Impact of the Financial Crisis on Profitability of the Islamic Banks vs Conventional Banks- Evidence from GCC

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Abstract

Using the data extracted from BankScope database of 92 banks in GCC (27 Islamic Banks and 65 Conventional Banks) for the period from 2006 to 2009, this study intends to investigate the impact of the financial crisis on the performance of both Islamic and conventional banks and test whether Islamic bank performance is better before and during the crisis.The study employs T-Test to observe any significant difference between Islamic and Conventional banks performance before and during the crisis.Three ratios were used to represent bank profitability measures which are return on assets (ROA), return on equity (ROE) and net interest margin (NIM) while two variables were used to measures each one of the bank-specific characteristics,: Equity and Tangible Equity as measures for Capital Structure, Loans and Liquid Assets as measures for Liquidity, and Deposits and Overheads for Liability. The results showed that the financial crisis had a negative impact on profitability of both Islamic and conventional banks but the Islamic banks were more profitable than conventional bank during the financial crisis but not statistically significant. The profitability determinants behaved differently for Islamic and conventional banks during the crisis. By applying the t-test it is found that the Islamic banks had better capital structure than the conventional banks during the financial crisis while the conventional banks had better liquidity and liability ratios than the Islamic banks. No strong statistical evidence found that Islamic banking has weathered the financial crisis than conventional counterparts in all performance measures.

Keywords: financial crisis, Islamic banks, ROA, ROE, NIM, GCC

1. Introduction

The Financial crisis of 21st century drawn attention towards Islamic Banking as the conventional banks were hit hard.In the early phases of the financial crisis while the conventional banks were suffering from the impact of the crisis, Islamic banks perceived to remain stable and enjoy profit. This caught everyone's attention to Islamic banking as the ideal banking model since it avoids interest and it operates on the basis of risk bearing and profitability sharing. As the financial crisis became global, Islamic banks started to get affected by the crisis in negative ways. And suddenly, some of the biggest Islamic banks in the Islamic region ended up with net losses. This study will focus on the impact of the financial crisis on the profitability of the Islamic Banks in comparison with the conventional banks using different profitability determinants that directly affect the profitability of a bank including capital structure, liquidity and liability and test the general perception that Islamic banks performed better in these aspects before and during the crisis. Many studies were conducted to investigate the profitability determinants for both Islamic and conventional banks and how these determinants were influenced during the financial crisis. This study focuses on the impact of the financial crisis on the performance of the Islamic banks vs Conventional banks using two periods i)years 2006 and 2007 before financial crisis and ii)years 2008 and 2009 during financial crisis in terms of capital structure, liquidity and liability.

1.1 Overview of Islamic Banking

Islamic Baking was established as an alternative to conventional banking by Dr. Ahmed Alnajar who conceived the idea from a savings bank in Germany started the Islamic Banking movement that was interest free in the year 1963 in Mit Ghamar a small town in Egypt. Followed by the success of Dr. Alnajar's endeavor other Islamic banks came into existence.In 1971, the Nasser Social Bank was founded in Egypt lending out money on profit and loss sharing basis and helping people in need. In 1974, the "Islamic Development Bank"(IDB) was established as the first true Islamic

bank which now has the membership of 55 countries, and operates from its head office in Jeddah, KSA .In 1975, the concept of Islamic banking spread to United Arab Emirates establishing Dubai Islamic bank and The Islamic Development (IDB) Bank in Jeddah, Saudi Arabia (Wilson, 2004).Islamic Banking is the fastest growing segment of the credit markets in the Muslim countries. According to The Banker's "Top 500 Islamic Financial Institutions" survey assets held by Islamic Banking banks up by 28.6 percent from $639bn year 2008 to $822bn year in 2008 but conventional banks grew just 6.8 percent. This growth of Islamic banking mainly comes from Gulf Cooperation Council (GCC) states that accounts for $353.2bn or 42.9 percent of the global aggregate, whereas Iran alone accounts for 35.6% of the market for Shariah-compliant assets.

1.2 Islamic Banking Rules and Principles

These are derived from Shariah and accordingly, three main practices are clearly prohibited: Riba (Interest), Gharar (Uncertainty), and Maysir (Betting).Prohibition of Riba or any predetermined or fixed rate in financial operations is the most important factor in the Islamic principles pertaining to banking. Riba means an "increase" refers to the premium that must be paid by the borrower to the lender along with the principle amount. Gharar occurs when the buyer and seller unaware of the whole transaction.Maysir is considered in Islam as one form of injustice in the appropriation of others' wealth. The act of gambling, referred as betting on the occurrence of a future event, is prohibited.

According to Ahmed and Hassan (2007), the principles of Islamic banking and finance can be summed up as follows:

- Any predetermined payment over and above the actual amount of principal is prohibited.
- The lender must share in the profits or losses arising out of the enterprise for which the money was lent.
- Making money from money is not acceptable in Islam.
- Gharar (deception) and Maysir (gambling) are also prohibited.
- Investments should not support practices or products that are forbidden or even discouraged by Islam.

1.3 Financial Crisis and the Islamic Banking

To be able to compete with conventional banks, Islamic banks have to offer financial products that are comparable to the ones offered by the conventional banks. This exposes the Islamic banks to similar credit, liquidity and risks driven by market instability. Despite that, Islamic banks managed to remain stable at the early phases of the crisis that was driven by three main Factors. First, compared with conventional banks ,Islamic bank's financing activities are more focused with the real economic activities.Most financing activities in Islamic Banks are done through Murabaha and Ijarah followed by Istinsa. According to the Council of Islamic Banks and Financial Institutions (CIBAFI), for the Islamic banks in the GCC for year 2007, Murabaha comprised of 65.4%, Ijarah 12.78% and Istinsa 2.83%. Both Murabaha and Ijrah transactions require the Islamic bank to know the client's purpose and use of finance as well the ownership of the asset by the bank. Although Musharakah and Mudharabah both provide better risk sharing while keeping strong link to the real estate sector, they are used minimally for different reasons. This help in ensuring that the funds are used for their stated purposes. On the other hand, conventional banks do not require disclosing the use of funds as long as the client is believed creditworthy or can post suitable collateral. Second Conventional bank financial instruments such as Collateralized Debt Obligation-CDO, cash management bill-CMOs and credit default swap-CDOs considered as contributors to financial crisis and such instruments has no place in Islamic Financial banks as it does prohibit Riba and Gharar .Unavailability of hedging instruments for Islamic financial institutions, which was perceived as weakness before the crisis, became a strengthening factor for them. Risk originating from sheer exposure to equity markets, sukuk, real-estate is a concern specially when it is done purely for speculative gains.Third, in general larger proportion of assets of Islamic banks in illiquid form than their conventional counterparts. Absence of Lender of last resort facility and lack of interbank market to Islamic banks resulted in excess liquidity requirement. Another reason for this excess liquidity requirement is that the absence of short-term investments that's interest free and huge exposure to real economic investments which requires huge return duration According to CIBAFI, Liquid Asset Ratio of Islamic banks in GCC for the year 2007 had been at a high of 21.14 percent.

Contagious effect of financial crisis impacted Islamic banks indirectly. The financial crisis has triggered a chain reaction whereby the slowdown in the real economies of the developed countries has started to affect economic growth and investment activities in export driven economies of the developing countries through lower trade in goods and services as well as through the declining commodity prices including oil. The economic downturn is not

only affecting the investment and financing activities of financial institutions including those of Islamic banks, it is also reducing the funding of these banks through lower personal savings and declining corporate profits. Islamic banks in some regions may face risk on their financing and investment side of the balance sheet due to the crisis induced volatility of equity markets where these banks have large positions. Downturn in the real-estate markets where these banks have large direct and indirect exposures is also another source of risk. Similarly, the changing wealth position of their high-net-worth (HNW) clients who are exposed hard-hit conventional financial sector of the western economies are now postponing any investment plans is also a factor. The relative importance of each of these factors varies by the region. For example, the banks in the GCC and particularly in the UAE are more exposed to real estate market risk, followed by risk of international equity markets.

2. Literature Review

Several studies have been conducted to study both bank profitability and its determinants. These studies normally divide these factors into internal factors and external factors. Internal factors represent the bank-specific characteristics such as bank size, liquidity structure; liabilities…etc while external factors can be macroeconomic factors such as inflation and GDP growth or Country-specific regulations rules and practices.

2.1 Conventional Banking

Different studies have been conducted in the field of conventional banking profitability. Short (1979) is one of the early scholars who studied the relationship between banking profit rates and concentration for sixty banks in Canada, Western Europe and Japan in 1970's by including independent variable government ownership, found that its impact on profitability varied across the countries but exhibited a overall negative relationship and higher concentration had higher impact on profits. Bourke (1989) covering ninety banks in Australia, Europe, and North America between 1972 and 1989 examined different internal factors "staff expenses, capital ratio, liquidity ratio, and loans to deposit ratio" and external factors "regulation, size of economies of scale, competition, concentration, and growth in market, interest rate, government ownership, and market power". His study revealed that low profitability is linked to higher government ownership and variables concentration, interest rates, and money supply are positively related to profitability. He also opined that well capitalized banks enjoy cheaper access to sources of funds as they are less risky than less capitalized banks. Molyneux and Thornton (1992) studied the determinants of European banks profitability in eighteen counties in Europe between 1986 and 1989 using internal and external determinants of bank profitability found positive relationship between government ownership and return on capital (profitability) contradicting Bourke's(1989) findings.Peters et al. (2004) investigated banks characteristics in post-war Lebanon for the years 1993 to 2000 and compared the results to a group of banks from five other countries in the Middle East including UAE, KSA, Kuwait, Bahrain and Oman for the years 1995 through 1999 employing regression models found strong association between Return on Equity (ROE) and the variables size, asset portfolio composition, off-balance sheet items, ownership by a foreign bank, and the ratio of employment to assets. They found that Lebanese banks are profitable but lower than control group of banks from five other countries in the Middle East. Research conducted by Liu and Hung (2006) examining the relationship between service quality and long-term profitability of Taiwan's banks and found a positive relationship between Number of bank branches and long-term profitability.

2.2 Islamic Banking

In the area of Islamic Banking, Bashir (2000) assessed the performance of Islamic banks using profitability measures "Net Interest Margin (NIM), Before Tax Profit (BTP), Return on Assets (ROA), and Return on Equity (ROE)" , controlling economic and financial structure measures in eight Middle Eastern countries Bahrain, Egypt, Jordan, Kuwait, Qatar, Sudan, Turkey, and United Arab Emirates by including fourteen Islamic banks during 1993 and 1998.The other internal variables were "bank size, leverage, loans, short-term funding, overhead, and ownership"; external variables " macroeconomic environment, regulation, and financial market" had been used. His study confirms previous findings profitability of Islamic banks is positively related to equity and loans. Hassoune (2002) compared ROE and ROA Volatility for both Islamic and conventional banks in three GCC region, Kuwait, Saudi Arabia, and Qatar stated that "Islamic banking is based on profit and loss sharing, managements have to generate sufficient returns for investors" .Bashir and Hassan (2004) studied the determinants of Islamic banking profitability covering 43 Islamic Banks for the period from 1994 to 2001 in 21 countries observed that Islamic banks are well capitalized. Results obtained by Bashir and Hassan (2004), were similar to the Bashir (2000) results, confirming i) positive relationship between capital and profitability, ii) a negative relationship between loans and profitability and iii) a negative relationship between total assets with profitability. Surprisingly smaller banks found to be more profitable. He also opined economic boom contributes to banks profitability as there are fewer nonperforming loans

and Inflation is irrelevant on Islamic banks profitability. When examining determinants of profitability in the banking sector of the GCC countries Alkassim (2005) found that asset have a negative impact on profitability of conventional banks but have a positive impact on profitability of Islamic banks.

2.3 Development of Hypotheses

2.3.1 Hypothesis 1: Profitability

H1: Islamic banks are more profitable than conventional banks before and during the financial crisis

There are many ratios that have been used by researchers to measure bank profitability but the three most often used ratios are return on assets (ROA), return on equity (ROE) and Net Interest Margin (NIM) (Iqbal et al., 2005). Indicators for higher managerial efficiency is higher ROA and ROE and vice versa (Samad, 1999).Net Interest Margin (NIM)NIM is calculated as the different between the Interest Income and the Interest Expense divided by the Total Earning Assets. Ben Naceur (2003) used NIM to measure profitability of a bank in terms of loans for conventional banks while for Islamic banks; it measures profits from interest-free lending contracts.

2.3.2 Hypothesis 2: Capital Structure

H2: Islamic banks have better capital structure than conventional banks before and during the financial crisis

Capital structure refers to the various financing options of the asset by a firm. A bank can go for different levels of the mixture of equity, debt and other financial facilities with equity having the emphasis on maximizing the firm's value. Capital structure affects the liquidity and profitability of a firm (Rahemen, Zulfiqar and Mustafa, 2007).

Two ratios were used to evaluate bank's performance in terms of Capital Structure: Total Equity (EQUITY) and Tangible Equity (TNGEQTY).Total Equity: Total equity over total assets measures bank's capital structure and adequacy. It indicates bank ability to withstand losses and manage risk exposure. Hassan and Bashir (2003) examined the relationship between Equity and bank profitability and found positive relationship along with Bourke (1989).Tangible Equity: Tangible Equity represents the subset of shareholder's equity that is not common shares and not intangible asset. Tangible Equity became very popular after the financial crisis as a measure of bank viability since it indicates of how much ownership equity owners of common stock would receive in the event of a company's liquidation. Beltratti and Stulz (2009) examined tangible equity to liabilities in their study to examine why some banks perform better during the financial crisis and found positive and insignificant relationship between TNGEQTY and bank profitability.

2.3.3 Hypothesis 3: Liquidity

H1: Islamic banks have better liquidity than conventional banks before and during the financial crisis

Two factors were used to evaluate the Liquidity of the bank: Total Loans (LOANS) and Liquid Assets (LIQUID):

Total Loans: Total loans over total assets a liquidity ratio indicate how much of bank assets are tied to loans. For banks, the higher LOANS ratio means less liquidity. Demirguc-Kunt and Huizinga, (1999) found positive relationship between LOANS and bank profitability. Furthermore, conventional banks rely on interest-based loans while Islamic banks rely on profit and loss sharing interest-free lending. Therefore, this ratio is also used to compare the performance of interest-based loans and interest-free lending. Liquid Assets: Liquid assets include currency, deposit accounts, and negotiable instruments that can be converted easily into cash. Liquid assets to current liabilities ratio is a liquidity ratio that measure how easily the banks' assets can be converted into cash. Beltratti and Stulz (2009) found that LIQUID has positive and significant relation with profitability as banks with more liquid assets tend to perform better.

2.3.4 Hypothesis 4: Liability

H4: Islamic banks have higher liability than conventional banks before and during the financial crisis

Two factors were used to evaluate the Liabilities of a bank: Deposits (DEPOSITS) and Overhead (OVERHEAD).

Deposits: Deposits to total ratio is another liquidity indicator but is considered a liability since they measure the impact of liabilities on profitability. On examining deposits in their study Bashir and Hassan (2004) found a negative relationship with profitability. Overhead: Overhead costs represent all bank expenses excluding interest expenses as they are considered as operations expenses. Overhead over total assets is a liability ratio that measures the operation efficiency of the bank. Alkassim (2005) included overhead in his research and found positive relationship to profitability.

3. Methodology

3.1 Data Sample of the Study

The data of the study includes all Islamic and conventional banks in the GCC from 2006 to 2009 where years 2006 and 2007 covers the period before the financial crisis while year 2008 and 2009 indicates the period during the financial crisis. The financial data for all Islamic and conventional banks in the GCC from 2006 to 2009 were obtained from financial statements from BankScope database compiled by International Bank Credit Analysis Limited (IBCA). Bankscope database has an advantage that, the accounting information of Islamic Banking is adjusted to be comparable with accounting information of conventional banks. After removing all records with missing data, a total of 92 banks were included in this study for the years from 2006 to 2008 (27 Islamic Banks and 65 Conventional Banks). As for 2009, out of these 92 banks, only 38 banks have their financial reports published by the time of data extraction. Therefore, 2009 data sample was limited to those 38 banks (9 Islamic Banks and 29 Conventional Banks). Therefore, the data sample size for this paper is 184 for the period before the financial crisis (130 conventional banks and 54 Islamic banks) and 130 banks for the period during the financial crisis (94 conventional banks and 36 Islamic banks).

3.2 Validation of Scale

To validate the scale of data and to ensure the fit distributions of observations in the sample data, chi-square test was applied. In our case, the distribution of the population is represented by the total number of Islamic banks and conventional banks in the GCC.

Table 1. Chi-square test for years 2006 – 2008

Type	Frequency	Sample Percent	population Percent
Conventional	65	70.65	68
Islamic	27	29.35	32

Chi-Square: 0.2974 Pr > ChiSq: 0.5854

Table 2. Chi-square test for years 2006 – 2008

Type	Frequency	Sample Percent	population Percent
Conventional	29	76.32	68
Islamic	9	23.68	32

Chi-Square: 1.2076 Pr > ChiSq: 0.2715

The results of chi-square test indicate whether the observed proportions from our sample differ significantly from the hypothesized proportion. In our case, the Islamic to conventional banks ratio does not differ significantly from the distribution of the population.

3.3 Definition of Variables

A total of nine variables are used in this study. The variables are divided into four categories: Profitability Variables, Capital Structure, Liquidity and Liabilities. profitability variables of Islamic and conventional banking and they are Return on Average Assets (ROA), Return on Average Equity (ROE) and Net Interest Margin (NIM), Capital Structure measures consist of Equity and Tangible Equity. Liabilities measures include Loans and Liquid Assets. And finally, liabilities measure and they are Deposits and Overheads. The table below summarizes the variables used in this study.

Table 3. Variables summary

Variable	**Formula**	**Notation**	
Return on Assets	Net Income / Total Assets	ROA	
Return on Equity	Net Income / Equity	ROE	**Profitability Variables**
Net Interest Margin	(Interest Income - Interest Expense)/ Total Earning Assets	NIM	
Equity	Equity / Total Assets	EQUITY	**Capital Structure**
Tangible Equity	Tangible Equity / Total Liabilities	TNGEQTY	
Loans	Loans / Total Assets	LOANS	**Liquidity**
Liquid Assets	Liquid Assets / Current Liabilities	LIQUID	
Deposits	Deposits / Total Assets	DEPOSITS	**Liabilities**
Overhead Costs	Overhead Costs / Total Assets	OVERHEAD	

3.4 Research Methodology

This research evaluates the different profitability ratios before and during the financial crisis and between the Islamic and conventional banks and investigates the impact of the financial crisis on the different profitability determinants for Islamic banks and conventional banks before and during financial crises. Therefore, this study uses the T-Test for each of the ratios to compare before and during the financial crisis for Islamic and conventional banks separately. Then another T-Test is used for each of the ratios to evaluate if Islamic performed better than conventional banks before and during the financial crisis at 5% level of significance.

4. Data Analysis and Results

4.1 Sample Characteristics

Descriptive statistics on the variables used in this study are provided in the table 4 below for all GCC banks and both Islamic banks and conventional banks for the periods before the crisis years 2006 and 2007 and during the financial crisis years 2008 and 2009 This descriptive information includes mean, maximum, minimum and standard deviation. These tables show some facts on the Islamic and conventional banking in the GCC. Comparing the profitability measures between two study periods before and during financial crisis for Islamic banks, it is observed that the mean value of ROA decreased from 5.69 to 1.10, ROE decreased from 20.57 to 8.58 and NIM decreased from 4.76 to 3.43.Comparing the profitability measures between two study periods before and during financial crisis for Conventional banks, it is observed that the mean value of ROA decreased from 4.24 to -0.14, ROE decreased from 20.69 to 4.74 and NIM decreased from 2.68 to 2.62.This is a clear indication that the financial crisis had a negative impact on the profitability for both Islamic and conventional banks. Also we can see the profitability determinants for Islamic banks are higher than for the conventional before and during financial crisis. Furthermore, the mean value of EQUITY, LIQUID and TNGEQTY for both Islamic and conventional banks drop during the financial crisis while LOANS, DEPOSITS and OVERHEAD increased during the financial crisis for both Islamic and conventional banks. Finally, it is found that EQUITY and OVERHEAD continue to be higher for Islamic banks before and during the financial crisis while DEPOSITS, LIQUID and TNGEQTY continue to be lower than conventional banks. LOANS are the only variable that has a different trend: higher for Islamic banks before financial crisis while higher for conventional banks during the financial crisis.

Table 4. Descriptive statistics

Islamic Banks						
Before Crisis 2006 2007				During Crisis 2008 2009		
Variable	N	Mean	Std Dev	N	Mean	Std Dev
ROA	54	5.69	5.84	36	1.10	7.92
ROE	54	20.57	13.57	36	8.58	22.99
NIM	54	4.76	6.19	36	3.43	7.13
EQUITY	54	28.93	19.49	36	24.40	16.29
LOANS	54	47.05	24.27	36	48.23	24.74
DEPOSITS	54	56.73	23.86	36	60.77	24.12
LIQUID	54	24.51	18.56	36	20.65	12.56
TNGEQTY	54	31.53	37.80	36	24.18	15.93
OVERHEAD	54	2.80	1.86	36	3.81	6.38
Conventional Banks						
Before Crisis 2006 2007				During Crisis 2008 2009		
Variable	N	Mean	Std Dev	N	Mean	Std Dev
ROA	130	4.24	3.96	94	-0.14	5.82
ROE	130	20.69	12.56	94	4.74	26.10
NIM	130	2.68	2.32	94	2.62	1.81
EQUITY	130	21.08	14.15	94	17.48	11.02
LOANS	130	45.49	22.39	94	53.42	22.06
DEPOSITS	130	66.53	19.56	94	69.03	19.97
LIQUID	130	27.37	14.01	94	20.93	10.78
TNGEQTY	130	65.88	228.99	94	38.93	124.87
OVERHEAD	130	1.89	1.46	94	1.97	1.96

4.2 Hypothesis Testing

H1: Islamic banks are more profitable than conventional banks before and during the financial crisis

Statistical t-test was performed on the ratios of ROA, ROE and NIM before and during the financial crisis on Islamic and conventional banks.

Table 5. T-test of ROA and ROE results

Impact of Financial Crisis									
Islamic Banks					Conventional Banks				
	Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|		Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|
ROE	20.5711	8.5792	-3.11	0.0025	ROE	20.6926	4.7433	-6.07	<.0001
ROA	5.6915	1.0958	-3.17	0.0021	ROA	4.2436	-0.143	-6.71	<.0001
NIM	4.7589	3.4342	-0.94	0.352	NIM	2.6818	2.6161	-0.23	0.819

Table 5 shows that the mean value of ROE dropped from 20.5 to 8.5 for Islamic banks with significance value of 0.0025 < 0.05 and from 20.7 to 4.7 for conventional banks with significance level of .0001 < 0.05 during the financial crisis. The results also shows that the mean value of ROA for Islamic banks dropped from 5.6915 to 1.0958 with significance level of 0.0021< 0.05 and conventional banks from 4.2436 to -0.143 with significance level of 0.0001 < 0.05 has an impact of the financial crisis. Therefore, the financial crisis had a negative and significant impact on ROE and ROE of both Islamic and conventional banks.

However for NIM, the mean value for Islamic banks dropped 4.76 to 3.43 with significance level of 0.352 > 0.05 and for conventional banks from 2.68 to 2.62 with significance level of 0.819 > 0.05.This means that the impact of the financial crisis on NIM is not significant at 5% significance level for both banks during the period of consideration.

The second test was conducted to evaluate whether Islamic banks performed better than conventional banks before and during the financial crisis. To do so, another t-test was employed on ROA, ROE and NIM for Islamic banks vs. conventional banks before and during the financial crisis.

Table 6. T-test of ROA and ROE results

Islamic vs. Conventional									
Before Crisis 2006-2007					During Crisis 2008-2009				
	Mean Islamic	Mean Conv.	T-Test	Pt > |t|		Mean Islamic	Mean Conv.	T-Test	Pt > |t|
ROE	20.5711	20.6926	0.06	0.9535	ROE	8.5792	4.7433	-0.77	0.4405
ROA	5.6915	4.2436	-1.95	0.0528	ROA	1.0958	-0.143	-0.98	0.3297
NIM	4.7589	21.0843	-3.32	0.0011	NIM	3.4342	2.6161	-1.03	0.3027

From Table 6, for the duration before financial crisis 2006 – 2007 it's observed that there is no significant difference in the ratios ROA and ROE between Islamic banks vs Conventional banks and thus supports null hypothesis at 5% significance level, but the ratio NIM is very high for conventional banks in comparison with Islamic banks and with significance level of 0.0011 < 0.05 thus this ratio is highly significant supporting alternate hypothesis at 5% significance level. During the financial crisis, the t-test results show that although the mean value of all profitability measures for Islamic banks are higher than conventional banks, the significance value is above 0.05, thus supports the null hypothesis at 5% significance level meaning that there is no significant difference in profitability between Islamic banks and conventional banks during the financial crisis

Furthermore, observing mean value of ROE and ROA from fig 1 and 2 for the years 2006 to 2009, we can find that although Islamic banks performed better in 2006 - 2007 in terms of ROA while had almost similar value for ROE, 2008 can be considered to be the worst in term of profitability for both Islamic and conventional banks. However the values for ROA:-1.91 and ROE:-4.86 were much lower for Islamic banks than for conventional banks ROA: -0.61 and ROE: 2.97.For 2009, Islamic banks managed to turn these ratios back to positive figures as well as the conventional banks. Furthermore, Islamic banks had higher ROA and ROE ratio than the conventional banks. The two figures below show the ROA and ROE for Islamic and conventional banks in GCC from 2006 and 2009.

Figure 1. ROA of Islamic banks vs. conventional banks

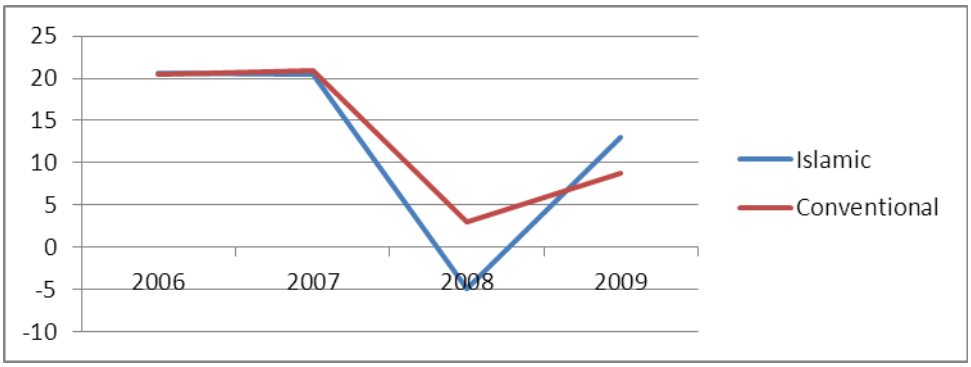

Figure 2. ROE of Islamic banks vs. conventional banks

H2: Islamic banks have better capital structure than conventional banks before and during the financial crisis

Table 7 shows that the mean value of EQUITY dropped from 28.9 to 24.4 for Islamic banks with significance value of 0.2532 > 0.05 and from 21.1 to 17.4 for conventional banks with significance level of 0.0406 < 0.05 during the financial crisis. The results also shows that the mean value of TNGEQTY for Islamic banks dropped from 31.5 to 24.1 with significance level of 0.2737 > 0.05 and conventional banks from 65.9 to 38.9 with significance level of 0.3018 > 0.05 as an impact of the financial crisis. Therefore the null hypothesis cannot rejected for the two ratios for Islamic banks at 5% significance level but it is rejected for EQUITY and supported for TNGEQTY for conventional banks which means that the financial crisis didn't have any significant impact on the capital structure of the Islamic banks but it had a negative impact of the capital structure of conventional banks

Table 7. T-test of EQUITY and TNGEQTY results

Impact of Financial Crisis									
Islamic Banks					Conventional Banks				
	Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|		Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|
EQUITY	28.9252	24.3994	-1.15	0.2532	EQUITY	21.0843	17.4776	-2.06	0.0406
TNGEQTY	31.5306	24.1828	-1.1	0.2737	TNGEQTY	65.8842	38.9308	-1.03	0.3018

From Table 8, it's observed that EQUITY is significantly higher for Islamic banks compared to conventional banks before the financial crisis and it continue to be the case during the financial crisis at 5% significance level. This means that the null hypothesis is rejected and that EQUITY is significantly higher for Islamic banks before and during the financial crisis. However, there is no significant difference in TNEQTY between Islamic banks vs Conventional banks before or during the financial crisis and thus supports null hypothesis at 5% significance level.

Table 8. T-test of EQUITY and TNEQTY results

Islamic vs. Conventional									
Before Crisis 2006-2007					During Crisis 2008-2009				
	Mean Islamic	Mean Conv.	T-Test	Pt > |t|		Mean Islamic	Mean Conv.	T-Test	Pt > |t|
EQUITY	28.9252	21.0843	-3.05	0.0027	EQUITY	24.3994	17.4776	-2.78	0.0062
TNGEQTY	31.5306	65.8842	1.09	0.2752	TNGEQTY	24.1828	38.9308	0.7	0.4822

H3: Islamic banks have better liquidity than conventional banks before and during the financial crisis

Table 9 shows that the mean value of LOANS increased from47.1 to 48.2 for Islamic banks with significance value of 0.8229 > 0.05 and from 45.5 to 53.4 for conventional banks with significance level of 0.0092 < 0.05 during the financial crisis. The results also show that the mean value of LIQUID for Islamic banks dropped from 25.5 to 20.7 with significance level of 0.2777 > 0.05 and conventional banks from 27.4 to 20.9 with significance level of 0.0002 < 0.05 as an impact of the financial crisis. Therefore, this support the null hypothesis for the Islamic banks at 5% significance level while reject the null hypothesis for the conventional banks which indicates that the financial crisis didn't have any significant impact on the liquidity of Islamic banks but it had positive and significant impact on the liquidity of the conventional banks

Table 9. T-test of LOANS and LIQUID results

Impact of Financial Crisis									
Islamic Banks					Conventional Banks				
	Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|		Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|
LOANS	47.0517	48.2333	0.22	0.8229	LOANS	45.4934	53.4157	2.63	0.0092
LIQUID	24.5143	20.6522	-1.09	0.2777	LIQUID	27.3731	20.93	-3.73	0.0002

From Table 10, it's observed that there is no significant difference in both ratios LOANS and LIQUID between Islamic banks vs. conventional banks at 5% significance level neither before nor during the financial crisis, thus this supports the null hypothesis that there is s no significant difference in the liquidity between Islamic and conventional banks and that Islamic but did have better liquidity than conventional banks before or during financial crisis.

Table 10. T-test of LOANS and LIQUID results

Islamic vs. Conventional									
Before Crisis 2006-2007					During Crisis 2008-2009				
	Mean Islamic	Mean Conv.	T-Test	Pt > |t|		Mean Islamic	Mean Conv.	T-Test	Pt > |t|
LOANS	47.0517	45.4934	-0.42	0.6755	LOANS	48.2333	53.4157	1.16	0.2489
LIQUID	24.5143	27.3731	1.14	0.2553	LIQUID	20.6522	20.93	0.13	0.9004

H4: Islamic banks have higher liability than conventional banks before and during the financial crisis

Table 11 shows that the mean value of DEPOSITS increased from 56.7 to 60.8 for Islamic banks with significance value of 0.4349> 0.05 and from 66.5 to 69 for conventional banks with significance level of 0.35> 0.05 during the financial crisis. The results also show that the mean value of OVERHEAD for Islamic banks increased from 2.8 to 3.8 with significance level of 0.2726 > 0.05 and conventional banks from 1.9 to 2 with significance level of 0.7227 > 0.05 as an impact of the financial crisis. Therefore, this supports the null hypothesis for both the Islamic and conventional banks at 5% significance level which indicates that the financial crisis didn't have any significant impact on the liability of Islamic banks or conventional banks.

Table 11. T-test of DEPOSITS and OVERHEAD results

Impact of Financial Crisis									
Islamic Banks					Conventional Banks				
	Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|		Mean before crisis 2006-2007	Mean during crisis 2008-2009	T-Test	Pt > |t|
DEPOSITS	56.7291	60.7744	0.78	0.4349	DEPOSITS	66.5276	69.0299	0.94	0.35
OVERHEAD	2.7989	3.8139	1.1	0.2726	OVERHEAD	1.8867	1.9678	0.36	0.72

From Table 12, it's observed that both DEPOSITS and OVERHEAD are significantly higher for conventional banks than Islamic banks at 5% significance level before and during the financial crisis, thus the null hypothesis is rejected and which means that conventional banks had significantly higher liability structure than conventional banks.

Table 12. T-test of DEPOSITS and OVERHEAD results

Islamic vs. Conventional									
Before Crisis 2006-2007					During Crisis 2008-2009				
	Mean Islamic	Mean Conv.	T-Test	Pt > |t|		Mean Islamic	Mean Conv.	T-Test	Pt > |t|
DEPOSITS	56.7291	66.5276	2.89	0.0043	DEPOSITS	60.7744	69.0299	1.99	0.0489
OVERHEAD	2.7989	1.8867	-3.56	0.0005	OVERHEAD	3.8139	1.9678	-2.53	0.0128

5. Conclusion

This research has tested the claim Islamic banks are robust and withstood the financial crisis unlike conventional banks. One important conclusion is that the financial crisis had a negative impact on profitability of both Islamic and conventional banks and that the Islamic banks were more profitable during the financial crisis than conventional banks. The profitability determinants behaved differently for Islamic banks vs. conventional banks. In terms of capital structure, equity ratio dropped for both Islamic and conventional banks and tangible equity ratio dropped for Islamic banks during the financial crisis while increased for conventional banks. Islamic banks kept higher equity ratio before and during the crisis while conventional banks continued to have higher tangible equity ratio. As for the liquidity ratios, the financial crisis had positive impact of the loans ratio and negative impact of the liquid assets ratio for both Islamic banks and conventional banks which means the financial crisis affected negatively the liquidity for Islamic and conventional banks. Furthermore, Islamic banks had higher loans ratio but lower liquid assets ratio before and during the financial crisis which means that conventional banks had better liquidity ratios than the Islamic banks. The liabilities of both Islamic and conventional banks increased during the crisis but the conventional banks had higher deposits ratio and the Islamic banks had higher overhead ratio during the financial crisis.

- Though Islamic banks had better positive ratios for ROA, ROE and NIM both the durations before and after crisis than the conventional banks the claim Islamic banks more profitable is not statistically significant.
- In terms of capital structure Islamic banks does have better capital structure in terms of Equity for both durations than conventional banks but not in terms of Tangible Equity.
- In terms of liquidity the difference between the two banking systems is not found to be significant and the average values for Loans and Liquidity assets are almost the same.
- In terms of Liability as measured by Deposits and Overhead expenses Islamic banking performance far superior than conventional banks

Therefore this research concludes that there is no strong statistical evidence that Islamic banking has weathered the financial crisis than conventional counterparts in all performance measures.

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