

# “Performance of Islamic banks and conventional banks before and during economic downturn”

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## Performance of Islamic banks and conventional banks before and during economic downturn

### Abstract

It is an established fact that the capital structure of an Islamic bank differs significantly from that of conventional bank, hence the likelihood that the risk levels of the two types of banks and their depositors may vary. Based on this fact, the authors argue that difference in performance does exist between the two types of banks, especially at times of economic downturn. To validate this argument, the authors studied 25 Gulf Council Countries' (GCC) banks classified as Islamic and conventional for the period 2001-2013. A multivariate general linear model (GLM) was estimated to test for differences in performance before and during the so-called 2008 crisis. The analysis revealed statistically significant difference in performance between the two types of banks. Statistical evidence of an increase in the loan/asset ratio was found for Islamic banks during the crisis with no change for conventional banks. The analysis also revealed that although deposits/asset ratio was higher for conventional banks before the crisis, it was significantly less than that of Islamic banks during the crisis. Interestingly, although they were able to attract more deposits and provide more finances relative to assets, Islamic banks witnessed a dramatic decrease in the return on investment (ROE) compared to conventional banks. The authors provide analysis and interpretations of the results, and potential theoretical and practical implications.

**Keywords:** bank performance, Islamic banks, economic crisis.

**JEL Classification:** G01, G21, G30.

### Introduction

Fundamentally, conventional banking business is based on interest. Simply, banks borrow money (establishing clients' deposits) and are bound to pay interest on these deposits. To make profit, they lend money and receive higher interest from borrowers. Along the way, and to attract new customers, they provide vast and essential banking services to their clients to help them manage their businesses, including withdrawal, deposit and borrowing of money. Although still debatable and questionable, some scholars established that interest is the prohibited usury mentioned in Quran (The Words of Allah). Therefore, to conform to Islamic rules, Islamic banks prohibit, among other things, the payment or receipt of interest.

With the rapid increase of Islamic banking during the previous 3 decades, many Muslims refrained from dealing with conventional banks and switched to Islamic banks. According to The Economist (2014), total assets of Islamic financial institutions amount to about \$2 trillion. It also argues that Sharia-compliant Islamic banking assets grew at an annual rate of 17.6% between 2009 and 2013, and will grow by an average of 19.7% a year to 2018. These growth rates are highly significant for a relatively new industry.

The main source of capital for both Islamic and conventional banks is the same, which are deposit/investment accounts. In conventional banks, deposits are considered as a liability on the bank. Capital structure of a conventional bank consists of debt and equity. This means that the higher the amount of this liability the higher the risk the bank is facing. In Islamic banks, however, deposits are neither a liability nor equity, implying, technically, zero financial risk. This is now an established capital structure theory in Islamic banking (see Aldeehani et al. (1999) and Archer et al. (1998)).

This theory has many implications on important issues like dividend policy, asset management policy, corporate governance, management/investment behavior, bank performance and many other issues (see Aldeehani et al. (1999) and Archer et al. (1998) for detailed implications).

Given this, relatively, new theory, one would assume that because Islamic banks receive most of their capital (deposits/investment accounts) free of risk, they afford adapting less conservative and more aggressive investment policies hoping to earn returns higher than that of their conventional counterparts.

Therefore, in this study, the main hypothesis is that because Islamic banks can increase their deposits at no extra risks to their equity they are more tolerant to greater risks on investments. Therefore, they are expected to get involved in investments with risks higher than that of conventional banks as they are adopting more aggressive investment policies to earn higher return in normal economic circumstances. This hypothesis is justified by the argument made by Archer et al. (1998) who

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indicated that, in principle, shareholders of the Islamic bank “*can increase their rate of return at no extra risk to their equity by increasing their return from the mudarib share*” out of the money deposited in the bank. Similar argument was made by Aldeehani et al. (1999) who stated that “*the concept of financial risk, on which modern capital structure theories are based, is not relevant to Islamic banks*”. Indeed, Vogel and Hayes, III (1998) argued that “*The Islamic bank .. faces fewer liquidity problems than a conventional bank since it does not guarantee the capital of its depositors. ... The risk assumed by depositors enables the institution to tolerate greater risk on its assets side, as it must if it is to make equity investments in Mudaraba ventures instead of lending on interest*” (p. 131).

In time of downturn, however, Islamic banks are expected to suffer more than conventional banks because of this aggressive policy.

It would be interesting to empirically test this hypothesis and to compare between the performance of Islamic banks vs conventional banks before and after the 2008 economic downturn.

## 1. Literature review

**1.1. Defining Islamic banking versus conventional banking.** Most business organizations exist only for one purpose: that is, maximization of the wealth of its shareholders. A bank is one example. A bank, whether Islamic or conventional, operates by seeking money from savers (deposits), then providing it to spenders (loans). After a specific period of time, savers expect to get their money back from the bank plus returns, and spenders are expected to pay back the money they received from the bank plus returns. An efficient bank is the one minimizing savers’ returns and maximizing spenders’ returns.

Conventional banks use preset-interest to pay savers and preset-interest to charge spenders. Islamic banks, however, are prohibited by Sharia (Islamic law) from using preset-interest in its operations. They repay savers from the money generated by Musharaka and Mudaraba where the return on the investment is unknown to the saver and they charge spenders with a preset-profit based on instruments such as Murabaha, Bai Muajjal, Istisna, Istizra, Musharaka, Ijara and Bai Salam (see, for example, Hanif, 2011).

Following is a summary of Hanif (2011) discussion of these instruments:

**Musharaka means sharing.** That is, savers agree to deposit their money based on a profit and loss sharing contract and the Islamic bank commingles it with other savers’ money, then acts as an agent managing the money. Under this contract savers’ money return is not guaranteed. The saver and the

bank share profit on a pro rata base. The Islamic bank receives an additional commission for its management effort.

**Mudaraba means trade.** That is, savers agree to deposit their money based on a profit and loss sharing contract with other savers, including the bank. The bank acting as an agent manages the money and claims a fee for that effort.

**Murabaha is a cost-plus sale contract.** The margin received by the bank is preset and the cost is disclosed. The bank provides finance to a customer by buying the desired asset from the market then selling it to the customer with a preset profit margin. Payments are differed and delayed payments are not penalized by increasing the margin.

**Ijarais a leasing agreement.** Vogel and Hayes, III (1998) define it a leasing agreement that allows the investor retain title of the property until the end of the contract. If there is a default, the property can be repossessed, thereby avoiding the cumbersome and partial rules that accompany a default under Shari’a law. Inter-bank-rate is usually used as a benchmark for rentals amounts.

Diminishing Musharaka is a declining partnership typically used to finance real estate projects. General mechanisms are similar to that of mortgage.

Bai Salam is a spot-payment/deferred-delivery contract typically used to finance agricultural projects. Islamic banks make profit by discounting spot prices.

Bai Muajjal is a credit sale finance mainly to supply commodities to customers. Under this contract, cost may not be disclosed.

Istisna is a financing instrument whereby the subject matter does not exist but ordered to be manufactured. A profit margin is also calculated on top of the manufacturing cost.

**1.2. Theoretical background.** Conventional capital structure theories (the Nobel Prizes winners; MM, 1958, 1963, Myers, 1984, Modigliani, 1988, Miller, 1995) were based on notion that there are two sources of capital: debt and equity. Under certain (unrealistic) assumptions MM (1958) argued that the value of the firm is not affected by how it finances its operations, hence, the irrelevance of the capital structure. The unrealistic assumptions were relaxed by MM (1963) incorporating taxes and demonstrated that the treatment leads to an optimal capital structure of 100% debt (which is still largely unrealistic). In 1977, Miller (1977) incorporated the personal tax element and argued that tax benefits associated with debt financing do increase the value of the firm. This conclusion was proved by the work of Graham (2000) answering the question of how big the tax benefits of the debt are.

Building on the earlier assumption and theories, a trade-off theory was developed stating that firm trade off tax benefit of debt against problems caused by potential bankruptcy. Others provided evidence of the signaling theory stating that raising debt finance provides positive signal to the market leading to an increased value of the firm (see, for example, Asquith and Mullin, Jr., 1983).

Al-deehani et al. (1999) argue that the concept of financial risk on which these conventional capital structure theories are based is not valid for Islamic banks. Evidence was provided using data for 12 Islamic banks and the results from counterfactual simulations and sensitivities. They argue that,

*“given the contractual obligation binding the Islamic bank's shareholders and investment account holders to share profits from investments, we propose a theoretical model in which, under certain assumption, an increase in investment accounts financing enables the Islamic bank to increase both its market value and its shareholders' rate of return at no extra financial risk to the bank”.*

This argument implies a serious deviation from the conventional theory of finance with regard to Islamic banking. It is based on the fact that investment accounts (deposits) of the Islamic bank are not considered a liability. These finances are based on profit and loss sharing contracts, which means that the bank is not liable for the loss of the money. This also means that the capital structure of the Islamic bank does not include debt, hence, the irrelevance of the capital structure theory to Islamic banking.

If we accept this theoretical argument, one would expect difference in performance between conventional and Islamic banks. And, considering the different level of risk the bank is facing with regard to investment accounts (deposits), the state of the economy is expected to affect the two types of banks differently (because of the expected risks taken in investment before the crisis, Islamic banks are expected to exhibit poorer financial performance during the crisis).

**1.3. Applied research.** Banking performance in the GCC region has been investigated by many researchers. Islam (2003) studied the performance of domestic and foreign banks of only three countries in the GCC region: Bahrain, Qatar and UAE. The article provided no hypothesis testing and was more of a descriptive script. Banks in these countries were found to be well managed and profitable. Mostafa (2007) investigated the relative efficiency of the top 50 Gulf Cooperation Council banks. His results indicate that the performance of several banks is sub-optimal, suggesting the potential for significant improvements. Al-Obaidan

(2008) has attempted to provide a systematic quantitative measure of the efficiency effect of direct lending controls in the commercial banking industry of the Gulf region. His results confirm the necessity of direct lending controls to ensure the efficiency of the banks. The effect of ownership structure and board characteristics on bank performance of the GCC countries has been investigated by Arouri et al. (2011). They found positive relation between foreign ownership and better bank performance.

Measuring the performance of Islamic banks versus conventional banks has also been investigated by many scholars resulting in contradictory findings. Srairi (2010), for example, concluded that conventional banks are more efficient than Islamic banks. Evaluating the performance of Islamic banks, Iqbal (2001) found that Islamic banks outperformed conventional banks during the period from 1990 to 1998. However, Samad (2004) examined banks in Bahrain during the period from 1991 to 2001 and found no significant difference in the performance of profitability and liquidity between conventional and Islamic banks. Difference between the two types of banks was also reported by Akhtar et al. (2011). They found that while capital adequacy for conventional banks is significantly and positively related to liquidity risk, it was not so for Islamic banks. And while return on assets is found to be significantly and positively related to liquidity risk for Islamic banks, it was not so for conventional banks. Jaffar and Manarvi (2011) concluded that although conventional banks have good earnings ability, Islamic banks were more superior as they have higher liquidity.

Zeitun (2012) investigated some influential factor on Islamic and conventional banks in the GCC region during 2002-2009 and found evidence of difference in the effect of some of these factors on various performance indicators of Islamic versus conventional banks.

Usman and Khan (2012) compared the financial performance of Islamic with conventional banks in Pakistan using a sample of three Islamic banks and three conventional banks during the period from 2007 to 2009. Their main finding was that Islamic banks have high growth rate, profitability and liquidity power over conventional banks. Studying the efficiency of Islamic banks during the subprime crisis, Ftiti et al. (2013) used the data of selected Islamic banks in the GCC region during the period from 2005 to 2009. They concluded that Islamic banks remain efficient under subprime crisis.

Hanif (2011) provided a detailed discussion on the differences and similarities in Islamic and conventional banking. Table 1 below summarizes that discussion:

Table 1. Summary of differences and similarities of Islamic versus conventional banking

	Conventional Bank CB		Islamic Bank (IB)		Comment
	Return	Risk bared by	Return	Risk bared by	
Savings	Interest	Bank	Profit	Saver	<i>Interest and profit charged are comparative and almost equal. For an IB risks are transferred to savers and spenders.</i>
Finances	Interest	Spender	Profit	Spender	

Based on these practices, savers face limited risks with a conventional bank because savings are considered liabilities. However, savers face unlimited risks with an Islamic bank because savings are considered neither a liability nor equity. This implies that the Islamic bank can raise maximum deposits with zero financial risk.

With these major differences in investment account treatments in Islamic banks versus conventional banks, one would expect differences in investment policy which, in turn, affects performance.

As mentioned earlier, many studies have examined the differences in performance between Islamic and conventional banks in various aspects using different methodologies. One of these studies is the work done by Siraj and Sudarasan Pillai (2012). They compared

between the two types of banks in the GCC region based on certain performance indicators. These indicators represent ratios of operating profit, net profit margin, operating expenses, return on assets, return on equity, return on deposits, deposits to liabilities and equity to assets. They argue that inference based on analysis revealed better performance of Islamic banking during the study period. The sample they used is only 6 Islamic banks and 6 conventional banks during the period from 2005 to 2010. The authors did not examine differences in performance before and after the start of the economic crisis in 2008.

However, further analysis to the data and results, on operating profit ratios, provided by Siraj and Sudarasan Pillai (2012) can be summarized as Table 2 below.

Table 2. Further comparison of operating profit provided by Siraj and Sudarasan Pillai

	Before crisis			During crisis			Risk & return			
	2005	2006	2007	2008	2009	2010	Avg	SD	CV	
Islamic banks	71.17	73.75	72.91	61.94	48.78	44.53	62.18	12.81	0.21	
Conventional banks	50.97	49.60	54.63	47.00	33.14	41.53	46.15	7.72	0.17	Better
Growth Islamic		3.63%	-1.14%	-15.05%	-21.25%	-8.71%	-8.50%			
Growth conventional		-2.69%	10.14%	-13.97%	-29.49%	25.32%	-2.14%			
Avg g Islamic		1.24%			-15.00%					
Avg g conventional		3.73%			-6.05%					
Average Op Profit Islamic		62.17			46.15					
Average Op Profit conventional		31.04			20.20					
SD		1.32			9.08					
CV		4%			45%					

Many observations can be derived from Table 2 contradicting with the authors' conclusion. Although they are making higher operating profit margin than conventional banks, Islamic banks face more volatility in their profit, hence, the higher risk represented by standard deviation and coefficient of variation. Although negative for both types of banks (because of the crisis), average growth of profit margin is significantly higher for conventional banks. Average recovery time is faster for conventional banks as profit margin turned positive in 2010 while remained negative for Islamic banks. Average growth of operating profit is better for conventional banks prior to the crisis period and during the crisis period. Operating profit volatility is higher for Islamic banks prior to the crisis period and during it.

To add to the body of applied knowledge, it is our intention to study the effect of the state of economy on the performance of conventional banks versus

the performance of Islamic banks in the Gulf Cooperation Council (GCC) region.

## 2. Why the GCC region?

GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE on the right hand side of the Arabian Peninsula. These countries are very wealthy and enjoy relatively small populations. As of 2014, the region counts for about 30% of the world oil production. People of these countries are predominantly Muslims, speaking the same Arabic language and share similar cultures. Most of these countries enjoy very high per capital GDP. As of 2013, Qatar for example is ranked 1<sup>st</sup>, UAE is the 13<sup>th</sup> and Kuwait is the 16<sup>th</sup>. The GCC countries share almost the same levels of economic and political stability. Nafti and Sreiri (2013) report that two thirds of the Islamic banking market is located in this region representing over \$1.5 trillion in assets.

### 3. GCC Banks

The Institute of Banking Studies reports (2001 to 2013) provide an extensive fundamental data for all GCC's conventional and Islamic banks. Table 3 summarizes the aggregation of these reports. For conventional banks, the 2013's report shows, as of end of 2012, total assets of \$1,144 billion, owner's equity of \$158 billion, net profit of \$19.5 billion and were able pay cash dividend of \$7.8 billion. For Islamic banks, however, the 2013's report shows, as of end of 2012, total assets of \$295 billion, owner's equity of \$39 billion, net profit of \$4.5 billion and were able pay cash dividend of \$2.0 billion. On aggregate, the numbers show a big difference in total assets under management for the advantage of conventional banks which explains their ability to provide higher profit and dividends.

Table 3. Summary of aggregate reports on GCC banks

	Conventional banks (million)	Islamic banks (million)
Loans/Islamic financing	695,871	201,951
Total assets	1,144.114	294,790
Deposits/Investment acct's	882,439	210,899
Equity	158,414	39,436
Profit	19,522	4,508
Dividends	7,805	2,001
Payout ratio	40%	44%

As of end 2012, there are 51 conventional banks and 19 Islamic banks operating in the 6 GCC countries. In terms of assets, deposits, loans, equity and net profit, Qatar National Bank is the largest.

Table 4. List of GCC sample banks and their fundamental data

		Loans	Deposits	Equity	Assets	Profit
Conventional	Bank of Bahrain and Kuwait	3,986.06	6,542.28	769.06	8,264.87	109.33
	National Bank of Bahrain	2,362.39	5,974.61	848.25	7,060.07	120.03
	National Bank of Kuwait	35,113.44	48,584.69	9,060.73	58,405.48	1,085.02
	Commercial Bank of Kuwait	7,571.10	10,933.21	1,963.11	13,043.75	3.98
	Bank Mascot	14,566.96	14,785.46	2,789.18	20,581.87	362.16
	Bank Dhofar	4,603.20	4,253.64	680.12	5,575.67	98.17
	Qatar National Bank	4,603.20	4,253.64	13,182.49	100,774.75	98.17
	Commercial Bank of Qatar	13,564.41	14,075.97	4,103.85	21,986.37	552.78
	The National Commercial Bank	43,648.92	79,860.84	10,066.87	92,200.48	1,722.90
	Samba Financial Group	27,977.87	42,905.04	8,447.04	53,192.85	1,156.16
	National Bank of Abu Dhabi	44,820.41	61,480.12	8,477.54	81,853.15	1,178.18
	Commercial Bank of Dubai	7,354.62	7,653.86	1,859.48	10,747.47	229.23
Total	210,172.58	301,303.36	62,247.72	473,686.78	6,716.11	
Average	17,514.38	25,108.61	5,187.31	39,473.90	559.68	
Islamic	Al-Rajhi Banking & Inv Co.	49853.93	59098.55	9737.15	71391.14	1878.27
	Kuwait Finance House	33754.08	33400.36	4722.72	52284.94	311.78
	Dubai Islamic Bank	18624.75	18189.87	2875.45	25967.81	277.32
	Abu Dhabi Islamic Bank	17668.46	16699.11	2430.47	23326.46	325.53
	Qatar Islamic Bank	14183.17	11852.58	3151.88	20105.86	332.50
	AlBaraka Banking Group	12135.67	15425.36	1293.93	19055.13	133.03
	Emirates Islamic Bank	5398.48	6990.81	702.19	10146.92	21.22

However, in terms of return on equity it is ranked 3<sup>rd</sup> after The National Banks of Ras Al-Khaimah and United Arab Bank.

### 4. Methodology

This study is meant to build upon the previous research on performance difference between Islamic and conventional bank, especially the work done by Siraj and Sudarasan Pillai (2012). Our target was to include all Islamic and conventional banks operating in the GCC region during the period 2001-2013. The GCC banks financial report from the Institute of Banking Studies in Kuwait is our source for fundamental data.

The period selected for this research is from 2001 to 2012. This selection is justified by the fact that this research investigates the performance of Islamic versus conventional banks before and during the global economic crisis which started in 2008. We want to investigate the difference in performance of the two types of banks during a stable period (before 2008) and detect the level of variation in performance during the crisis (after 2008).

We collected fundamental data for 25 banks in service since the year 2001 to 2012. This period covers a relatively global economic stability from 2001 to 2007. It also covers a period of 5 years of global economic instability from 2008 to 2012 which we call a "downturn". Twelve conventional banks and thirteen Islamic banks were selected. Table 4, below, lists these banks along with their fundamental data as of 2012.

Table 4 (cont.). List of GCC sample banks and their fundamental data

		Loans	Deposits	Equity	Assets	Profit
Islamic	Bank AlBilad	6816.44	6339.01	1167.01	7950.59	251.46
	Qatar International Islamic Bank	5479.86	5446.62	1383.40	7845.17	181.86
	Boubyan Bank	5053.11	4967.60	901.98	6701.84	35.74
	Sharjah Islamic Bank	3573.06	3086.40	1210.07	4987.51	60.14
	Bahrain Islamic Bank	1520.26	1990.42	185.54	2214.93	-96.26
	ABC Islamic Bank	883.34	52.33	235.99	1066.78	8.28
	Total	174,944.61	183,539.02	29,997.78	253,045.08	3,720.87
	Average	13,457.28	14,118.39	2,307.52	19,465.01	286.22

To test for significant difference in performance between conventional and Islamic banks, we chose six dependent variables. These variables are investments to total assets, loans to total assets, deposits to total assets, return on assets, return on equity and payout ratio. The first three variables capture the main operational performance of the bank represented by the levels of investments, loans/Islamic finances and deposits/investment accounts. Return on assets and return of equity

variables capture the profitability performance of the bank. The former captures the profitability of the bank relative to the all assets and the later captures the profitability of the bank relative to owners' equity. Payout ratio captures the ability of the bank to pay cash dividends relative to its profit, calculated by dividing cash dividends by net profit. Table 5, below, provides descriptive statistics of the six independent variables for both conventional and Islamic banks.

Table 5. Descriptive statistics of the independent variables

			Mean	Std. deviation	Coefficient of variation
Inv/A	Conventional	Before crisis	.302812	.1327528	43%
		During/after crisis	.252193	.1137977	45%
	Islamic	Before crisis	.124576	.0903946	72%
		During/after crisis	.138457	.0780292	57%
Loans/A	Conventional	Before crisis	.576978	.1177120	20%
		During/after crisis	.568677	.1660289	29%
	Islamic	Before crisis	.751008	.1133974	15%
		During/after crisis	.797773	.6924950	87%
Deposits/A	Conventional	Before crisis	.798488	.0596432	8%
		During/after crisis	.718148	.2041191	28%
	Islamic	Before crisis	.650573	.2432794	37%
		During/after crisis	.764413	.9034347	118%
RoA	Conventional	Before crisis	.023577	.0069054	29%
		During/after crisis	.017003	.0070223	41%
	Islamic	Before crisis	.021477	.0168997	81%
		During/after crisis	.010261	.0185401	190%
RoE	Conventional	Before crisis	.184476	.0573924	31%
		During/after crisis	.133266	.0539124	41%
	Islamic	Before crisis	.147133	.1027283	70%
		During/after crisis	.059528	.1522328	258%
Payout ratio	Conventional	Before crisis	.577364	.2359439	41%
		During/after crisis	.581794	1.2444168	214%
	Islamic	Before crisis	.451953	.9714386	215%
		During/after crisis	.357125	.3458210	97%

A multivariate general linear model (GLM) is used to test the effect of bank type and economic state on the selected dependent variables. The reason for choosing GLM is that it is more appropriate when having multiple dependent variables as proposed by this research. The GLM procedure is used to test the null hypotheses about the effect of bank type and economic state as factor variables (as independent variables) on the means of Inv/A, Loans/A,

Deposits/A, RoA, RoE and Payout Ratio (as dependent variables).

The general linear model (GLM) is considered as a generalization of multiple linear regression model to the case of more than one dependent variable. Hypotheses testing with the general linear model can be made as multivariate or as several independent univariate tests.

GLM procedure can also help to investigate interactions between factors as well as main effect of individual factors. Although not performed in this study, the effects of covariates and their interactions can also be tested using GLM procedure.

The multivariate general linear model (GLM) is of the form:

$$Y_{n \times d} = X_{n \times (p+1)} B_{(p+1) \times d} + E_{n \times d}$$

Each *d*-dimensional response has an intercept and *p* predictor variables, and each dimension has its own set of regression coefficients.

The null hypotheses of this research are divided into three groups. Group 1 tests for the overall effect of “type of banks” and “the state of economy” on the dependent variables. Group 2 differentiates between types of banks before the economic downturn. Group 3 distinguishes between types of banks during the economic downturn.

Group 1 hypotheses are:

1.  $H_0$ : Type of banks does not have an effect on the overall performance of the banks.
2.  $H_0$ : State of the economy does not have an effect on the overall performance of the banks.
3.  $H_0$ : The interaction between the type of the bank and the state of the economy does not have an effect on the overall performance of the banks.

Group 2 hypotheses are:

1.  $H_0$ : There is no significant difference in means of investment to total assets between conventional and Islamic banks before economic downturn.
2.  $H_0$ : There is no significant difference in means of loans to total assets between conventional and Islamic banks before economic downturn.
3.  $H_0$ : There is no significant difference in means of deposits to total assets between conventional and Islamic banks before economic downturn.
4.  $H_0$ : There is no significant difference in means of return on assets between conventional and Islamic banks before economic downturn.
5.  $H_0$ : There is no significant difference in means of return on equity between conventional and Islamic banks before economic downturn.

6.  $H_0$ : There is no significant difference in means of payout ratio between conventional and Islamic banks before economic downturn.

Group 3 hypotheses are:

1.  $H_0$ : There is no significant difference in means of investment to total assets between conventional and Islamic banks during economic downturn.
2.  $H_0$ : There is no significant difference in means of loans to total assets between conventional and Islamic banks during economic downturn.
3.  $H_0$ : There is no significant difference in means of deposits to total assets between conventional and Islamic banks during economic downturn.
4.  $H_0$ : There is no significant difference in means of return on assets between conventional and Islamic banks during economic downturn.
5.  $H_0$ : There is no significant difference in means of return on equity between conventional and Islamic banks during economic downturn.
6.  $H_0$ : There is no significant difference in means of payout ratio between conventional and Islamic banks during economic downturn.

### 5. Model estimation and results

A multivariate test of Wilks’ Lambda was used to test the overall main effects of the two group variables and the effect of their interactions on the performance measures of the banks. Table 6, below, depicts the results of this test.

Table 6. Multivariate Test (Wilks’ Lambda)<sup>a</sup>

Effect	Value	F	Hypothesis df	Sig.
Type	.624	27.667 <sup>b</sup>	6.000	.000
Economy	.875	6.543 <sup>b</sup>	6.000	.000
Type * economy	.950	2.412 <sup>b</sup>	6.000	.027

Notes: <sup>a</sup> Design: Intercept + Type + Economy + Type. \* Economy. <sup>b</sup> Exact statistic.

The results show a statistically significant effect of the individual group variables and their interactions on the performance measures of the banks. The Table shows a significance value of 0.000 for the type of banks, another 0.000 for the state of the economy and 0.027 for the state of economy indicating the importance to further tests of between-subject effects.

The results of estimating the GLM procedure is illustrated in Table 7 below.

Table 7. Tests of between-subjects effects

Type III						
Source	Dependent variable	Sum of squares	df	Mean square	F	Sig.
Type	Inv/A	1.488	1	1.488	129.348	.000
	Loan/Assets	2.837	1	2.837	23.076	.000
	Deposits/Assets	.180	1	.180	.851	.357
	RoA	.001	1	.001	7.643	.006
	RoE	.215	1	.215	22.261	.000
	Payout ratio	2.139	1	2.139	3.453	.064



Table 7 (cont.). Tests of between-subjects effects

Type III						
Source	Dependent variable	Sum of squares	df	Mean square	F	Sig.
Economy	Inv/A	.024	1	.024	2.048	.154
	Loan/Assets	.026	1	.026	.210	.647
	Deposits/Assets	.020	1	.020	.092	.761
	RoA	.006	1	.006	30.937	.000
	RoE	.336	1	.336	34.765	.000
	Payout ratio	.143	1	.143	.230	.632
Type * economy	Inv/A	.073	1	.073	6.312	.013
	Loan/Assets	.053	1	.053	.431	.512
	Deposits/Assets	.658	1	.658	3.104	.079
	RoA	.000	1	.000	2.106	.148
	RoE	.023	1	.023	2.390	.123
	Payout ratio	.172	1	.172	.278	.599

The results of the estimated GLM procedure shown by table 7 indicate a statistically significant effect at the 5% level of bank type on investment to total assets, loans to total assets, return on investment and return on equity. Payout ratio appears to be statistically significant only at the 10% level. The results also show that the state of the economy has a statistically significant effect at the 5% level on only profitability of the banks (that is, return on assets and return on equity). The interaction between the type of bank and the state of the economy has a statistically significant effect at the 5% level on

investment to total assets and on deposits to total assets but only at 10% level.

A profile plot of the interaction effect on investments to total assets shown by figure 1 indicates higher means of conventional banks over Islamic banks combined with lower risk represented by the coefficient of variation (CV) which is the risk (standard deviation) per one unit of the mean. This proves the assumption concerning the tendency of Islamic banks to take risk higher than conventional banks with the deposited money of investment account holders.

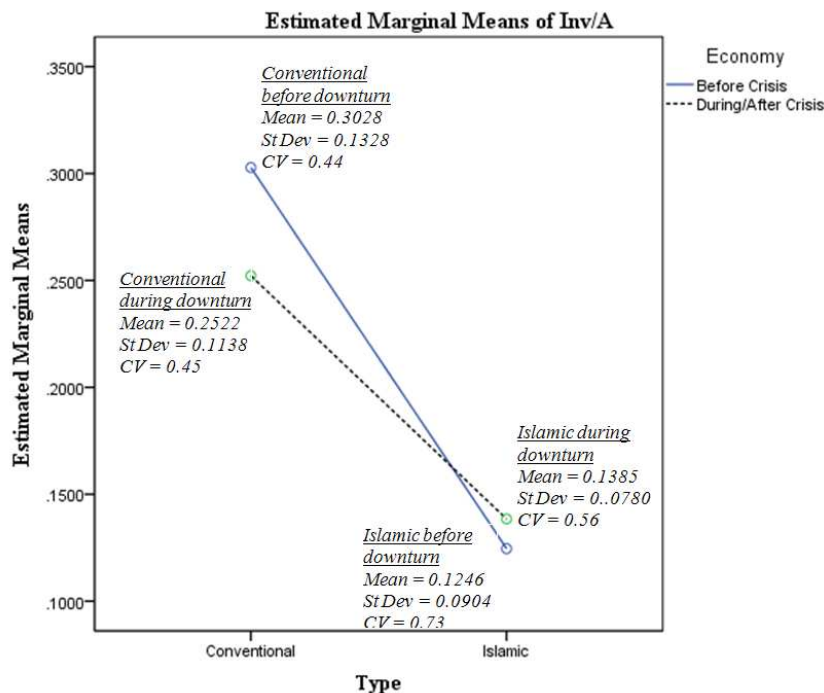


Fig. 1. A profile plot of the interaction effect on Investment/Assets

Another profile plot of the interaction effect on deposits to total assets is shown by figure 2 below. It indicates a decrease of the mean of deposits to total assets for conventional banks from around 80% before the downturn to about 72% during it. It also shows an increase of deposits to total assets for Islamic banks from 65% before the downturn to

about 76% during it. Coefficient of variation is higher for Islamic banks in both economic states. In fact the CV has increased for Islamic banks during the downturn from a 0.37 to a very high 1.18, (again, proving the assumption that Islamic banks do take higher risks with investment account holders' money).

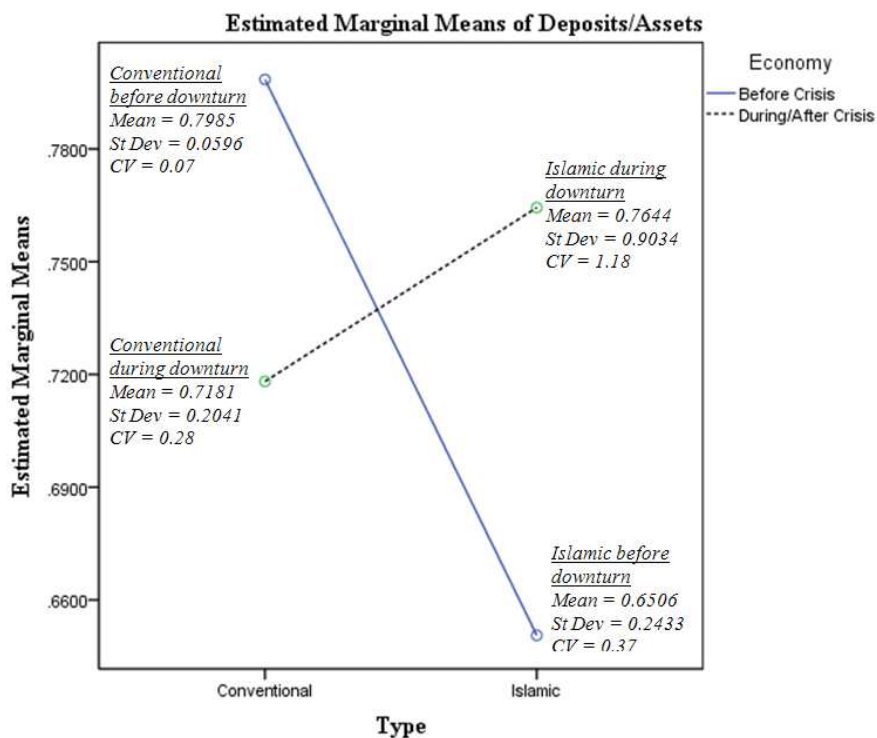


Fig. 2. A profile plot of the interaction effect on Deposits/Assets

To differentiate between the effects on performance before the downturn, a GLM procedure was estimated for the data during the period from 2001 to 2007. Table 8 provides descriptive statistics of these data.

Table 8. Descriptive statistics: before downturn

		Mean	std. deviation	Coefficient of variation
Inv/A	Conventional	.3028	.1328	43%
	Islamic	.1246	.0904	73%
Loan/A	Conventional	.5770	.1177	20%
	Islamic	.7510	.1134	15%
Deposits/A	Conventional	.7985	.0596	7%
	Islamic	.6506	.2433	37%
RoA	Conventional	.0236	.0069	29%
	Islamic	.0215	.0169	79%
RoE	Conventional	.1845	.0574	31%
	Islamic	.1471	.1027	70%
Payout ratio	Conventional	.5774	.2359	41%
	Islamic	.4520	.9714	215%

The resulting higher coefficients of variation for Islamic banks, before the crisis, in most of the variables indicate higher levels of risk Islamic banks are taking compared with conventional banks.

The results of the estimated GLM procedure are shown in Table 9.

Table 9. Tests of between-subjects effects: before downturn

	Type III sum of squares	df	Mean square	F	Sig.
Inv/A	1.259	1	1.259	95.589	.000
Loan/A	1.200	1	1.200	89.647	.000

Deposits/A	.867	1	.867	29.113	.000
RoA	.000	1	.000	1.094	.297
RoE	.055	1	.055	8.228	.005
Payout ratio	.623	1	.623	1.314	.253

The results indicate a statistically significant effect of bank type before the downturn at the 5% level on investment to total assets, loans to total assets, deposits to total assets and return on equity.

Table 10, below, illustrates descriptive statistics of the dependent variable during the downturn.

Table 10. Descriptive statistics: during downturn

Type		Mean	Std. deviation	Coefficient of variation
Inv/A	Conventional	.252193	.1137977	45%
	Islamic	.138457	.0780292	57%
Loan/A	Conventional	.568677	.1660289	29%
	Islamic	.797773	.6924950	86%
Deposits/A	Conventional	.718148	.2041191	28%
	Islamic	.764413	.9034347	118%
RoA	Conventional	.017003	.0070223	41%
	Islamic	.010261	.0185401	181%
RoE	Conventional	.133266	.0539124	41%
	Islamic	.059528	.1522328	256%
Payout ratio	Conventional	.581794	1.2444168	214%
	Islamic	.357125	.3458210	97%

Again, except for the payout ratio, all variables exhibit higher coefficients of variation for Islamic banks, during the crisis, indicating the higher levels of risk Islamic banks are facing compared with conventional banks.

The results of the estimated GLM procedure during the downturn are shown in Table 11 below.

Table 11. Tests of between-subjects effects: during downturn

	Type III Sum of Squares	df	Mean Square	F	Sig.
Inv/A	.404	1	.404	43.029	.000
Loan/Assets	1.638	1	1.638	6.232	.014
Deposits/Assets	.067	1	.067	.150	.699

RoA	.001	1	.001	7.004	.009
RoE	.170	1	.170	12.610	.001
Payout ratio	1.575	1	1.575	1.956	.164

The results indicate a statistically significant effect of bank type during the downturn at the 5% level on investment to total assets, loans to total assets, return on equity and return on equity.

Table 12, below, provides a summary of the research results in terms of the null hypotheses.

Table 12. Summary of the research results in terms of the null hypotheses

	Hypothesis No	Null hypothesis (H <sub>0</sub> )	Result @ 5%
Group 1	1	Type of banks does not have an effect on the overall performance of the banks.	Reject
	2	State of the economy does not have an effect on the overall performance of the banks.	Reject
	3	The interaction between the type of the bank and the state of the economy does not have an effect on the overall performance of the banks.	Reject
Group 2	1	There is no significant difference in means of investment to total assets between conventional and Islamic banks before economic downturn.	Reject
	2	There is no significant difference in means of loans to total assets between conventional and Islamic banks before economic downturn.	Reject
	3	There is no significant difference in means of deposits to total assets between conventional and Islamic banks before economic downturn.	Reject
	4	There is no significant difference in means of return on assets between conventional and Islamic banks before economic downturn.	Accept
	5	There is no significant difference in means of return on equity between conventional and Islamic banks before economic downturn.	Reject
	6	There is no significant difference in means of payout ratio between conventional and Islamic banks before economic downturn.	Accept
Group 3	1	There is no significant difference in means of investment to total assets between conventional and Islamic banks during economic downturn.	Reject
	2	There is no significant difference in means of loans to total assets between conventional and Islamic banks during economic downturn.	Reject
	3	There is no significant difference in means of deposits to total assets between conventional and Islamic banks during economic downturn.	Accept
	4	There is no significant difference in means of return on assets between conventional and Islamic banks during economic downturn.	Reject
	5	There is no significant difference in means of return on equity between conventional and Islamic banks during economic downturn.	Reject
	6	There is no significant difference in means of payout ratio between conventional and Islamic banks during economic downturn.	Accept

## 5. Summary of the main findings

1. Loan/Assets ratio was higher for Islamic banks before the crisis and more stable as indicated by the coefficient of variation. However, it was significantly higher for Islamic banks during the downturn with higher risks as indicated by the higher coefficient of variation. The later result confirms Vogel and Hayes, III (2001) observation that Islamic banks, when compared to conventional banks, have more desire to take risks.
2. Deposits/Assets ratio for conventional banks was significantly higher than that of Islamic banks before the crisis but was less than Islamic banks during the crisis. The later result is in line with the results found by Jaffar and Manarvi (2001) who concluded that Islamic banks enjoy better liquidity. This is only true during the crisis. The higher coefficient of variation for Islamic banks indicates the instability of liquidity flows when compared to conventional banks.
3. Investment/Assets ratio for conventional banks has decreased by 17% during the economic

- crisis while it decreased by only 11% for Islamic banks. The coefficient of variation is significantly higher for Islamic banks indicating the higher risks. During the economic crisis, investors are more cautious. So, the decrease of this ratio for Islamic banks as well as conventional banks is understandable. This results, however, confirm Vogel and Hayes, III (2001) argument that Islamic banks, when compared to conventional banks, have more desire to take risks with depositors money even during economic crisis as indicated by the higher coefficient of variation.
4. Because of the economic crisis, ROE has decreased by 25% for conventional banks but it decreased by a huge 67% for Islamic banks (the effect on profitability was higher on Islamic banks). This result confirms Iqbal (2001) findings for Islamic banks being better performers than conventional banks during economic stability. This result, however, reveals that, during financial crisis, conventional banks are significantly better

in lowering losses. Following Vogel and Hayes, III (1998) observation, our interpretation to this result is that the risk assumed by Islamic banks' depositors enables the bank management to tolerate greater risk on investment, hence, the huge decrease in ROE during economic downturn compared to conventional banks.

5. Islamic banks were doing better in terms of attracting more deposits and providing more finances during the crisis while suffering, relatively, losses higher than conventional banks. This particular result confirms Sairi (2010) results who argued that conventional banks are more efficient than Islamic banks. If profitability is the bottom line of better efficiency then, conventional bank were, definitely, in dealing with the economic downturn.

The five main findings of the research are discussed in this section in the context of the specificities of Islamic finance, which the authors are unaware whether or not they were taken into consideration when the Kuwait Institute of Banking Studies (KIBS) has compiled the financial data for the banks in the GCC that were used in this research.

One fundamental reason around which these differences tend to center, among others, is the different basic business model of conventional banks and Islamic banks. In a conventional bank, like other non-Sharia-compliant firms, the assumption is that a bank/firm mobilizes funds either through borrowing or equity. Hence, in the balance sheet of these conventional type banks/firms there are two elements: liabilities and owners' equity. The third element of the balance sheet is the assets where the funds mobilized through these two sources are utilized. This is not the case in an Islamic bank. According to the *Statement of Concepts* (1993) issued by the Accounting and Auditing Organization of Islamic Financial Institutions (AAOIFI), there are three sources through which an Islamic bank mobilizes funds. In addition to liabilities, which include current accounts and saving accounts (if the latter is mobilized on the loan basis of current accounts) and owners' equity, an Islamic bank mobilizes funds in unrestricted investment accounts, which AAOIFI treats them in its *Statement of Concepts* as the third element of an Islamic bank's balance sheet. The fourth element of the balance sheet of an Islamic bank is assets comprising those financed by the bank's own funds (current and savings accounts, as well owners' equity) and the assets financed by unrestricted investment accounts.

#### 1. Loan/Asset ratio

Unlike the loan contract that is used by conventional banks in the utilization of their funds, Islamic banks

provide financing through a number of contracts. The main ones that are commonly used in the GCC are: the sale on deferred payments contract of Murabahah; the sale on deferred delivery of goods contract of Salam; and the leasing contract of Ijārah. Islamic banks use these three main types of contracts in providing funds to their clients. One possible explanation is that there has been an increase in demand for the financing provided by Islamic banks during the research period of 2011-2012. This is not unreasonable, given the political and economic situation in the GCC in the wake of the global financial crisis and the growth of Islamic finance in recent years<sup>1</sup>.

#### 2. Deposits/Assets ratio

There are two possible explanations relating to the results of this ratio. 1- what is and is not included in the definition of deposits in the numerator of the ratio? As in conventional banks, Islamic banks mobilize funds in current accounts. However, Islamic banks do not pay any attention to holders of these accounts. Islamic banks also mobilize funds in saving and profit sharing investment accounts (PSIA)<sup>2</sup>. In Islamic banks holders of saving accounts and PSIA do not receive fixed return. Rather, these two types of accounts are mobilized on the basis of the *Mudarabah* contract whereby the holder of the account shares in the profits generated by the assets in which the funds of the account are invested, and bears the risk of loss if it was not due to misconduct and negligence on the part of the bank. It is worth mentioning that the nature of saving accounts tends to differ among Islamic banks. In some Islamic banks, as in some GCC, saving accounts are based on the *Mudarabah* contract as explained above. Islamic banks offer this product for clients who wish to deposit their salaries in this account. Other Islamic banks mobilize funds in saving accounts on the same basis of current accounts, which are treated in some GCC, as a loan contract. However, the holder of the account does

<sup>1</sup> Kuwait Finance House Research Limited (2011) claims in its *GCC Banking 2011 Outlook* "The GCC banking sector was one of the main factors holding back the eagerly anticipated recovery in the private sector for the region. The lackluster performance, except for Qatar, was largely due to the heightened risk aversion in the wake of the global financial crisis, the current periods of market stress as well as rising geopolitical tensions in the Middle East. On top of the list, advanced economies have been a particular source of concern given the sluggish US economic recovery and the constant nagging of the euro-area sovereign debt crisis. In addition, low interest rates environment in GCC region created little incentive for banks to lend". Indeed, according to the 2013 *World Islamic Banking Competitive Report* by Ernest & Young, the assets of Islamic banks grew at an average rate of 17 per cent per year between 2008 and 2012. This is two to three times faster than the rate at which conventional banks grew at the same time.

<sup>2</sup> The PSIA is either restricted or unrestricted. As explained above, AAOIFI's *Concept of Statement* treats unrestricted investment accounts as a separate on-balance sheet element in an Islamic bank's balance sheet, while restricted investment accounts are treated as an off-balance sheet item.

not receive any consideration, but seems to make use of the banking service. Hence, one possible explanation of the results relating to this ratio is the difference in the definition of deposits between conventional and Islamic banks as highlighted above, as well as the comment in footnote one. 2- the definition of assets in the denominator of the ratio; this equally applies to the results relating to the Loan/Assets ratio. In an Islamic bank's balance sheet part of the assets belong to holders of PSIA because they finance them. It is unknown whether these specificities of Islamic banks have been taken into consideration by the KIBS when compiling the financial data of the GCC banks.

### 3. Investment/Assets ratio

It is unknown what was considered as investment in an Islamic bank's balance sheet by KIBS. For example, Islamic banks utilize funds in investment accounts to invest them in securities, equities of subsidiaries, and/or real estate. Whether or not these were considered as investment of the bank is unclear? Furthermore, in addition to the Murabahah, Salam and Ijārah contracts, among others, as highlighted above, Islamic banks provide financing through the *Mudarabah* and *Musharakah* contracts. It is unknown whether or not the funds provided through the latter two contracts were considered as investment, which would not be the case in Islamic banks.

The differences in the definition of assets highlighted above equally apply to this ratio.

### 4. ROE

The two components of this ratio are the returns generated by the bank during a financial period and the equity provided by the shareholders. According to AAOIFI, there are two main elements of income in the Income Statement of an Islamic bank: the income relating to investment accounts and that belongs to the shareholders. The former is deducted first to arrive at the share that belongs to the shareholders (*mudarib* fee) from managing the assets that were funded by investment accounts. Revenue from banking services belongs solely to the shareholders, as well as other revenues from assets funded solely by the latter. On the other hand, according to AAOIFI and Islamic bank's owners' equity does not include unrestricted investment accounts, which AAOIFI treats as a separate element as explained above.

The topic emerging from the analysis of the research findings suggests that it is important to take into consideration the specificities of Islamic banks in interpreting the findings of research relating to Islamic banks; otherwise, the results could provide unreasonable findings. The analysis of the research

findings has wider implications for financial analysis, which can be induced from the accounting standards that AAOIFI promulgates. To give a faithful representation, which is a concept used by both International Financial Reporting Standards and AAOIFI, to financial transactions of Islamic banks it is imperative to take the specificities of these banks into consideration as the findings of this research suggest.

## 6. Research contributions

The following is the specific contributions of this research:

1. To the best of authors' knowledge, this is the first research attempt to compare between performance of conventional banks and Islamic bank before and after an economic crisis which we consider an important addition to the body of knowledge in the area of bank performance.
2. The paper has provided significant evidence of the effect of the bank type and the economy state on the overall performance of the banks.
3. The paper has provided significant evidence of the existence of differences in most of the performance indicators between Islamic and conventional banks as indicated by the findings section. Interpretation of these differences was also provided.
4. The paper highlights the importance of considering the specificities of Islamic banks when compared to conventional banks.

## Conclusion

This study was based on the notion that because conventional and Islamic banks perceive capital structure differently in terms of risks, they operate differently and, therefore, they perform differently. The theoretical grounds of this research were discussed along with the relevant literature on the differences of performance of the two types of banks. Results of previous research were inconclusive. To the best of the authors' knowledge, testing differences in performance of conventional banks versus Islamic banks before and during economic downturn has not been investigated before.

Research hypotheses were developed to test differences in 6 performance measures. Because of the various multiple dependent variables, a multivariate general linear model (GLM) was adopted as a method of testing.

The GCC region was selected because of its significant importance as the originator and main developer of Islamic banking system in addition to its common economic and cultural environment. Fundamental data on 12 conventional banks and 13 Islamic banks for the period from 2001 to 2012 were collected for testing.

The results of this research provide a statistically significant evidence of the effect of both type of the bank and state of the economy on the overall performance of the banks. Further testing of the effect before the downturn resulted in rejecting all null hypotheses except the one concerning return on assets and payout ratio. Hypotheses on the effect of the type of the bank on performance were all rejected except for the one concerning deposits to total assets and the one concerning payout ratio.

An important theoretical implication of the results of this research is the fact that statistical evidence of Islamic banks' risk tendency was provided. This is expected to stimulate further research on Islamic bank governance with regard to investment account holders.

This study is limited to the GCC region. It would be interesting to test differences in performance for a wider region such as the middle east or even globally. Other fundamental variables may be included in further researches.

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