

FINANCIAL RISK AND ISLAMIC BANKS' PERFORMANCE IN THE GULF COOPERATION COUNCIL COUNTRIES

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ABSTRACT

This study examines the relationship between financial risk and performance of Gulf Cooperation Council Islamic banks and the relative importance of the most common types of risk. The study covers 11 of the 47 Islamic banks of the Gulf Cooperation Council region from 2000 to 2012, based on the availability of data. Data were obtained from the Bankscope database. For bank performance, the two most common measures, ROA and ROE, were alternatively used and for risk measures. Four types of financial risk were used, namely credit risk, liquidity risk, operational risk, and capital risk. Regression analysis indicate there exists a significant negative relationship between the Gulf Cooperation Council Islamic banks' performance, capital risk and operational risk. The results also confirm a significant negative relationship between Gulf Cooperation Council Islamic banks' performance. Furthermore, the results indicate that the most important type of risk is capital risk, followed by operational risk.

JEL: G20, G21

KEYWORDS: Bank Performance, Financial Risk, Gulf Cooperation Council Islamic Banks

INTRODUCTION

Islamic banking has experienced significant growth worldwide during the last three decades. Currently, there are large number of Islamic banks and Islamic units spreading throughout the world. The UK, for example, represents one of the leading centers for Islamic banking globally. International giant banks such as HSBC (HSBC Amanah), Citi Bank (Citi Islamic), and Standard Chartered have established Islamic units. The Gulf Cooperation Council Countries (GCC) operate under dual banking systems: conventional and Islamic banking. In 2012, total assets of Islamic banking in the GCC region were 34% of assets of Islamic banks worldwide. Iran's Islamic banking assets were 42.7% of total global Islamic banking assets and Malaysia contributed 10.0% (Zawya, 2013) of the total. Islamic banking is gaining popularity after the 2007–2008 financial crisis. The Islamic banking industry has witnessed a radical change in terms of the number of banks, branches, Islamic units, and Islamic financial instruments. For some experts the main reason for the financial crisis was the collapse in credit supply (e.g., the collapse of Lehman Brothers in September 2008). In the search for solutions there has been interest in the model of interest-free banking used in the Islamic banking industry since Islamic law prohibits usury, the collection and payment of interest.

The objective of this study is to examine the relationship between financial risk and performance of the GCC Islamic banks and the relative importance of the most common types of risk. As mentioned above, Islamic Banking has been growing significantly worldwide during the last three decades and has grown faster in the GCC region. In the UAE, for example, where the first Islamic bank (Dubai Islamic Bank) was

established in 1975, there are now 8 Islamic banks with 283 branches constituting 34% of the total number of bank branches in the country. Total assets of Islamic banks have increased from AED 182.6 billion (about US\$ 49.6 billion) in 2008 to AED 358 billion (about US\$ 97.3 billion) in 2012. The proportion of UAE Islamic banks' assets increased from 14.9% of UAE banking sector's total assets in 2008 to 20% in 2012.

The structure of the paper is as follows. In the first section, a literature review of the most recent studies is provided. The second section deals with the research questions and hypotheses, followed by an exposition of research methods and data collection. The fourth section is devoted to discussion of the empirical findings. In the final section a brief summary of the paper and conclusions concerning the main results are provided.

LITERATURE REVIEW

In this section we summarize the main findings of selected empirical studies. To the best of the author's knowledge, there is no empirical study that deals with the same issues addressed in this paper, for GCC Islamic banks, or those in other areas of the world. The majority of available empirical studies deal with only one type of risk such as liquidity risk, operational risk, credit risk or capital risk. The following is an attempt to highlight the results of some empirical studies that address one or more of the four types of risk considered in the current study.

Wasiuzzaman and Gunasegavan (2013) compared Islamic and conventional banks in Malaysia. They found that liquidity and operational risks were highly significant in affecting profitability (performance). Febianto (2012) attempted to answer the question: Why are Islamic banks reluctant to indulge in mudharabah and musharakah financing? The main conclusion of the study was that risk management can give Islamic banks guidance on how to manage risk attributed to profit and loss sharing arrangements through Mudharabah and Musharakah contracts. Febianto indicated that this guidance can motivate Islamic banks to be more participative in profit and loss sharing arrangements, especially on their asset side.

Hidayat et al. (2012) investigated the level liquidity risk management effectiveness of Islamic banks in Bahrain. They used a questionnaire which was distributed to a sample of 50 depositors who have active relationships with Islamic banks. The 50 employees chosen were managers and supervisors of Islamic Banks in the Kingdom of Bahrain. The main finding was the positive perception on the status of equity-based financing, which was believed to be an effective part of liquidity risk management. The findings also indicated no significant difference in perception between the employees and depositors on the level of liquidity risk management effectiveness in terms of deposit portfolio and equity financing.

Liquidity risk and banking system performance in Pakistan were examined by Zulfiqar and Anees (2012). The sample period covered was 2004-2009 and includes 22 banks. These banks constitute the main part of the Pakistani banking system. They found that liquidity risk significantly affects bank profitability. Kumaran (2012) examined risk management and mitigation techniques in Islamic finance. The study reveals that Islamic financial institutions face the same risks as conventional banks, namely credit risk, market risk, liquidity risk, and operational risk. However, due to Sharī'ah compliance the nature of these risks change. Abu Hussein and Al-Ajmi (2012) examined risk management practices of conventional and Islamic banks in Bahrain. They found that credit, liquidity and operational risk are the most important risks facing both conventional and Islamic banks. They also found that the levels of risks faced by Islamic banks are significantly higher than those faced by conventional banks.

Ramadan (2011) studies bank-specific determinants of Islamic banks' profitability. He finds that well capitalized banks, efficient management, and higher credit risk lead to higher return on assets, which is used to measure bank performance. He also finds that credit risk positively and significantly affects the profit margin of Jordanian Islamic banks, which is another measure of bank performance. Bank

performance of Islamic banks compared with conventional banks in Indonesia has been investigated by Ika et.al (2011). They conclude that Islamic banks are generally more liquid compared to conventional banks. Boumediene (2011) attempted to answer the question: Is credit risk really higher in Islamic banks? The results indicate that credit risk is indeed higher in Islamic banks compared to conventional banks. Abdullah et al. (2011) investigated operational risk in Islamic banks. The main finding of their study is that risk measurement and risk management practices still need specific adaptations to Islamic banks' operational characteristics. They also highlighted the unique characteristics of Islamic banks and raised serious concerns regarding the applicability of the Basel II methodology for Islamic banks.

Rahman (2010) investigated determinants of the three-factor capital asset pricing model (CAPM) for Malaysian commercial banks. The main findings of this study were: different types of risk exposure have different determinants; the market risk exposure for Islamic banks is lower than for conventional banks; the merger program is fruitful because it reduces interest rate risk exposure, total risk exposure, and unsystematic risk exposure; and the banks under study had higher total and unsystematic risk exposures during the 1997 Asian financial crisis.

Sensarma and Jayadev (2009) examined the relationship between returns on bank stocks and risk management. They found that bank risk management capabilities have been improving over time and returns on bank stocks appear to be sensitive to the risk management capability of banks. Rahman (2010) examined the financing structure and insolvency risk exposure of Islamic banks. The main findings of this study were that an increase in real estate financing decreases insolvency risk, but increasing concentration of financing structure increases insolvency risk. Furthermore, increasing stability of the financing structure reduces risk in the short term. The study recommended the regulatory bodies, policymakers, and market players in the Islamic banking industry should take appropriate action to manage the insolvency risk of Islamic banks.

Volatility of the returns and expected losses of Islamic bank financing were investigated by Ismal (2010). He calculates value at risk (VaR) on the volatility of returns and expected losses of bank financing. He finds that risk of investment and expected losses are well managed. This conclusion was mainly based on the assumption that equity and debt-based financing produce sustainable returns of bank financing. Marcellina (2011) examined credit scoring and risk assessment, and was able to confirm that financial ratios are good predictor variables of bank performance and can be used for classifying and evaluating the bank's customers. Consequently, the bank can reduce its non-performing loans and its credit risk exposure.

Siddiqui (2008) investigated financial contracts, risk, and performance of Islamic banking. The results indicate a good performance of the Islamic banks covered, measured by returns on assets and equity. These banks also demonstrated better risk management and maintained adequate liquidity. Saiful and Mohammad (2008) examined the relationship between risk and return for Islamic bank investment deposits and shareholders' fund. The findings indicate that deposit yields in conventional banks were lower than return on equity (ROE), as a result of the contractual differences between fixed deposit and bank capital. The findings also indicate that Islamic bank deposit yields and ROEs do not reflect their risk-taking properties.

Turk and Sariieddine (2007) highlighted some challenges facing Islamic banks in implementing capital adequacy guidelines. For instance, more complications arise when attempting to measure Sharī'ah compliance risk. Islamic banks are exposed to a significant liquidity risk, as currently Islamic banks tend to rely on short-term Murabahat which is not sufficient for liquidity purposes. Therefore, more work is needed to better account for liquidity risk exposure and risk-weighted assets that do not include assets funded by profit-sharing investment accounts.

How et al. (2005) investigated whether Islamic financing can explain three important bank risks in a country (i.e., Malaysia) with a dual banking system. The three risks examined were credit risk, interest-rate risk,

and liquidity risk. They found that commercial banks with Islamic financing have significantly lower credit and liquidity risks but significantly higher interest-rate risk than banks without Islamic financing. Bank performance and risk has been investigated by John and Courington (1993). They examined the causes of variation in loan performance among banks located in the energy-producing states of Louisiana, Oklahoma, and Texas. The results indicate that a substantial portion of the variation in troubled assets can be attributed to differences in local economic conditions as well as to unusually poor performance of particular industries like energy and agriculture. The results also indicate that excessive risk-taking played a critical role in the loan problems experienced by many of the region's banks and was a contributing force to the diversity in loan performance throughout the region.

METHODOLOGY

The purpose of this study is to examine the relationship between risk and performance of GCC Islamic banks and the relative importance of common types of risk. Thus, we formulate the following hypotheses:

H1: There is a significant relationship between credit risk, liquidity risk, capital risk and operational risk and Islamic banks' performance in the GCC.

H2: There are significant differences in the impact of each type of financial risk on Islamic banks performance in the GCC.

The logic behind the first hypothesis may indicate a positive relationship based on the most common relationship between risk and return. The higher the risk, the more the profit (i.e., improvement in performance) and vice versa. However, an opposite relationship may be also logical if, for example, liquidity risk is increased, which means cash is not sufficient or not available for borrowers and depositors. This lack of liquidity may negatively affect revenues or profit (i.e., performance is getting worse). The purpose of the second hypothesis is to test the relative importance of each type of risk and how it explains the behavior of Islamic bank performance.

Data and the Empirical Model

Based on the previous empirical studies mentioned above, the model used in this study includes some variables previously used in the literature. For example, in evaluating overall bank performance, two ratios are commonly used: return on equity (ROE) and return on assets (ROA). In this study, ROE and ROA are used alternately with four independent variables. The following are brief justifications for use of the independent variables selected here.

The first independent variable is credit risk (CRK) measured by total loans/total assets or loan losses/total loans. It is well established in the literature that there exists a positive relationship between credit risk and profit (see for example Alam et al., 2012). Alam et al. highlighted that banks which have higher loans to total asset ratios tend to take on lower risk. However, if for some reason banks face default or collection problems, the positive relationship between credit risk and profit might not exist.

The second independent variable is liquidity risk measured by total loans/total deposits. The UAE Central Bank determines this ratio as 1:1. Based on this, UAE commercial banks are not allowed to provide loans exceeding their total deposits. However, 1:1 means the maximum limit, as it is risky for banks to use all deposits for lending purposes because they need cash to meet their short-term commitments. The third independent variable is capital risk (CAPR) measured by equity capital/total assets. As capital is used as a cushion, the higher this ratio, the better (less risk) and vice versa.

The fourth variable is operational risk (OPR) measured by the proxy measure cost/income. Ross (2012) explains operating risk as follows: “uncertainty regarding a financial firm’s earnings due to failures in computer systems, errors, misconduct by employees, floods, lightning strikes and similar events or risk of loss due to unexpected operating expenses.” On the other hand, the European Commission, in line with the Basel II regulations, defines operational risk as “the risk of a change in value caused by the fact that actual losses, incurred for inadequate or failed internal processes, people and systems, or from external events (including legal risk), differ from the expected losses.” (see http://en.wikipedia.org/wiki/Operational_risk)

However, as it is difficult to access one measure reflecting the causes of operating risk mentioned in the Ross explanation, cost/income is used as a proxy measure of operating risk. It is worth mentioning here that there are other types of risk, but because of unavailability of data, the study used the above mentioned four types of risk. Examples of other types of risks that were not included are: market risk, interest rate risk, legal risk, foreign exchange risk, and off-balance sheet risk.

The data used in the study covered 11 Islamic banks out of the 47 in the GCC region for the period of 2000 to 2012. Data used in this study were obtained from the Bankscope database. The 11 banks consist of three banks from Kuwait, two banks from Bahrain, three banks from the United Arab Emirates, two banks from Qatar, and one bank from Saudi Arabia. The selection of banks was entirely based on the availability of data.

The name of the banks included were: Kuwait Finance House, Dubai Islamic Bank plc, Abu Dhabi Islamic Bank, Qatar Islamic Bank SAQ, Islamic Development Bank, Qatar International Islamic Bank, Sharjah Islamic Bank, Kuwait International Bank, Arcapita Bank B.S.C., Gulf Finance House BSC, and International Investor Company. The regression model used in this study is as follows:

$$PERF = f (CRK, LIQR, CAPR, OPR) \quad (1)$$

Where:

PERF represents two alternative performance measures for the GCC commercial banks. These two measures are ROA and ROE;

CRK is credit risk = Total loans/total assets or loan losses/total loans;

LIQR is liquidity risk = Total loans/total deposits;

CAPR is capital risk = Equity capital/total assets;

OPR is operational risk = Cost/income.

Three control variables were used. The first control variable is inflation as there exists an inverse relationship between inflation and performance. This relationship has been reported by N'cho-Oguie et al (2011). The second control variable is Bank size, measured by the natural logarithm of bank total assets. In this regard Shrieves and Dahl (1992) and Hussain and Hassan(2004) indicated that size may have an impact on bank f portfolio risk. The third control variable is the GDP growth rate, which is used as proxy for macroeconomic shocks (see Micco and Panizza, 2004 and Yanez, 2007). The macroeconomic shocks affect risk and return (performance). Table 1 indicates summary statistics of data used in the two models. The data represents the variables averages of banks included in the sample.

Table 1: Summary Statistics

Year	ROE	Credit Risk	Liquidity Risk	Capital Risk	Operational Risk	GDP Growth Rate
2000	16.65	56.0500	72.790	12.7000	8.5200	5.98
2001	15.99	68.9400	78.680	10.2200	7.5400	3.01
2003	11.65	57.1300	72.180	16.1900	8.4400	3.42
2004	22.39	61.2600	76.140	16.5300	8.2700	7.57
2005	2.31	58.2900	60.000	83.5800	11.4900	9.70
2006	25.07	59.8700	82.100	13.9200	6.5100	7.02
2007	8.85	72.3800	107.940	26.4600	12.0200	8.58
2008	8.54	63.8100	83.420	16.8900	9.4100	7.79
2009	14.18	22.0400	30.080	40.2600	12.2600	8.92
2010	1.99	34.6700	133.050	47.8600	22.4600	1.88
2011	6.00-	10.3100	45.530	80.2700	32.9600	4.98
2012	7.02	47.2300	52.850	24.2500	48.1100	5.68

This table shows summary statistics of the data.

RESULTS

Using more than one variable to examine the contribution of independent variables to the regression model may result in a multicollinearity problem among these variables. Before examining the contribution of independent variables to the regression model we examine the potential for multicollinearity. A multicollinearity test was carried out to assess the degree of correlation among variables. Table 2 provides the correlations among the independent variables. The “rule of thumb” test proposed by Anderson et al. (1990) suggests that any correlation coefficient exceeding (0.7) indicates a potential problem. The results in Table 2 suggest that correlations among variables are not statistically high enough to suggest the existence of a serious multicollinearity problem.

Table 2: The Correlation Coefficients between Independent Variables

	CRK	LIQR	CAPR	OPR
CRK	1.000			
LIQR	0.427	1.000		
CAPR	-0.605*	-0.228	1.000	
OPR	-0.526	-0.224	0.352	1.000

*This table shows correlation among independent variables. * indicates correlation is significant at the 0.05 level (2-tailed). ** indicates correlation is significant at the 0.01 level.*

For bank performance, two measures were alternately used, ROA and ROE. In the first model, ROE was used as a measure of bank performance as better results were obtained. Table 3 shows the results of the first regression model. The table shows that the adjusted R square is 64.4%. This indicates that the four independent variables explain 64.4% of the variance of GCC Islamic bank performance. The estimated coefficients of the four independent variables were, as expected, negative and statistically significant at the 5 percent level in the case of capital risk and at 10 percent in the case of operational risk. These findings are consistent with those of Wasiuzzaman and Gunasegavan (2013). However, the estimated coefficient of the other two variables, credit risk (CRK) and liquidity risk (LIQR), were unexpectedly statistically insignificant.

Table 3: Summary of Regression Results – The First Model

	Beta	T
(Constant)		3.156
CRK	-0.009	-0.033
OPR	-0.399	-1.883*
CAPR	-0.703	-3.108**
LIQR	-0.231	-1.162*
R		0.879
R Square		0.773
Adjusted R Square		0.644
Std. Error of the Estimates		5.296

This table shows regression estimates of the equation $PERF = f(CRK, LIQR, CAPR, OPR)$. The dependent variable is ROE (net income/equity) The independent variables are credit risk (CRK), operational risk (OPR), capital risk (CAPR), and liquidity risk (LIQR). The table reveals the coefficient values, the t-statistics and the significant level. * indicates statistically significant at the 5 percent level and ** indicates statistically significant at the 10 percent level.

The second model was examined by considering the ROE as the dependent variable and the four independent variables used in the first model with one additional control variable, real GDP growth rate (GDPG). However, the other two control variables, were also included in the second model, but the results were meaningless. Table 4 reveals the results of the test. The adjusted R square is 59.5%. This indicates that the four independent variables explain 59.5% of the behavior of bank performance of the GCC Islamic banks. The estimated coefficient values are as expected negative except liquidity risk (LIQR). However, the variables are statistically insignificant except capital risk (CAPR) which was statistically significant at the 1 percent level.

Table 4: Summary of Regression Results – The Second Model

	Beta	T
(Constant)		2.384
CRK	-0.113	-0.372
OPR	-0.358	-0.594
CAPR	-0.788	-3.049*
LIQR	-0.128	0.522
GDPG	0.187	0.764
R		0.891
R Square		0.793
Adjusted R Square		0.621
Std. Error of the Estimate		5.463

This table shows the regression estimates of the equation: $PERF = f(CRK, LIQR, CAPR, OPR, GDPG)$. Dependent Variable (PERF) is measured by ROE (net income/equity) and the independent variables are credit risk (CRK), operational risk (OPR), capital risk (CAPR), liquidity risk (LIQR) and GDP growth rate (GDPG). The table presents coefficient values, t-statistics and the significant level. * indicates statistically significant at the 5 percent level

We noted that banks which have a higher loans-to-total-asset ratio tend to take on lower risk (i.e., an inverse relationship between risk and performance). However, the results were not supported by the expected negative relationship between performance and liquidity risk as the value of the coefficient was statistically insignificant in the two models.

The results of the current study are consistent with findings of Zulfiqar and Anees (2012) and Ramadan (2011). However, the results are inconsistent with those of Hayden et al. (2007) who attempted to answer the question: Does diversification lead to increased performance? As diversification affects the level of risk, the more the diversification, the lower the risk and vice versa. They found little evidence of large performance benefits associated with diversification.

The second hypothesis proposes the magnitude of the impact of each type of risk on GCC Islamic bank performance is significantly different. The results confirmed this hypothesis. The results provided in Tables

3 and 4 show the estimated coefficients were statistically significant for two independent variables, with capital risk ranked first followed by, operational risk. This finding is consistent with Rahman (2011).

CONCLUDING COMMENTS

The objective of this study was to examine the relationship between financial risk and performance of GCC Islamic banks and the relative importance of common types of risk. The study covers 11 of the 47 Islamic banks in the GCC region for the period from 2000–2012. For bank performance the two most common measures, ROA and ROE, were alternately used. Four types of risk were examined: credit risk, liquidity risk, operational risk and capital risk. The selection of these banks and types of risk was determined by data availability. By using two regression models, two performance measures were used. The results as expected indicate a significant negative relationship between GCC Islamic bank performance and two types risk, namely capital risk and operational risk. The positive relationship between risk and performance of the GCC Islamic banks was not confirmed. Furthermore, the results indicate that the most important type of risk is capital risk followed by operational risk.

For policy implementation, it is recommended that more attention be paid to capital risk, as this type of risk represents the main determinant of performance, measured by either the equity or assets components. In addition, more attention should be given to operational risk which is mainly related to uncertainty regarding a financial firm's earnings due to failures in computer systems, errors, misconduct by employees, or risk of loss due to unexpected operating expenses. Finally, more attention should also be paid to liquidity risk which represents a determinant of GCC Islamic bank performance.

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