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Empirical Study of Islamic Banks Versus Conventional Banks of GCC

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Abstract - Numerous precious researches that have been conducted at professional and academia level have established Islamic banking to be superior and a viable manner of banking in terms of profitability and stability. The objective of the study would be to analyze the performance of Islamic banks and conventional banks during the crisis and after the crisis. The study will further focus on finding the steps that have been taken by the banks so as to reduce the effects of crisis. The study will be examined by comparing the performance of Islamic and conventional banks based in the Gulf Cooperation Council (GCC) during the period of 2008 – 2011 by deploying the CAMEL testing factors. A sample of 17 Islamic banks and 10 conventional banks were selected to study the objective. Using the 2 tailed t test, our study found out that after crisis Islamic bank increased their LLR, while conventional banks increased their LLR and EQTA. During the four year period of 2008 – 2011, Islamic banks possessed adequate capital structure but have recorded lower ROAE and poor management efficiency. Asset quality and liquidity for both the modes of banking system have not recorded any significant difference.

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I. Introduction

Islamic banking has been a growing globally at a very fast pace. It all started with the early 70's and since then the world has witnessed their enormous growth. Though the foundations of Islamic banking were placed decades ago, researcher termed Islamic banks as a way of banking that would serve the refurbished conventional banking products in a misleading way. However, in the course of time, numerous academia and researchers have believed Islamic banking to be a viable way of dealing in finances. This is evident from the fact that Islamic banks and financial institutions have increased significantly in Middle East, South East Asia, Far East Asia and the European regions. Banks in these regions have not only started operating the full fledge Islamic banks but have also started operating Islamicwindows in a conventional banking framework. Some of these Islamic windows provider are HSBC, Standard Chartered and Citi.

The recent global crisis of 2008 – 2009 have increased the importance of creating a stable and solidifying financial system ensuring that the investors feel safe and do not lose the confidence in the banking industry. Globally, an effort is carried out to reduce the risk that make the banking industry fragile and also set up an efficient way of banking thereby increasing efficiency in the financial process and transaction. Islamic banks and conventional banks have been adopting different strategies that would help them to increase their profitability levels and achieve a higher market share. With the start of the recovery in the financial system, banks are adopting different ways to settle the effects of financial crisis. But an important question arises. With the adoption of different strategies and principles, does this affect the performance of Islamic banks and conventional bank?Therefore, this paper will ahead compare the performance of Islamic banks with conventional banks over the period of 2008 – 2011 in the Gulf Cooperation Council (GCC). Further, the objective of the paper would be to understand and analyze the changes with respect to the behavior of the Islamic and conventional banks after the end of the crisis. This would help us understand the ways that the banks have adapted to offset the criticality that have been developed during the period of crisis.

II. Differences Between Islamic and Conventional Banking

Banks have devised several ways that would assist them in generating profit. Conventional banks have assured strategies and tactics that aid them to generate profit and be competitive in the industry. Mohammad et al (2008) states that conventional banks generate income from the spread amid the interest rate charged to the debtors and the interest rate paid to the depositors. There are other set of conventional banks that indulge in the non-traditional approaches that are in the form of deposit and lending principle. Deposit and lending activities are carried out by institutions such as credit card institutions or mortgages dealing institutions. Earning generated by undertaking such activity is through selling loans and then earning profits by charging the debtors with fees.

In contrast, the Islamic method of banking and its associated ideologies are resulting from the Holy Quran, the traditions of Prophet Muhammad (PBUHP) and through the narrations of followers of different Fiqh. Fiqh is well-defined as the presentation of sharia that is assumed to be of different schools of thought. The maturity of Islam with time led to development of diverse

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schools of thoughts i.e. Hanafi, Maliki, Shafi'I, Hanbali and Ja'afariya. Islamic banking arrangement is a lone and dynamic execution of the Islamic legal code or Sharia. Islamic banks are repeatedly branded as a banking system that forbids interest on loans and deposits. But this is not the only difference between Islamic and conventional bank. Though Islamic bank rejects and disallows the notion of interest on transactions, Islamic banks do not discard the time value of money. It provides the financier the benefits of a suitable income on money. The following explains the idea:

- Firstly, the benefit received by the institution by lending the fund to the borrower for a specific time is not predetermined. This means that the benefit received by the lender will be a share in the revenue that has been earned from the undertaking carried out by the borrower.
- Secondly, in event of financing for acquiring tangible goods by the investor through sales or lease, the investors might compensate themselves for the opportunity sacrificed. Profits that are therefore derived from the sale or the lease reflect the time value.

The fundamental justification of Islamic banking is that individuals are not considered as creditors; relatively they are associates in any undertakings. As per the Islamic code of conducts individuals are refrained from dealing in any kind of transactions that comprise of Riba (interest). Khan (2012) state that Islamic banks lend funds to the debtors on the basis of Profit and Loss sharing system (PLs). Under this arrangement, the associates agree to share the profits and losses on the basis of share in the capital and the efforts undertaken. Hence, PLs concept does not favor the fix rate of return on the asset. This theory therefore rejects the notion of conventional bank system as Islamic banks do not commit any rate of return. It is also important to note that transactions in the Islamic method of banking is supported and backed by tangible assets. Conventional banks on the other hand deal with fiscal transactions with the backing of any assets. (Ali, 2005). However Islamic banking is based on certain ideologies that are mentioned below:

- Islamic banking prohibits the individual to indulge in any transactions that bear interest
- Islamic banks should deal in trading or consumption of activities that are deemed to be allowed (halal) by Islam and should refrain from activities that are forbidden (haram).
- Islamic banking does should not indulge in any transaction that involves in speculation (gharar).
- Islamic financial institutions should abide by financial and accounting standards that are in line with the Sharia.

III. Literature Review

Various studies have been conducted to compare the performance of Islamic banks with that of conventional banks. However, the volume of such researches has been limited. This is due to the fact that the data of Islamic banks have been unavailable due to their recent growth. This section will focus and highlight the recent researches that have been conducted. This will give an idea as to the performance of Islamic and conventional banks in the different regions during the different periods.

Parashar and Venkatesh (2010) compared 6 Islamic banks and 6 conventional banks in the GCC region for a period of 2006 – 2009 utilizing 6 ratios namely capital asset ratio, cost to income ratio, return on average assets, return on average equity, equity to total assets and liquid assets to total assets. Their study shows that during the global crisis Islamic banks suffered more in terms of capital ratio, leverage and return on average equity, while conventional banks exhibited a poor performance in return on average assets and liquidity. Further, during the 4 year period of 2006 – 2009, Islamic banks have outperformed conventional banks in the region.

Zeitun (2012) directed a study on the GCC for a period of 2002 – 2009, to assess the factors that affect the Islamic bank and conventional banks. The study included a sample of 38 conventional banks, and 13 Islamic banks. The factors that were studied were foreign ownership, bank specific variable and macro-economic variables. Some interesting results were found. Cost to income ratio and performance of the banks held a negative correlation for Islamic and conventional banks. Equity was found out to be important factor in maximizing the profitability of Islamic banks. The size of the banks supported the economies of scale utilizing the ROE for Islamic banks. GDP was found to be positively related, while inflation negatively related to the banks performance.

In a study piloted by Jaffar and Manarvi (2011), the authors study a sample of 5 Islamic banks and 5 conventional banks in the Pakistan for a period of 2005 – 2009. The authors found that Islamic banks performed well in capital adequacy and liquidity while conventional banks performed better in earning and management quality. Asset quality remained the same in Islamic banks and conventional banks.

Olson and Zoubi (2008) studied and compared the Islamic and conventional banks in the GCC over a period of 2000 – 2005. Utilizing 26 financial ratios, the authors found that profitability between Islamic and conventional banks is not much different. However, Islamic banks are found to be less efficient and are operating with higher risk. The reason for Islamic banks are risky is Islamic banks uphold funds that are to be used in case of bad loans. Conventional banks on the

other hand offer deposits fund that are completely pre-determined by interest rates whereas Islamic banks offer deposit funds that are similar to equity as they share diverse types of risk.

Ansari and Rehman (2011) conducted a study on the performance analysis of Islamic and conventional banks based in Pakistan for the period of 2006 – 2009. By utilizing 18 different financial ratios which represented profitability, liquidity, risk and solvency, capital adequacy, deployment ratio and operational efficiency, the authors found out that in comparison to conventional banks, Islamic banks were highly liquid and less operational efficient. Authors also found out that Islamic banks were less risky than conventional banks.

IV. Methodology and Data

In order to achieve answers to the desired set aims and objectives, it is important that we follow a technique that is useful in gathering and analyzing the data. The paper will deal with the quantitative study. Our paper deals with 6 performance parameters, which will assist us in gauging the performance of Islamic and conventional banks. This performance parameter will be collectively known as CAMEL. The CAMEL framework is a set of variables that include the capital adequacy, asset quality, management quality, earnings and liquidity. It is widely believed that the financial performance of the banks should take into the account the capital adequacy, earnings and liquidity management of the banks. Asset quality can assist the bank in providing and scrutinizing the risk associated with the bank's portfolio. Management quality can be judged by assessing the cost reducing capability of the management and simultaneously increasing profits. The above mentioned are the performance parameters, but to achieve the desired results the paper would be utilizing 6 ratios that define their respective parameters. These are mentioned below:

a) Capital Adequacy :

The measurement of capital adequacy is an important parameter to be measured by the banks. It can assist the bank and it management in understanding the shock captivating capability during times of risk. In our study, capital adequacy will be measured by using the Equity to total assets ratio (EQTA)(Vong & Chan, 2009). EQTA is reflected to be a degree of capital adequacy and will support our study in understanding the safety and financial reliability of the banks. This ratio will help us in defining the magnitude of assets that have been financed by owner's funds. The logic is that high EQTA ratio will aid the bank in providing a strong cushion to increase its credit undertakings and lower the unanticipated risks. Samad (2004) states, that high level of EQTA often supports the organization in charming asset losses. This implies that as the amount of the equity to back the assets of banks depresses, the bankruptcy risk of the bank intensifies. Also, Hassan and Bashir (2003) state that constant lowering of EQTA hints to invitation of risk in the banks and therefore highlight the capital adequacy of the bank. Hence, we assume this ratio to be as higher as possible.

b) Asset quality :

Asset quality will help the bank in increasingly understand the risk with respect to the exposure of a bank to the debtors. Asset quality in our study will be measured by loan loss reserves (LLR). LLR can be defined as an indicator to evaluate the value of loans by a bank. In other words, this performance parameter will benefit the bank in understanding the amount of funds that have been reserved by the banks in event of bad loans. This suggests that LLR is an assurance to cover the bad and doubtful loans of the bank. Since this ratio delivers an image of the sum of the provision that have been kept aside for bad and doubtful loans, banks should focus and ensure that they uphold low provision for bad loans. Banks that maintain high provision for bad loans should be concerned as this will signal towards future losses. Hence, in our study we will assume this ratio to be as lower as possible.

c) Management quality :

This measure of performance will shed light on the superiority of the management. The duty of the management is to safeguard that the banks operation runs in a smooth and decent manner. Very often, the banks superiority in terms of management is decided by the skill and ability of the management to control the cost and increase productivity, ultimately achieving higher profits. Hence, cost to income ratio (COSR) will be utilized to measure the management quality. COSR can be extensively defined as the cost incurred by the organization to generate a dollar of income. COSR is one of the premium ratios to capture the management competence of the bank. By controlling the cost, it is meant to control the overhead cost that is sustained to run a bank. Hence, in our study we expect the COSR to be as lower as possible.

d) Earnings :

Earnings being one of the performance parameters highlights on the banks prevailing and forthcoming activities with respect to its earnings. It essentially aids the bank in concentrating on the loss gripping capacity, determining the level of its earnings and revenue as well as the funds available for rewarding its shareholders. Our study would be employing two performance measures to determine the profitability of the banks. These are return on average assets (ROAA) and return on average equity (ROAE). ROAA fundamentally sheds light and specifies the ways that management exploits its assets to generate earnings. ROAA is also an indicator of operational efficiency

(Petersen and Schoeman, 2008). In simple words, ROAA will deliver us with information on the amount of income generated from the each unit of asset on an average.

ROAE on the other hand is a measurement that contributes in understanding the working of the management of the organization with respect to the earnings or income generated from the owner's equity. ROAE can be defined to measure the returns on the equity holders in order to evaluate the growth on their investments. Petersen and Schoeman (2008) state that the banks maintain sufficient capital to avoid failure, but banks should ensure that they do not hold extra capital. Hence, a association can be established where higher the equity capital, the lower the ROAE.

e) Liquidity :

This parameter of performance can aid the banks and establishments to evaluate the risk faced by the banks in case of an unprecedented and unforeseen circumstance that can be the main reason for an insolvency of bank. To assess the liquidity of the banks, we would be using the net loan to total assets (NLTA). NLTA can be defined as the amount of assets that have been engaged in loans. Hassan and Bashir (2003) found that the NLTA should be as lower as possible. High NLTA will often result in inferior liquidity standards of the bank. The only reason being, that high NLTA indicates that the bank is engaged highly in lending and this may have adverse effects as the bank might face huge risk of defaulters. Hence, in our study, we expect this ratio to be as lower as possible.

The study will apply the t test to test the differences between the mean ratios of Islamic and conventional banks. This t test have been performed using the Microsoft excel. The data utilized for the study will by a pooled times series data. Pooled time series data is a type of data set that contains information on variables that are stretched over a period of time. This study will utilize the data for 5 countries in GCC i.e. Bahrain, Kuwait, Kingdom of Saudi Arabia, Qatar and United Arab Emirates. Oman will not be included in the study as Oman does not engage in Islamic banking at the moment. The study will consist of 17 Islamic banks and 10 conventional banks. Though there is a difference in the sample size, an attempt has been carried out to keep the asset size of Islamic banks as similar as possible with that of conventional banks. The period of the study will be from 2008 – 2011. Alexa at al. (2011) states that though the period of 2010 – 2011 has still been influenced by the effects of global financial crisis, the financial system of the economies has been improved when compared to the period of financial crisis.

Hence, to understand the analysis in depth, this study will be further divided into 2 phases that would comprise of during crisis phase (2008 – 2009) and recovery phase (2010 – 2011). Also, several hypotheses have been developed to test the difference in means for the period of during crisis (2008 – 2009) and recovery phase (2010 – 2011). This will give our study a good idea of how Islamic and conventional banks have controlled their financial situation during the crisis and after the crisis. The data for the study will be acquired from Bankscope. Bankscope is a database that has gathered data for more than 11000 banks under thesupervision of International bank credit analysis limited. The next section will deal with the performance of Islamic and conventional banks over the period of 2008 – 2011.

Table 1: Statistics for banks from 2008 - 2011

Ratios	*Mean (%)*	*p – value* (2 tailed)*	*Ratios*	*Mean (%)*	*p- value* (2 tailed)*
EQTA			*ROAA*		
Islamic Bank	24.38%	0.000	Islamic bank	0.89%	0.052
Conventional bank	13.86%		Conventional bank	1.69%	
LLR			*ROAE*		
Islamic bank	3.55%	0.608	Islamic bank	6.58%	0.017
Conventional bank	3.34%		Conventional bank	11.84%	
COSR			*NLTA*		
Islamic bank	53.62%	0.002	Islamic bank	58.01%	0.704
Conventional bank	34.87%		Conventional bank	59.02%	

*Note : P value of * ($p<0.05$) refer to statistical significant at 5 percent level respectively*

V. Islamic Bank v/s Conventional Bank : 2008 - 2011

The data exhibited in table 1 describes the performance of Islamic banks and conventional banks over the period of 2008 – 2011. These findings would be interesting as it would bear the effects of the financial crisis. While examining table 1, it is found that three variables namely EQTA, ROAE and COSR are statistically significant. The four year average of EQTA for Islamic banks is 24.38% as compared to 13.86% for conventional banks. This implies that Islamic banks

were well capitalized during the 4 year period. Furthermore, the average ROAE for Islamic banks measured at 6.58% which is lower as compared to 11.84% of conventional bank. The finding of COSR is also significant as the COSR for Islamic banks is 53.62% for Islamic banks, which is much higher when compared to 34.47% of conventional banks.Hence, it is concluded that during the four year (2008 – 2011) which takes into account the effects of crisis and the recovery phase, Islamic banks were well capitalized, and were performing with low ROAE. High COSR for Islamic banks indicated that Islamic banks have been not able to control the cost which can be seen as one of the management inefficiencies. It can be also said that high cost of Islamic banks would have led to low profitability. ROAA for Islamic banks have been low on an average measuring at 0.89% when compared to 1.69% for conventional banks. LLR for Islamic banks has been found out to be 3.55% which is marginally higher than that of conventional bank's 3.34%. NLTA for Islamic banks is 58.01% which is lower when compared to 59.02% for conventional banks.

There are no statistical significant differences found in NLTA, LLR and ROAA of Islamic banks and conventional banks. This does not imply that the results can be ignored. However, the liquidity and asset quality of Islamic banks and conventional banks had no noticeable differences. To better understand the performance of Islamic and conventional banks, the study will be further more divided in 2 phases namely during crisis and recovery phase. The next section will analyze the performance of Islamic banks during the crisis (2008 – 2009) and in the recovery phase (2010 – 2011).

VI. Islamic Banks: During Crisis (2008 – 2009) v/s Recovery Phase (2010 – 2011)

The data exhibited in table 2 describes the performance of Islamic banks during the crisis and after the crisis or the recovery phase. As observed in the table 2, applying the paired sample t test, there is only one variable that is statistically significant namely LLR.

Table 2 : Islamic banks during crisis and recovery phase

	2008 - 2009	*2010 - 2011*	*p value* (2 tailed)*
LLR	3.03%	4.07%	0.038
EQTA	24.83	23.93%	0.075
ROAA	1.01%	0.77%	0.706
ROAE	6.64%	6.52%	0.959
COSR	57.81%	49.43%	0.418
NLTA	59.02%	56.99%	0.177

*Note : P value of * ($p<0.05$) refer to statistical significant at 5 percent level respectively*

LLR has increased from 3.03% during the crisis to 4.07% in the recovery phase. This means that the credit and risk management for Islamic banks has not been to the mark and banks have been forced to increase their reserves so as to compensate the default that has been accumulated during the crisis. Other ratios that have declined are: EQTA (from 24.83% to 23.93%), ROAA (1.01% to 0.77%), ROAE (6.64% to 6.52%), COSR (57.81% to 49.43%) and NLTA (59.02% to 56.99%). While the decline in COSR is a positive indication for Islamic banks which suggest that management efficiency measured in terms of controlling cost has improved. Thus banks can increase their profit margin. NLTA is expected to be as lower as possible as this indicates towards a better liquidity management of Islamic banks. Decline in NLTA suggest that total assets that are tied to loans have improved after crisis denoting a strong defense after the crisis. This can be interpreted as the amount of assets that have been tied in loans has been less. Islamic banks have increased their liquidity.

The reason being that unlike their counter parts, Islamic banks are not allowed to borrow any funds from the central bank. Also, Islamic banks refrain from investing in any financial instruments that are interest related. Hence, in such instances, Islamic banks maintain high liquidity and a strong line of defense. However, it should be noted that high liquidity can leads to lower profits as banks have more of assets that play role of liquid assets and hence results in missing the investment opportunities. This effect is clearly evident from the declining figures of ROAA and ROAE. Thus Islamic banks are paying the opportunity cost of increasing liquidity. However these results are not significant.

VII. Conventional Banks: During Crisis (2008 – 2009) v/s Recovery Phase (2010 – 2011)

The table 3 describes the performance of conventional banks during the crisis and in the recovery phase.The results have been obtained by applying the paired sample t test. It is observed that LLR has increased from 2.95% during crisis to 3.74% in the recovery phase while EQTA has increased from 12.92% during the crisis to 14.80% in the recovery phase. These findings are statistically significant. From the findings it can be said that conventional banks have been better capitalized in the recovery stage when compared to period during the crisis. After the crisis, conventional banks have taken up the task to provide and safeguard their system. When a bank has a strong capital structure that safeguards their position, the bank will have to rely less on external sources of funding. Also, increased EQTA can assist the bank to indulge in lending, which would ultimately increase their profits. Subsequently, it would also lead to increased shock absorbing capacity

for the institution. On the other hand, similar to the findings of Islamic banks, conventional banks have also increased their LLR so as to compensate the defaults that have aroused during the crisis. In this way, banks would be able to identify weak loans and possible bad debts that would eventually help them increase their profitability.

Table 3 : Conventional banks during crisis and recovery phase

	2008 - 2009	*2010 - 2011*	*p value* (2 tailed)*
LLR	2.95%	3.74%	0.031
EQTA	12.92%	14.80%	0.003
ROAA	1.69%	1.70%	0.971
ROAE	12.07%	11.61%	0.859
COSR	34.25%	35.49%	0.198
NLTA	59.91%	58.14%	0.058

*Note : P value of * ($p<0.05$) refer to statistical significant at 5 percent level respectively*

However, the following variables have increased: ROAA (from 1.69% to 1.70%) and COSR (from 34.25% to 35.49%) while the following variables have decreased: ROAE (from 12.07% to 11.61% and NLTA (from 59.91% to 58.14%). These variables do not hold any results that are statistical significant. Hence it can be concluded that after crisis, the LLR for Islamic banks have increased so as to ensure that they are successful in offsetting the financial loss suffered during the period of crisis. While conventional banks have also increased their LLR and have been highly capitalized after crisis. These steps clearly show that conventional banks and Islamic banks are taking preventive measures so as to offset any dangers that act as hindrance to their operations.Our findings do not present any major changes in profitability of both the banks.

Furthermore, the study will test the various hypothesis developed by applying the independent two tailed t test to check the differences in means for 6 financial ratios during the crisis and in the recovery phase. For example, our null hypothesis would state that there haven't been any difference between the meansEQTA of Islamic banks and mean EQTA of conventional banks. Subsequently, our alternate hypothesis would state that there is a significant difference between the mean EQTA of Islamic banks and the mean EQTA of conventional banks. We investigate the capital adequacy using the following hypothesis:

H_0: *Islamic EQTA = Conventional EQTA*
H_1: *Islamic EQTA ≠ Conventional EQTA*

Table 4 : Islamic and conventional banks EQTA during crisis and recovery phase

EQTA	*During crisis*	*Recovery phase*
Mean - Islamic bank	24.83%	23.93%
Mean - conventional bank	12.92%	14.80%
*p-value (2 tailed)**	.006	0.029

*Note : P value of * ($p<0.05$) refer to statistical significant at 5 percent level respectively*

EQTA assists in measuring the capital adequacy. Table 4 shows that the Islamic bank's EQTA mean declined from 24.83% during crisis to 23.93% in the recovery phase. While the ratio of conventional banks rose from 12.92% during the crisis to 14.80% in the recovery phase. The null hypothesis of mean EQTA of Islamic banks equal to mean EQTA of conventional banks is rejected at 5% alpha during the crisis and the same is also rejected for recovery phase. Subsequently the alternate hypothesis is accepted for both the periods. Our findings show that Islamic banks fared higher than conventional banks for the EQTA measurement. This implies that Islamic banks were well capitalized during the crisis and the recovery phase when compared to conventional banks.

The next set of hypothesis will assist in examining the asset quality. The hypothesis hence formed is:

H_0: *Islamic LLR = Conventional LLR*
H_1: *Islamic LLR ≠ Conventional LLR*

Table 5 : Islamic and conventional banks LLR during crisis and recovery phase

LLR	*During crisis*	*Recovery phase*
Mean - Islamic bank	3.03%	4.07%
Mean - conventional bank	2.95%	3.74%
*p-value (2 tailed)**	0.900	0.555

*Note : P value of * ($p<0.05$) refer to statistical significant at 5 percent level respectively*

We test the null hypothesis that the mean LLR of Islamic banks equal to the mean LLR of conventional banks. On examining the table 5, we find that the mean LLR of Islamic banks was 3.03% during the crisis and increased to 4.07% in the recovery phase. On the other hand, the mean LLR of conventional banks was 2.95% during the crisis and increased to 3.74% in the recovery phase. Hence, at 5% alpha, we fail to reject the null hypothesis of mean LLR of Islamic banks equal to mean LLR of conventional banks for both the periods. This implies that there is no significant difference in the asset

quality of Islamic banks and conventional banks during the crisis and the recovery phase.

We examine the following set of hypothesis to assess the management efficiency:

H_0: *Islamic COSR = Conventional COSR*
H_1: *Islamic COSR ≠ Conventional COSR*

Table 5 : Islamic and conventional banks COSR during crisis and recovery phase

COSR	*During crisis*	*Recovery phase*
Mean - Islamic bank	57.81%	49.43%
Mean - conventional bank	34.25%	35.49%
*p-value (2 tailed)**	0.044	0.000

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

As exhibited in table 5, the mean COSR for Islamic banks was 57.81% during the crisis and declined to 49.43% after the crisis. On the other hand, the COSR for conventional banks stood at 34.25% during the crisis and witnessed an increase resulting to 35.49% after the crisis. The null hypothesis of mean COSR of Islamic banks equal to the mean COSR of conventional banks is rejected at 5% significance for both the periods and subsequently the alternative hypothesis is accepted. It can be therefore implied that the efficiency to control cost was better in conventional banks than in Islamic banks. This indicates that conventional banks were much efficient in controlling cost and from the management perspective during both the periods.

We investigate the profitability of the banks using the following set of hypothesis:

H_0: *Islamic ROAA = Conventional ROAA*
H_1: *Islamic ROAA ≠ Conventional ROAA*

Table 6 : Islamic and conventional banks ROAA during crisis and recovery phase

ROAA	*During crisis*	*Recovery phase*
Mean - Islamic bank	1.01%	0.77%
Mean - conventional bank	1.69%	1.70%
*p-value (2 tailed)**	0.412	0.123

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

In the table 6, we find that the ROAA mean of Islamic banks declined from 1.01% during the crisis to 0.77% in the recovery phase. In contrast, the ROAA for conventional banks witnessed a marginal increase from 1.69% during the crisis to 1.70% in the recovery phases. The two tailed t test signifies that the null hypothesis of the mean ROAA of Islamic banks equal to mean ROAA of conventional banks is failed to be rejected at 5% alpha for both the periods. This further implies that there has been no significant difference in the ROAA for Islamic banks and conventional banks during the crisis or in the recovery phase.

The following set of hypothesis has been formed in order to examine the profitability.

H_0: *Islamic ROAE = Conventional ROAE*
H_1: *Islamic ROAE ≠ Conventional ROAE*

Table 7 : Islamic and conventional banks ROAE during crisis and recovery phase

ROAE	*During crisis*	*Recovery phase*
Mean - Islamic bank	6.64%	6.52%
Mean - conventional bank	12.07%	11.61%
*p-value (2 tailed)**	0.174	0.002

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

Table 7 exhibits the mean ROAE for Islamic and conventional banks during crisis and recovery phase. The mean ROAE of Islamic banks during the crisis stood at 6.64% and marginally declined to 6.52% in the recovery phase. In contrast, the mean of ROAE for conventional banks stood at 12.07% during the crisis and declined to 11.61% in the recovery phase. The two tailed t test signifies that the null hypothesis of mean ROAE of Islamic banks equal to mean ROAE of conventional banks is failed to be rejected at 5% significance level during the crisis and the same is rejected for the recovery phase. This implies that Islamic banks provided the shareholder with increased returns during the crisis as compared to recovery phase since the lower performance of ROAE in the recovery phase is significant as and when compared to ROAE for conventional banks.

We examine the liquidity of the banks through the following set of hypothesis

H_0: *Islamic NLTA = Conventional NLTA*
H_1: *Islamic NLTA ≠ Conventional NLTA*

Table 8 : Islamic and conventional banks NLTA during crisis and recovery phase

NLTA	*During crisis*	*Recovery phase*
Mean - Islamic bank	59.02%	56.99%
Mean - conventional bank	59.91%	58.14%
*p-value (2 tailed)**	0.817	0.762

*Note : P value of * (p<0.05) refer to statistical significant at 5 percent level respectively*

We will test the null hypothesis of the mean NLTA of Islamic banks equal to mean NLTA of

conventional banks. On examining the figures in table 8, we find that the mean NLTA of Islamic banks stood at 59.02% during the crisis and declined to 56.99% during the recovery phase. In contrast, the mean NLTA of conventional banks measured at 59.91% during the crisis and declined to 58.14% in the recovery phase. The null hypothesis of no difference between the mean NLTA of Islamic banks and the mean NLTA of conventional banks is failed to be rejected at 5% significance during the crisis and the recovery phase. This indicates that there was no difference in the liquidity of Islamic banks and conventional banks during the crisis or during the recovery phase.

VIII. Conclusion

Our analysis shows that during the four year period of 2008 – 2011, EQTA, ROAE and COSR were found to be significant. While Islamic banks were found to deliver high in terms of EQTA, conventional banks were found to perform well in ROAE and COSR. This indicates that over the four year, Islamic banks were better capitalized but have performed low in terms of profitability. COSR as an indicator of management efficiency was found to be poor for Islamic banks. Consistent high COSR has led to low profitability levels of Islamic banks after the crisis.

Further, we analyzed the performance of Islamic and conventional banks before and after crisis. It was found that for Islamic banks, LLR as a measurement of asset quality has significantly increased indicating a risky portfolio after crisis while on the other hand, LLR and EQTA for conventional banks after crisis have increased indicating of a risky portfolio and improved capital adequacy of conventional banks. The behavior of Islamic banks and conventional banks might have been to increase the LLR so as to offset the default on loans by customers that had been accumulated during the crisis. Increased LLR indicates of banks potential to identify weak loans and hence increasing profitability. However, we find neither Islamic banks nor conventional banks have been able to generate significant increased profits after crisis. Moreover, conventional banks have also increased their EQTA so as to increase their shock absorbing capacity. This would have been again due to increased losses for conventional banks during crisis. The increases in capitalization can also assist the banks in increase their lending activities and ultimately increase their profits.

Comparing the performance of Islamic and conventional banks during the crisis and in the recovery phase, utilizing the hypothesis, our study found that while EQTA fared higher for Islamic banks indicating better capital adequacy during both the periods, COSR fared better for conventional banks during both the periods. The findings of ROAE were found to be significant only in the recovery phase, where conventional banks performed better than Islamic banks in this performance measurement indicating that in contrast Islamic banks performed better with respect to ROAE during crisis than in recovery phase. Other performance indicators were not found to be statistically significant.

Every study has scope for further study. This study has been performed on the banks based in the GCC. To get a better understanding it would be interesting to analyze similar objectives by including banks from other countries. This will simultaneously increase the sample size which would provide a more detailed outlook on the performance of the two banking systems.

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Appendix A

The following is the list of banks with their assets ending 31st Dec, 2011 that have been used for the study.

ISLAMIC BANKS	City	Assets (in mil US $)	CONVENTIONAL BANKS	City	Assets (in mil US $)
Al Rajhi Banking & Investment Corporation-Al Rajhi Bank	RIYADH	58,884	First Gulf Bank	ABU DHABI	42,881
Kuwait Finance House	SAFAT	48,312	Mashreqbank	DUBAI	21,577
Dubai Islamic Bank plc	DUBAI	24,667	Ahli United Bank BSC	MANAMA	28,330
Abu Dhabi Islamic Bank - Public Joint Stock Co.	ABU DHABI	20,241	Arab Banking Corporation BSC	MANAMA	25,015
Albaraka Banking Group B.S.C.	MANAMA	17,154	Ahli United Bank KSC	SAFAT	9,432
Qatar Islamic Bank SAQ	DOHA	16,013	Al Ahli Bank of Kuwait (KSC)	SAFAT	11,055
Islamic Development Bank	JEDDHA	15,925	Commercial Bank of Qatar (The) QSC	DOHA	19,654
Al Hilal Bank PJSC	ABU DHABI	7,693	Doha Bank	DOHA	14,401
Bank AlBilad	RIYADH	7,394	Riyad Bank	RIYADH	48,237
Qatar International Islamic Bank	DOHA	6,417	Arab National Bank	RIYADH	31,353
Emirates Islamic Bank PJSC	DUBAI	5,850		TOTAL	251,934
Boubyan Bank KSC	SAFAT	5,570			
Sharjah Islamic Bank	SHARJAH	4,829			
Kuwait Finance House	MANAMA	4,089			
Kuwait International Bank	SAFAT	4,014			
Tamweel PJSC	DUBAI	2,731			
Elaf Bank	MANAMA	161			
	TOTAL	249,942			

Appendix B

The ratios utilized in this study are calculated as per Bankscope database. The following are the formulae's of the ratios used:

LOAN LOSS RES / GROSS LOANS (LLR) = LOAN LOSS RESERVE/ (LOANS+ LOAN LOSS RESERVE) * 100

EQUITY / TOT ASSETS (EQTA) = EQUITY/ TOTAL LIAB & EQUITY * 100

RETURN ON AVG ASSETS (ROAA) = NET INCOME/ AVG TOTAL ASSETS * 100

RETURN ON AVG EQUITY (ROAE) = NET INCOME/ AVG EQUITY * 100

COST TO INCOME RATIO (COSR)= OVERHEADS / (NET INTEREST REVENUE+OTHER OPERATING INCOME)* 100

NET LOANS / TOT ASSETS (NLTA)= LOANS/ TOTAL ASSETS * 100