments were selected not on the basis of their future cash flow but a minimum level of some moral, ethical and social values should be insured. In Islam, we must care for and support the poor. However, a deeper look to the origin of the current financial crisis is the fact that conventional banks have charged a high interest level for small investors. These latter found themselves unable to honor their commitment to their banks.

Finally, we should note that research in Islamic finance is still young, more deeper analysis is needed and much efforts remains for future research. We hope that the discussion and the analysis in this paper contribute to the limited literature in this field of research on one hand and enhance other research with deeper analysis in this area on the other hand. To this, we suggest as a research perspective, focusing on a specific line activity for each type of bank rather than looking to overall business products. The scrutiny make economists and financial analysts better understanding the origin of differences in financial services and which could make the success key for one bank type. It seems also interesting for future research to assess the impact of growth of Islamic banks compared to the banking system worldwide and ultimately to measure the added economic value to Islamic banking products and contracts such as sukuk.

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