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Are Islamic Banks Immune from Global Financial Crisis: Evidences from 16-Cross- Country Islamic Banks

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Abstract - This paper empirically investigates whether the cross-country Islamic banks' financial performances are immune by the global financial crisis (GFC). Banks' financial performances- the pre GFC and the GFC period- are measured by return on assets (ROA). The comparison of mean and the median return on return on asset (ROA) show that Islamic banks' ROA prior to GFC were 0.031 and 0.012 respectively and they were 0.01 and 0.12 respectively during the GFC. The significance of the parametric mean test,- t-test, and non-parametric median test,- Kruska-Wallis, and Mann- Whitney demonstrates a significant difference between the mean and the median performance of Islamic bank during the pre GFC and the GFC periods. This difference suggests that Islamic banks' financial performance is not immune from the GFC.

Keywords : *islamic bank, financial performance, global financial crisis.*

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Are Islamic Banks Immune from Global Financial Crisis: Evidences from 16-Cross-Country Islamic Banks

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Abstract - This paper empirically investigates whether the cross-country Islamic banks' financial performances are immune by the global financial crisis (GFC). Banks' financial performances- the pre GFC and the GFC period- are measured by return on assets (ROA). The comparison of mean and the median return on return on asset (ROA) show that Islamic banks' ROA prior to GFC were 0.031 and 0.012 respectively and they were 0.01 and 0.12 respectively during the GFC. The significance of the parametric mean test,- t-test, and non-parametric median test,-Kruska-Wallis, and Mann-Whitney demonstrates a significant difference between the mean and the median performance of Islamic bank during the pre GFC and the GFC periods. This difference suggests that Islamic banks' financial performance is not immune from the GFC.

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I. Introduction

During the global financial crisis of 2009-2010, financial institutions, banks in particular, were seriously impacted. In the U.S. about 140 banks failed in 2009 and 157 banks were wiped out in 2010 (Time, January 2012). Such a large-scale bank failure had not happened in the financial history of the United States since the Great Depression. These statistics relate to conventional (interest-based) banks and show that the profitability of banks was seriously impacted by the GFC.

The mode of operation of interest based (conventional) banks is different than that of interest free (Islamic banks). The distinguishing feature of Islamic banks is the profit and losing sharing where asymmetric information that results adverse selection and moral hazard is significantly reduced. Whether the reduction of moral hazard and adverse selection has had positive impact on Islamic banks financial performance needs to be empirically examined.

While conventional banks faced serious problems during the GFC, Apps (2008) claimed that Islamic banks (IB) are stable and continuing to perform well and therefore, should be considered as an alternative option. Citing a report from Moody's and RBS, Paul Koster, Chief Executive of DFSA, said the Islamic finance industry is set to grow from $700bn in 2000(Dh2,571bn) to $4trn by 2013 and despite the crisis, Islamic banking is still projected to grow by 15-20 percent annually (Koster, 2009).

Since there are no empirical investigations that show the performance of Islamic banks has been unhurt by the global financial crisis, this paper is an attempt to fill this gap. If Apps (2008)'s and Koster (2009)'s claims are right, it would mean that there are no differences in Islamic bank performances during the pre-GFC and the GFC periods. This paper tests the hypothesis that Islamic bank performances are stable during both the pre-GFC and the GFC periods.

Exploring empirical evidence as to whether Islamic banks' performances remain stable resulting from the GFC is an important contribution of this paper in the banking literature.

This paper is organized as follows: Section II discusses the main operational differences of Islamic banks from conventional banks that provide theoretical underpinning for protecting the Islamic banks from external shocks like the GFC. A brief survey of literature is outlined in Section III. Section IV describes data and methodology. Empirical results and conclusions are provided in Section V.

II. Operational Differences between Islamic Banks and Conventional Banks

Islamic banks operate on some basic principles, quite different from conventional banks. The most important features that distinguish Islamic banks from conventional banks and provide the theoretical underpinning for Islamic banks' stability and protection from shocks are the following:

First, Islamic Banks operate free of interest. As usury (interest) is prohibited in the Divine book of Islam, interest- free transaction is the foundation of Islamic banks. By fixing a predetermined rate of return (interest), lenders (conventional banks) do not share the risk of losses in business. Interest provides assured income to lenders and it is the life and blood of conventional banks. Islamic banks do not lend; rather, they participate in the investment process and, therefore, do not earn fixed interest income.

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Second, Profits and loss sharing (PLS) is the cornerstone and the most distinguishing feature of Islamic banks. Since "riba" (interest) is prohibited in Islam, Islamic banks cannot operate on the principle of interest. However, without some kind of reward, Islamic banks cannot survive. The avoidance of interest in Islamic financing has led Islamic banks to innovate various products as a viable substitute for conventional products (Samad, Cook and Gardner 2005) consistent with Shariah principles. Based on the nature of contracts, these Islamic financial products may be classified into two broad categories: A: Equity type contract; and B: mark-up price (debt) type contract. "Musharakah" (partnership) and 'Mudaraba' (trust financing) are the only two products that fall into equity type contracts (Hamwi and Aylward 1999). They are based on profit and loss sharing (PLS) principle. These two products are unique to Islamic banking[1] and provide the most distinguished characteristics of Islamic banks.

a) 'Musharakah' (Partnership)

Under this equity type contract, 'Musharakah' (partnership), both parties provide capital. Profits and losses are shared (PLS) by contracting parties. Risk and rewards are shared by both contracting parties (Dar and Presley, 2003, Usmani, 2002). The key element is that both parties- banks and entrepreneurs- provide capital and share profits. Profits of the projects are shared by prearranged agreement, not necessarily in proportion to capital. The return of investor (bank) is, thus, not guaranteed and fixed. In case of losses, both parties share in proportion to capital.

The first element of a Musharakah contract is that both parties contribute capital investment, and profits are shared by pre-arranged agreement, not necessarily in proportion to their invested capital. In case of loss, both parties share in proportion to their capital contribution.

The second element of Musharakah contract is that both parties share and control the management of the investment. Thus, in financing investment under the 'Musharakah' contract, the Islamic bank exercises its right to examine investment records and to supervise the management of the enterprise.

The third element of the Musharakah is that liability is unlimited. "Therefore, each partner is fully liable for the actions and commitments of the other in financial matters"(Manian, Bexley and James, 2000, p. 26).

b) Mudaraba' (Trust Financing)

Under the Mudaraba contract, one party (the investor) provides capital (maal) for a project and the other party (the entrepreneur) provides labor to run the project. Profits and losses are shared by both parties. Profit and Loss Sharing (PLS) is a key feature of Islamic banking (Abdel Karim, 2001); Samad, Gardner and Cook, 2005). In the case of profits, both the investor and entrepreneur share the reward of the project based on pre-agreed arrangements. In the case of failure, all financial loss is borne by the capitalist and the entrepreneur loses his labor (Iqbal and Molyneux, 2005: P.28). Risk is fairly distributed in IFIs. Investor (supplying capital) loses capital and entrepreneur (providing labor) loses his entire labor.

Under a Mudaraba contract, the two parties – the financier (supplier of funds) and the entrepreneur (trustee of the venture) share profits according to the agreed-upon profit and loss sharing (PLS) ratio.

The first key element of a Mudaraba contract is that the return is not guaranteed to the lender. This principle is in direct contrast to conventional interest-based lending/ financing. In interest-based lending, a loan is not contingent upon a profit or loss outcome of the entrepreneur, and is normally secured by collateral. Thus, any losses must be borne by the debtor, not the lender.

The second key element of a Mudarabah contract concerns losses that may arise from the business venture. "The financier or investor is not liable for losses beyond the capital he has contributed, and the entrepreneur or trustee does not share in financial losses except for the loss of his time and efforts" (Maniam, Bexley and James, 2000, p.4).

The third element of a Mudaraba contract is that a financier (i.e. an Islamic bank) has no control over the management of the business venture undertaken by the entrepreneur or trustee.

c) Murabaha(Cost Plus Profit Margin)

Murabahais similar to conventional trade financing where the Islamic bank finances the purchase. A buyer of a product approaches the bank for financing the product. The bank buys the product at the market price and sells the product to the buyer (borrower) at a mark-up price. The mark-up price is the market price plus the cost of transaction., which represents the profit of the bank. Critiques of Islamic banks say the cost of transaction is exactly equal to the current interest rate. The interesting characteristic of Murabaha is that unlike conventional bank trade financing, the ownership and the title of the product remain in the hands of bank until payment is complete. It is a popular substitute for interest-based conventional trade financing (Josh, 1997). From an economic point of view, Murabahah financing and interest-based trade financing appear quite similar except in the contractual features.

Third, Zakah is an important characteristic of Islamic bank. Zakah is a compulsory poor due, is one of five pillars of Islam and an integral part not only for individual Muslims but also for Islamic Financial Institutions (IFIs). IFIs are considered instruments for

[1] Please see Samad, Cook and Gardner, 2005 for further details.

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establishing a "just and equitable" society. IFIs are, therefore, obligated to pay "Zakah" from their profits to the poor. When Islamic banking was in the embryonic stage, it was expected that Islamic banks would be instruments for ensuring a "just and equitable" society not only by paying Zakah (the poor due) from their profits but also by financing small businesses, trades, and agriculture. The interests of small traders, businesses and agriculture should not be neglected while serving big businesses, corporation and industries. That is, laying an emphasis on micro-financing is one of the objectives of Islamic banks.

Forth, "Qard-hasan" is repeatedly emphasized in Hadith and Quran. The basic message of Islam is to support the needy and feed the poor. 'Spending out of what God has provided' has been frequently instructed in the Quran. The "Qard-al-hasan (benevolent) financing is a cornerstone of Islamic finance" (Samad, Gardner, Cook, 2005). IFIs are expected to practice and enhance "Qard-hasan" in the society.

III. Survey of Literature

There are empirical researches. However, these researches did not deal with Islamic banks' financial performances during the pre GFC and the crisis period. Uppal and Mangla (2010) examined the experience of Islamic banks of two countries (Pakistan and Malaysia) with respect to global financial crisis (GFC) and found that Islamic banks of these countries "were not immune from the ravages of the GFC" (P.167). However, their study did not focus on the average efficiencies of Islamic banks but rather on relative ratios between two periods (pre GFC and during GFC).

Ashkari, Iqbal and Mirakhor (2009) claimed that Islamic banks are viable and superior alternatives to conventional banks because of Islamic banks' unique product characteristics. However, they did not study the impact of GFC.

Samad (2004, 1999) compared performance between interest-free Islamic banks and interest-based conventional banks of Bahrain and Malaysia with respect to profitability, liquidity risk and credit risk and they found a significant difference. Kazarian (1993) compares Islamic banking with conventional banking in Egypt and found differences. Arif (1993) evaluated the performance of Bank Islam Malaysia during the first six years of its establishment and observed an improvement in performance.

Studies on the theoretical front include Chapra (1985), Siddiqi (1983), Zeneldin (1990), Kahf (1999), Khan and Mirakhor (1986), Iqbal and Mirakhor (1999), and Mannan (1998). They discussed the institutional issues of Islamic bank operation, including Arabic concepts and principles of finance that are subject to interpretation. Maniam, Baxely, and James (2000) analyzed the perception of Islamic financing in the U.S., along with a discussion of the problems of applying Islamic financing tools.

Samad, Gardner, and Cook (2005) focused on identifying the relative importance of Islamic financial products by examining the balance sheet of two Islamic banks, Bank Islam Malaysia and Islamic Bank of Bahrain. They …

Askari and Mirakhor (2009), Bacha (1995) and Siddiqi (1983) dealt with institutional and product issues of Islamic banks. Askari and Mirakhor argued that a profit and loss sharing contract, being equity based, is better than a conventional equity contract.

There are studies (Aggarwal and Yousef (2000), Metwally (1997), Kuran (200$), and Bacha (2004) that are critical of Islamic banks with regards to risk associated with Islamic banking.

Apps' (2009) study is not an empirical study. It is rather a descriptive study with statistical references.

The survey of literature clearly shows that there is no cross-country Islamic banks' efficiency studies dealing with the GFC impact. Finding answer to the GFC impact on Islamic banks is a major contribution of this paper.

IV. Data and Methodology

a) Data

Data for bank performance measure, ROA, are obtained from bank annual reports. Each bank ROA is reported in Table 1.

b) Methodology

The stability of Islamic bank performances between the pre-GFC and the GFC periods is tested by a test of hypothesis. Whether the global financial crisis during 2009-2010 has had an impact on Islamic bank performances is tested by parametric, i.e., t-test and ANOVA and non-parametric, i.e., Mann-Whiteney/Krus kal-Wallis K test tests.

The null hypothesis for t-test is tested against the alternative hypothesis as: Null hypothesis, H_0: $\mu_{ROApGFC} = \mu_{ROAGFC}$: There is no difference in ROA between the pre GFC and the GFC period. Alternative hypothesis, H_a: $\mu_{ROAPGFC} \neq \mu_{ROAGFC}$: There is a difference in efficiency between the pre GFC and the GFC period.

On the other hand, the non-parametric test, median test, is tested as: Null hypothesis, H_0: $Med_{ROApGFC} = Med_{ROAGFC}$: There is no difference in median ROA between the pre-GFC and the GFC periods. Alternative hypothesis, H_a: $med_{ROAPGFC} \neq Med_{ROAGFC}$. There is a difference in median ROA between the pre GFC and the GFC periods.

If the null hypothesis is rejected, this research would demonstrate that the GFC has had an impact on the difference of bank performances. The performance of Islamic banks is not stable. The results of t-test and median tests are provided in Table 2 and Table 3.

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V. Empirical Results

Table 1 : ROA of Islamic Banks Between Two Periods

Pre GFC Period ROA				GFC Period ROA			
Bank*	ROA	Firm	ROA	Firm	ROA	Firm	ROA
1	0.007	15	0.105	10	0.010	15	0.040
2	0.052	16	0.048	2	0.010	16	0.015
3	0.004	17	0.073	3	0.011	17	-0.013
4	0.022	18	0.062	4	0.021	18	0.041
5	0.019	19	0.012	5	0.013	19	0.034
6	0.023	20		6	0.033	20	0.022
7		21	0.020	7	0.008	21	0.016
8	0.020	22		8	0.010	22	0.006
9	0.016	23	0.018	9	0.008	23	0.027
10	0.027	24	-0.058	10	0.012	24	
11	0.000	25	0.000	11	-0.012	25	-0.012
12	0.072	26	0.039	12	0.031	26	0.030
13	0.040	27	0.020	13	0.003	27	0.016
14	0.073	28		14	-0.013	28	0.016
Mean ROA= 0.030				Mean ROA = 0.014			

Table 1 shows that mean performance of Islamic banks decreased from 3 percent to 1 percentin the GFC period.

Table 2 : Test of Equality of Means for ROA

Variables	Mean	Method	df	Statistics	Probability
Pre GFC ROA	0.03	t-test	48	2.15	0.036
GFC ROA	0.01	Anova F-statistics	(1,48)	2.15	0.037

Table 3 : Kruskal-Wallis Test of Equality of ROA for Pre GFC Median and GFC Median

Variable	Median	Mean Rank	Mean score	Count		
Pre GFC ROA	0.021	29.91	0.28	28		
GFC ROA	0.012	21.42	-0.26	28		
All	0.018	25.50	0.0002	56		
Method of Test				df	statistics	Probality
Kruskal-Wallis				1	4.23	0.03
Kruskal-Wallis (tie-adj)				1	4.23	0.03
Wilcoxon/Mann-Whitney					2.04	0.04

Table 2 shows that the mean ROA during the pre-GFC and the GFC periods are 0.03 and 0.01 respectively. Test statics 2.12 for the t-test and ANOVA rejects the null hypothesis that. H_0: $\mu_{ROApGFC} = \mu_{ROAGFC.}$ That is, the mean ROA 0.03 and 0.01 during the pre-GFC period and GFC period respectively are significantly different.

Similarly, Table 3 shows that the median ROA during the pre-GFC and the GFC periods are 0.021 and 0.012 respectively. Test statics 4.23 and 2.04 for Kruskal-Wallis and Wilcoxon/Man-Whitney respectively rejects the null hypothesis that. H_0: $Med_{ROApGFC} = Med_{ROAGFC.}$ That is, the mean ROA 0.03 and 0.01 during the pre GFC period and GFC period respectively are significantly different.

The rejection of the null hypothesis of the equality of mean and median performances rejects Apps (2008)'s claims that Islamic bank performances are stable and are immune from the global financial crisis.

VI. Conclusion

Whether the global financial crisis had an impact on the performances Islamic banks is examined by a test of hypothesis. ROA measures bank performances. The test of null-hypothesis, $H_0 : \mu_{ROApGFC} = \mu_{ROAGFC}$ is tested against the alternative hypothesis, H_a: $\mu_{ROAPGFC} \neq \mu_{ROAGFC}$.

The test of significance in both parametric and non-parametric tests, in Table 2 and Table 3, shows that the equality of mean performance of Islamic banks during the pre-GFC and the GFC periods is rejected, suggesting that global financial crisis has had its impact on Islamic Bank performances. The rejection of the null hypothesis of the equality of mean and median performances refutes Apps (2008)'s claims that Islamic banks performances are stable and are immune from the global financial crisis. Islamic bank performances are not immune from the global financial crisis.

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