Case Study of the Relationship Between Islamic Finance Modes and Return on Assets in Dubai Islamic Bank

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Article Info

Received:21.11.2015
Accepted:20.01.2016
Published online:01.02.2016

ISSN: 2231-8275

ABSTRACT

The Islamic financial model and financial performance in UAE (Dubai Islamic Bank) are studied. The optimal lag length detected depends on the lowest values of Akaike information criterion (-5.168960), Schwartz Bayesian criterion (-0.218406) and Hannan-Quinn information criterion (-3.618508) tests. The result of unit root test, the Augmented Dickey-Fuller and Phillips-Perron for UAE (Dubai Islamic Bank) case confirmed that all the study variables (Return on Equity, Murabaha, Musharakah, Mudharabah, Istisna, Ijarah and Wakalah) are stationary at their respective levels in both Augmented Dickey-Fuller and Phillips-Perron tests at *I(1)*. The longrun and short-run relationship results between Islamic finance products showed that the Musharakah, Murabaha, Mudharabah and Istisna variables are positively associated with the return on assets. The result of the bounds co-integration F-statistics test showed that the null hypothesis has been rejected for all the study models due to the F-statistics values are bigger than the bounds critical values. Wakalah variable fell in the range between *I(0)* and *I(1).*

Keywords: Islamic finance, ROA, PP, Test.

Introduction

Many researchers have investigated the relationship between financial performance (FP) and other variables as Doyran (2010), Nassirzadeh and Rostami (2009), Benston, (1972), Berger, (1995), Bourke, (1986). Most of these studies have examined to determine the profitability

rather than loan or asset performance, while there is a lack on studies for examining the relationship between FP and Islamic finance modes.

Islamic finance is based on the principle of derived from Shariah, the law of Islam. The basic tenants of Islamic finance are the prohibition of interest (riba) and the prohibition of activities that are detrimental to society, such as alcoholic beverage trade and the gambling industry. Furthermore, he stated that the main objectives of establishing Islamic banks were to meet the growing demand of Muslim societies and move away from interest (riba) based transactions and apply the theoretical principle of Islamic finance into practice, and to achieve socio-economic justice and equitable distribution of income and wealth, and to provide Islamic alternatives to the existing forms of financial intermediation, alternatives based on the Shariah framework and universal justice and to pursue the overall economic development for Islamic countries (Al-Omar, 1996).

The late development of Islamic financial institutions, which argued by Karim and Archer (2002) is caused by three major developments, the political independence that achieved in Islamic countries during mid of last decade and the rise of the awareness of an Islamic identity and then the wealth growing in the Middle East countries due to their oil production, and this led to great needs for financial intermediation and Iqbal (2004) also argued that the development of Islamic finance is a worldwide occurrence. However, each jurisdiction adopts varying approaches to the development of the Islamic financial system. However, some countries such as the UK and Singapore have introduced specific regulations to facilitate Islamic finance transactions, depending on the regulators adopted policy stance, approaches to the issuance of licensing and role of regulators in Shariah compliance varies significantly.

United Arab Emirates (UAE) experience in Islamic banking began in 1975 with the establishment of the Dubai Islamic Bank. At present, there are eight Islamic banks in the country with 240 branches. The assets of the entire banking sector stood at US$ 77.4 billion, with the assets of Islamic banks representing 16% of that figure. The liquidity management is one of the most serious challenges facing Islamic banking in UAE; this is why the UAE started developing tools to absorb short-term liquidity. Distinguishing between depositors' funds and shareholders' funds represented another challenge, while the different fatwa's (Islamic rulings or edicts) issued by Shariah supervisory boards presented an added

challenge, in addition to the difficulty of effecting transparency in business practices (Nasra, 2013).New Islamic financial institutions (IFIs) are being established rapidly in the industry's traditional markets in the Gulf Cooperation Council (GCC) countries. Islamic finance is also on the rise in new markets such as Syria, Lebanon, the UK, Turkey and Canada (Yong, 2007).This research aims to study the best Islamic finance products in UAE (Dubai Islamic Bank) and to investigate the long- and short-run relationship between Islamic finance products (Murabaha (MR), Musharakah (MK), Mudharabah (MD), Ijarah (IJ), Istisna (IS) and Wakalah (WAK) and FP (ROA) in UAE (Dubai Islamic Bank) case.

Theoretical Background

Many researchers believed that Islamic finance is performing better than any other type of financing practiced in the world. Derbel et al. (2011) stated that Islamic finance is more stable than conventional banks. Almsafir and Alsmadi (2013) suggested that the Islamic finance industry has witnessed huge development all over the world in different manners, whether in size or the mechanisms of work. Most of the traditional financial performance measures directly relate to the current net income of a business entity with equity, total assets, net sales, like return on assets (ROA), return on equity (ROE) and operating profit margin. From this point of view, many theories have been raise to examine the relationship between financial performance and deferent sit of variables. However, several studies are used the stakeholders theory, Keynesian Theory and agency theory as the best financial performance measure, which are synonymous with the maximization of the firm value (Bhattacharya, Ashish, Phani. 2000).

Results and Discussion

The empirical results of the long run and short run relationship between the Islamic financial model and financial performance in UAE (Dubai Islamic Bank) are given by the lag length test, co-integration test, long run and short run relationship. The optimal lag length detected depends on the lowest values of Akaike information criterion (AIC), Schwartz Bayesian criterion (SIC) and Hannan-Quinn information criterion (HQC) tests. Boutabba (2014) argued that these tests performing relatively well in small sample sizes and minimizing the loss degree of freedom. Table 1 showed that all optimal lag length tests for UAE (Dubai

Islamic Bank) are confirmed the result of the optimal lag length for this study as one lag period due to the lowest values of AIC, SIC and HQC tests are -5.168960, -0.218406 and -3.618508 respectively.

Table 1: Lag length result for UAE (Dubai Islamic Bank) case.

Lag	AIC	SIC	HQC
0	6.905011	7.235048	7.008375
1	-5.168960*	-0.218406*	-3.618508*
2	-0.376908	2.263387	0.449999

The unit root test is using to analyse the level of stationary in time series data. However, if the time series data are not constant that will reflect untrue results of regression (Engle and Granger, 1987). The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are used to analyse the level of stationary for all study variables in UAE (Dubai Islamic Bank) case. Table 2 shows the result of unit root test (ADF and PP) for UAE (Dubai Islamic Bank) case and confirmed that all the study variables (LROE, LMR, LMK, LMD, LIS, LIJ and LWAK) are stationary at their respective levels in both ADF and PP tests at I(1).

Table 2: Unit Root Test (ADF and PP) for UAE (Dubai Islamic bank) Case

Variables	ADF			P.P	
	I(0)	I (1)		I (0)	I (1)
LROA	-2.298477	-4.060223*		-1.980554	-4.009150*
LMR	-1.566488	-4.705914*		-1.566488	-4.686539*
LMK	-2.005832	-4.594012*		-1.724950	-4.579139*
LMD	-1.465256	-4.609373*		-1.465256	-4.633594*
LIS	-1.956183	-5.067830*		-2.015906	-5.058179*
LIJ	-1.352034	-4.524663*		-1.460798	-4.598954*
LWAK	-2.310029	-6.029925*		-2.241864	-5.686991*

Notes: (1) *significance at 1% and 5% levels, respectively; (2) Both ADF and PP tests examine the null hypothesis of unit root against the stationary.

Source: output of Eviews 7.1 econometric software.

Many studies argued that if all the study variables are stationary, it's possible to move to the next step which is bounds co-integration F-statistics test as suggested by Pesaran et al. (2001) to test the null hypothesis (H_0) of no co-integration among the variables in the model.

Table 3 showed the results of calculated and critical values of bounds F-statistics test for UAE (Dubai Islamic Bank) model, the result of the bounds co-integration F-statistics explained showed that the H_0 has been rejected for all the study models at 1% and 5% significance level due to the F-statistics values which are bigger than the bounds critical values and the F-statistics value for $LWAK_t$ variable falls in the range between *I(0)* and *I(1),* this meant that the result was inconclusive whether to be accepted or rejected the H_0 of the co-integration for $LWAK_t$ model.

Table 3: Bounds F-statistics test result for UAE (Dubai Islamic bank) case

Models	**F-statistics**	**Decisions**
$LROA_t$	3.61**	Co-integration
LMR_t	3.98*	Co-integration
LMK_t	4.12*	Co-integration
LMD_t	4.72*	Co-integration
LIS_t	3.43*	Co-integration
LIJ_t	3.08*	Co-integration
$LWAK_t$	2.29***	Inconclusive
Critical Values		**Significance level**
I (0) I (1)	2.71 3.98	1%
I (0) I (1)	2.16 3.34	5%
I (0) I (1)	1.89 3.04	10%

Notes: *, **, ***, significance at 1% 5% and 10% levels, respectively.

Source: Micro-fit 4.1 Software

The longrun and shortrun relationship results between Islamic finance products (Murabaha (MR), Musharakah (MK), Mudharabah (MD), Ijarah (IJ), Istisna (IS) and Wakalah (WAK) and FP (ROA) in UAE (Dubai Islamic Bank) case as shown in table 4, showed that at 1% significance level, the MK variable is positively associated with the ROA and at 5% significance level, the result showed that the MR, MD and IS variables are positively associated with the ROA and this indication explained that an increase in these indicators and will lead to increase the ROA in Dubai Islamic Bank and 100% increase in MK, MR, MD and IS variables are expected to increase the ROA by 28%, 43%, 49% and 75%, respectively.

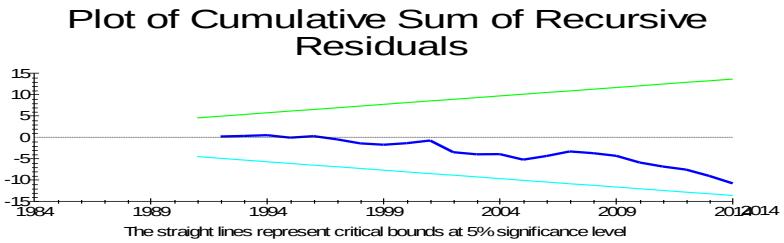
Table 4: Long run and short run and coefficients results for UAE (Dubai Islamic Bank) case.

Variables	Coefficient	Std. error	T-Ratio	Sig. level
1: Long-Run Results				
LMR_t	0.285**	0.168	1.69	0.08
LMKt	1.439*	0.301	4.77	0.00
LMD_t	0.491**	0.218	2.25	0.03
LIS_t	0.753**	0.152	3.76	0.01
LIJ_t	0.126	0.108	1.16	0.25
$LWAK_t$	0.073	0.057	1.26	0.22
C	13.55*	1. 650	8.21	0.00
2: Short-Run Results				
LMR_t	0.834***	0.521	1.95	0.10
LMKt	0.101**	0.699	2.38	0.05
LMD_t	0.130**	0.043	3.02	0.06
LIS_t	0.146**	0.071	2.03	0.05
LIJ_t	0.051***	0.028	1.82	0.09
$LWAK_t$	0.029	0.021	1.37	0.18
C	5.487*	0.932	5.88	0.00
ECT_{t-1}	-0.404*	0.102	-3.94	0.00

Notes: (1) *, **, *** denote statistically significance at 1%, 5% and 10% levels, respectively; (2) multiplier test of residual serial correlation = 1.88; (3) autoregressive conditional heteroskedasticity test = 0.49; (4) Normality test = 0.30; (5) RESET test using the square of the fitted values = 1.57; (6) F-statistics = 47.68; (7) R2 = 87%; (8) Durbin Watson = 2.21.

Source: The Output of the Long, short-run and ECTt-1 coefficients analyses were retrieved from Micro-fit 4.1 econometric software.

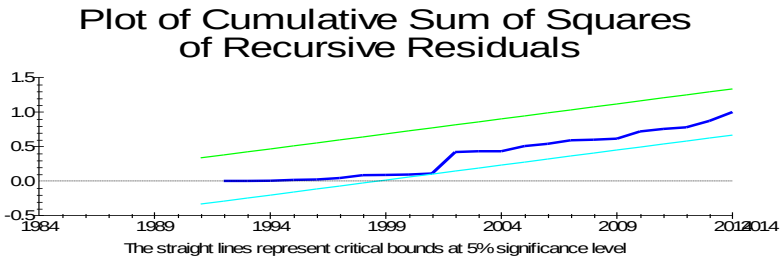
Due to the lack on studies in this regard to examine the relationship between FP and Islamic finance modes, the result will be confirmed based on the traditional finance theory and the past studies. However, the conventional finance theory argues that whenever the loan size that providing from the banks increase, the interest rate on that loan rises to accommodate the increased risk associated with the loan (Homer et al., 1996). The growth in the quantity of money leads to increase the reserves in the banking system. Furthermore, when banks find out that they have excessive reserves, they will increase the quantity of loans, so they decrease the interest rate. This means that when interest rate increases the lending volume will decreases and vice versa (Wicksell, 1935).For the short run the result shows that all the Islamic finance product are positively associated with the ROA at 5% and 10% significance level, exclude WAK variable which is not significant. The MK, MD and IS variables are positively associated with the ROA at 5% significance level, while MR and IJ variables are positively associated with the ROA at 10% significance level. This indicated that an increase in these indicators will lead to increase the ROA in Dubai Islamic Bank in the short run. This means that 100% increase in MK, MR, MD, IJ and IS variables are expected to increase the ROA by 10%, 83%, 13%, 5% and 14% respectively. Moreover, the coefficient of ECT_{t-1} for ΔROA model in UAE (Dubai Islamic bank) case is -0.40. This implies that this model is corrected from the short-run towards the long-run equilibrium by 40% or the long-run would be shortly corrected back for the ΔLROA model by two years and five months. If the relationship between the variables of long run and the ECT_{t-1} coefficient is significant with appropriate negative signs, then it would be checked the stability of the ECT_{t-1} by using cumulative sum of recursive residuals (CUSUM) and cumulative sum of square (CUSUMQ) tests. However, CUSUM and CUSUMQ tests are used to confirm that the ROA_t for UAE (Dubai Islamic Bank) case is stable in the long-run. Figures 1 and 2 showed that the ROA_t model for UAE (Dubai Islamic Bank) case is stable in the longrun parameters due to CUSUM and CUSUMQ tests being within critical bounds at the 5% significance level. This means that the coefficients of the ECT_{t-1} for this model have found stability for the study period (Boutabba, 2014).



Figures 1: The CUSUM test for ROAt model for UAE (Dubai Islamic bank) case.

Notes: The straight lines represent critical bounds at 5% significance level.

Source: The Output of the Micro-fit 4.1 econometric software.



Figures 2: The CUSUMQ test for ROAt model for UAE (Dubai Islamic bank) case.

Notes: The straight lines represent critical bounds at 5% significance level.

Source: The Output of the Micro-fit 4.1 econometric software.

Conclusion

The optimal lag length detected depends on the lowest values of Akaike information criterion (AIC), Schwartz Bayesian criterion (SIC) and Hannan-Quinn information criterion (HQC) tests due to these tests performing relatively well in small sample sizes and minimizing the loss degree of freedom. However, the result of lag length for UAE (Dubai Islamic Bank) showed that the optimal lag length for this study is one lag period for UAE (Dubai Islamic Bank). The result of unit root test (ADF and PP) for UAE (Dubai Islamic Bank) case showed that all the study variables (LROE, LMR, LMK, LMD, LIS, LIJ and LWAK) are stationary at

their respective levels in both ADF and PP tests at *I(1)*. The co-integration test result for UAE (Dubai Islamic Bank) case showed that the H_0 of no co-integration has been rejected for all the study models at 1% significance level except, $LWAK_t$ which the F-statistics value falls in the range between *I(0)* and *I(1)* this means that the result is inconclusive whether to accept or reject the H_0 of the co-integration for $LWAK_t$ model. The result of ARDL model in the long run for UAE (Dubai Islamic Bank) case showed that the long run relationship between Islamic finance products of (MR), (MK), (MD), Ijarah (IJ), Istisna (IS) and (WAK) and FP (ROA) is existed. At 1% significance level the MK variable is positively associated with the ROA. At 5% significance level the result shows that the MR, MD and IS variables are positively associated with the ROA. This indicated that an increase in these indicators will lead to increase the ROA in Dubai Islamic Bank. This means that 100% increase in MK, MR, MD and IS variables are expected to increase the ROA by 28%, 43%, 49% and 75%, respectively. The result of stability test showed that the ROA_t model for UAE (Dubai Islamic Bank) case is stable in the long run parameters due to CUSUM and CUSUMQ tests being within critical bounds at the 5% significance level.

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