

Conducting Business with God: Is God Blessing Islamic Banks with Better Financial Performance than Conventional Banks?

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Abstract

This study aims to compare the financial performance between Islamic and conventional banks listed at Kuwait stock exchange over the period 2011-2018 using the modified DuPont model of financial analysis which is based on the analysis of return on equity (ROE). Unlike previous studies where researchers compared the performance on a bank-to-bank basis, this study examines the aggregate ratios of Islamic banks and compare it to aggregate ratios of conventional banks. The study also adds volatility into the model since consistency in returns indicated a more stable sector. Results obtained from this study showed that conventional banks in Kuwait had a better mean performance during the study period in terms of both return on assets (ROA) and return in equity (ROE), Islamic banks also showed a higher deviation in these two ratios resulting in a lower Sharpe ratio. While the results showed no statistically significant mean difference between Islamic and conventional banks in terms of return on assets (ROA), the results also showed a statistically significant difference in mean return on equity (ROE) between the two sub-sectors. On the other hand, Islamic banks showed an impressive improvement in their ratios during the last three years of the study period which impose a real threat to conventional banks in the future.

Keywords: Modified DuPont model, Islamic banks, Return on equity, Net profit margin, Equity multiplier, Return on Assets, Volatility, Sharpe ratio, Kuwait stock exchange (KSE)

1. Introduction

There has always been a huge debate between scholars on whether or not Islamic banks have a better financial performance than conventional banks. As a result a massive amount of literature comparing the financial performance between Islamic and conventional banking was produced using numerous models. In practice, both Islamic and conventional banks provide their customers with more or less the same products, the main difference is that Islamic banks work under Shari'a law (Islamic law) that prohibits the use of interest. Both entities still have a common goal which is maximizing the wealth of their shareholders.

Many comparative studies between Islamic and conventional banks were conducted. Iqbal (2001) evaluated the performance of Islamic banks through trend analysis and ratios analysis during the period from 1990 to 1998. He found that Islamic banks performed better than the conventional banks over the specified period of time. Jaffar and Manarvi (2011) evaluated the performance of Islamic and conventional banks using CAMEL framework using the data of 5 Islamic and 5 conventional banks over the period of 2005 to 2009. They concluded that Islamic banks performed better and having high liquidity than the conventional banks, moreover they realized that conventional banks were pioneer in the management and had a good earning ability. Viverita (2011) studied Islamic banks in Indonesia over the period 2004 to 2008 and concluded that Islamic banks observed insignificant cost efficiency at 5% than conventional banks. It was also found that Islamic banks generated more profitability and revenue than conventional banks. Majid et al. (2003) examined the cost efficiency of 34 commercial banks in Malaysia and showed that the efficiency of Islamic banks is not statistically different from the conventional banks. On the other hand, Ashraf and Rehman (2011) conducts a study on both of Islamic and conventional banks in Pakistan and concluded that Islamic banks were less effective than the conventional banks. Other studies like Saaid et al. (2003) and Kabir Hassan (2005) also conclude that Islamic banking industry is relatively less efficient compared to their conventional counterparts. Olson and Zoubi (2008) used 26 financial ratios to compare Islamic and conventional banks in the GCC countries over the period 2000 to 2005 and concluded that Islamic banks are less efficient and operating with greater risk compared to conventional banks.

DuPont model is a popular model used by both researchers and practitioners in evaluating the financial performance of banks and companies. Sheela and Karthikeyan (2012) used DuPont model to evaluate the financial performance for the top three pharmaceutical companies in India over the period 2002 to 2012. Their results showed that during their study period Cipla pharmaceutical had the highest return on assets (ROA) and return on equity (ROE) among the companies under study. Collier et al. (2010) applied DuPont model in evaluating the financial performance of AFFIN bank in Malaysia for the period 1999 to 2006 and the effect of rapid economic environment changes on its financial performance. They concluded that AFFIN bank needed a recovery period of four years (1999-2002) after the Asian financial crisis of 1997-1998. It was not until the year 2002 that the bank started having a steady financial performance. Almazari (2012) evaluated the financial performance of Jordanian Arab bank using modified DuPont model over the period 2000 to 2009. He concluded that the Jordanian Arab bank had a relatively steady financial performance with return on equity (ROE) ratio of

12.01% over the period 2000 to 2008, but due to the global financial crisis the ratio went down to 6.58% in the year 2009.

2. Method

DuPont recognized the relation between one profitability ratio which is net profit margin (NPM) and an efficiency ratio which is total asset turnover (TAT), and return on assets (ROA). The product of the net profit margin (NPM) and the total asset turnover (TAT) equals return on assets (ROA), and that was the original DuPont model, as illustrated in Equation 1 below.

$$\text{ROA} = (\text{NPM}) \times (\text{TAT}) \quad (1)$$

Where;

$$\text{Net Profit margin (NPM)} = \text{Net Income} / \text{Total Revenues} \quad (2)$$

$$\text{Total Assets Turnover (TAT)} = \text{Total Revenues} / \text{Total Assets} \quad (3)$$

The DuPont model was modified to include the ratio of total assets to equity (equity multiplier (EM)) to calculate ROE, since ROE is the product of return on assets (ROA) by equity multiplier (EM). Little, et al (2009), stated that the modified DuPont model of financial ratio analysis is used to identify the drivers of financial success under alternative business strategies. A financial analysis model for financial institutions which is based on the DuPont system of financial analysis return on equity model was constructed by Saunders (2000). He used three components in determining the return on equity (ROE), these three components were net profit margin (NPM), total assets turnover (TAT), and equity multiplier (EM). The net profit margin (NPM) evaluates the components of the income statement, while the total assets turnover (TAT) evaluates the assets side of the balance sheet and the equity multiplier (EM) analyses the liabilities and the shareholders equity side of the balance sheet. Return on equity (ROE), is first decomposed into return on asset (ROA) and the equity multiplier (EM). Return on assets is determined net profit margin (NPM) and total asset turnover (TAT).

The modified DuPont modified model is shown in Equations 4 and 5 below.

$$\text{ROE} = (\text{ROA}) \times (\text{EM}) \quad (4)$$

$$\text{Or ROE} = (\text{NPM}) \times (\text{TAT}) \times (\text{EM}) \quad (5)$$

Where;

$$\text{Equity Multiplier (EM)} = \text{Total Assets} / \text{Equity} \quad (6)$$

The net profit margin ratio is an indicator to how effective a bank is in controlling its costs. The higher the ratio, the more effective the bank is at converting revenues into profit. Total assets turnover (TAT) ratio shows the assets utilization of the bank, which means how much revenue generated for every Kuwaiti dinar of assets the bank has. The higher the ratio the

more efficient the bank is in utilizing his assets. The equity multiplier (EM) is a measure of how leverage the bank is. One of the most important profitability metrics is return on equity (ROE). Return on equity (ROE) reveals how much profit a company earned in comparison to the total amount of shareholder equity found on the balance sheet.

Ignoring the effect of volatility might result in a misleading results and for that Sharpe ratio is used in this research in order to measure the effect of volatility on returns. The Sharpe ratio measures the effect of volatility on the return, Burnside et al. (2011) calculated the Sharpe ratio as;

$$SR = \frac{\bar{\pi}}{SD} \quad (7)$$

Where SR is the Sharpe ratio, $\bar{\pi}$ is the mean return and SD is the standard deviation. A modification is made to this formula by substituting the mean return with return on assets (ROA) and return on equity ratio (ROE), which would result in,

$$SR_{ROA} = \frac{\overline{ROA}}{SD} \quad (8)$$

$$SR_{ROE} = \frac{\overline{ROE}}{SD} \quad (9)$$

3. Data and Empirical Results

This study aims to compare the financial performance between Islamic and conventional banking sub-sectors in Kuwait over the period 2011 to 2018. The data are the aggregate financial numbers of five Islamic and five conventional banks listed at Kuwait stock exchange. The data for this study were obtained from Kuwait institute of banking studies website.

Table 1. Modified DuPont Financial Model

Islamic banks	2011	2012	2013	2014	2015	2016	2017	2018			
Total Income	1947.642	2079.027	2254.335	2354.742	2348.735	2317.168	2562.738	2775.595			
Net profit for the year	78.421	182.162	214.220	248.840	255.055	283.299	334.537	403.942			
Total assets	18879.276	20693.826	22553.975	25684.153	26098.026	26646.313	28684.541	30390.373			
Total equity	2296.101	2440.409	2863.891	3070.144	3077.207	3257.433	3476.917	3599.064			
Net Profit Margin (NPM)	4.03%	8.76%	9.50%	10.57%	10.86%	12.23%	13.05%	14.55%			
Total Assets Turnover (TAT)	10.32%	10.05%	10.00%	9.17%	9.00%	8.70%	8.93%	9.13%			
Equity Multiplier (EM)	8.22	8.48	7.88	8.37	8.48	8.18	8.25	8.44	SD	Average	SR
Return on Assets (ROA)	0.42%	0.88%	0.95%	0.97%	0.98%	1.06%	1.17%	1.33%	0.27%	0.97%	3.65%
Return on Equity (ROE)	3.42%	7.46%	7.48%	8.11%	8.29%	8.70%	9.62%	11.22%	2.24%	8.04%	3.59%
Conventional banks	2011	2012	2013	2014	2015	2016	2017	2018			
Total income	2457.824	2758.001	2807.484	2838.086	3046.722	3241.196	3509.297	3887.758			

Net profit for the year	443.493	432.318	371.203	450.49	474.077	475.011	515.502	595.287			
Total assets	28859.562	32674.222	36403.667	40598.308	41747.609	42559.381	44606.424	47138.383			
Total equity	4315.572	4642.153	4871.33	5377.284	5606.364	5794.525	6040.061	6434.269			
Net Profit Margin (NPM)	18.04%	15.68%	13.22%	15.87%	15.56%	14.66%	14.69%	15.31%			
Total Assets Turnover (TAT)	8.52%	8.44%	7.71%	6.99%	7.30%	7.62%	7.87%	8.25%			
Equity Multiplier (EM)	6.69	7.04	7.47	7.55	7.45	7.34	7.39	7.33	SD	Average	SR
Return on Assets (ROA)	1.54%	1.32%	1.02%	1.11%	1.14%	1.12%	1.16%	1.26%	0.16%	1.21%	7.41%
Return on Equity (ROE)	10.28%	9.31%	7.62%	8.38%	8.46%	8.20%	8.53%	9.25%	0.82%	8.75%	10.62%

Net profit margin (NPM) is a ratio that measures the efficiency of the bank in converting their income into profit. From table (1) it can be seen that conventional banks were, on average, more efficient in converting their income into profit. While Islamic banks were able to convert only 10.44% of their income into net profit, conventional banks were able to convert 15.38%. When looking at the trend line in figure (1) it can be seen that Islamic banks are showing an upward trend while conventional banks are having an almost flat trend line. This would indicate that Islamic banks are improving their methods in converting their income to profit more than conventional banks. By looking at the volatility of NPM, it can be seen that Islamic banks have a higher standard deviation and that logical since Islamic banks are showing growth in that ratio while conventional banks are showing a steady ratio over the study period.

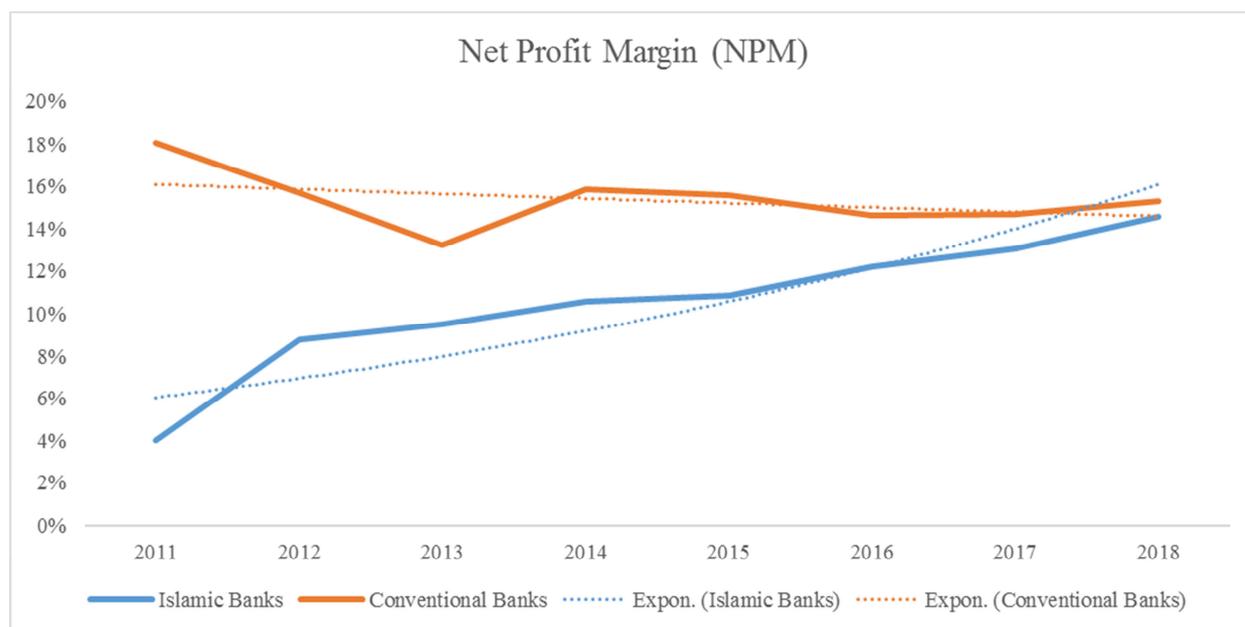


Figure 1. Net Profit Margin (NPM)

Total assets turnover (TAT) is a ratio that measures the ability of the banks in utilizing their assets to generate income. It is an efficiency ratio of the bank. Results show that Islamic

banks were more efficient in utilizing their assets than conventional banks. Islamic banks were able, during the study period, to achieve a revenue to assets ratio of 9.41% compared to 7.84% for conventional banks. With Islamic banks achieving more revenues on their assets than conventional banks, they were unable to convert that advantage to profit which makes them less cost efficient than conventional banks.

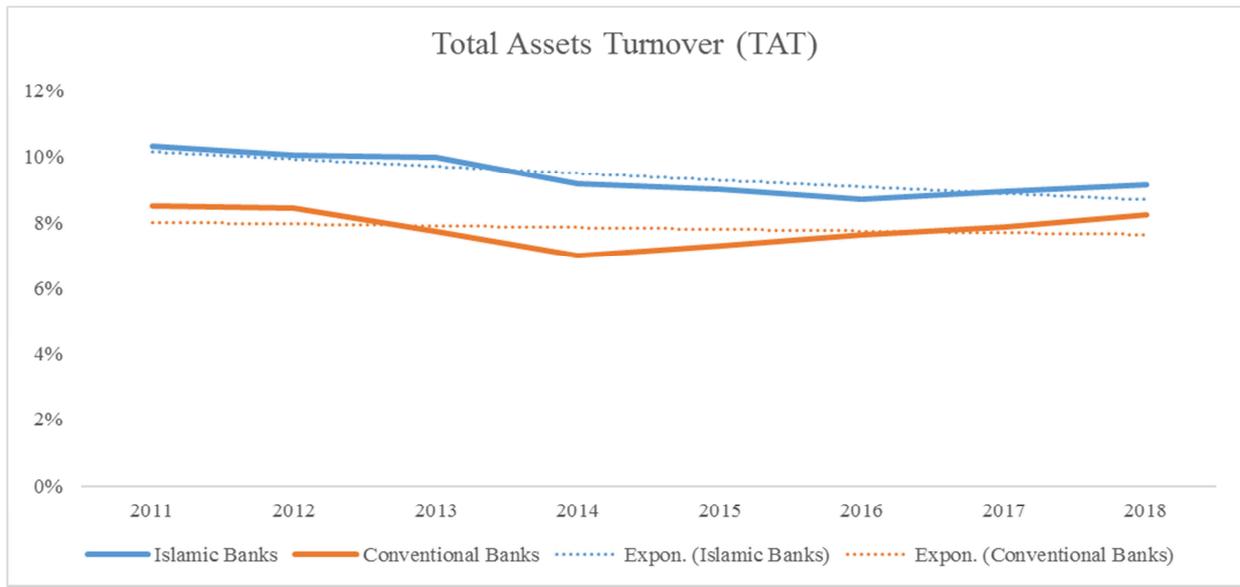


Figure 2. Total Assets Turnover (TAT)

Equity multiplier (EM) is a measure of bank leverage. On an average Islamic banks had total assets that was 8.29 times their equity while conventional banks were running a 7.28 time leverage. This would indicate that Islamic banks are more aggressive in their business, but having a high leverage is a two-bladed sword while it increases the bank's profitability during good financial periods it would have a catastrophic effect during financial distress periods. Adopting a high leverage policy by Islamic banks was one of the reasons that these banks were more affected by the 2008 financial crisis than conventional banks.

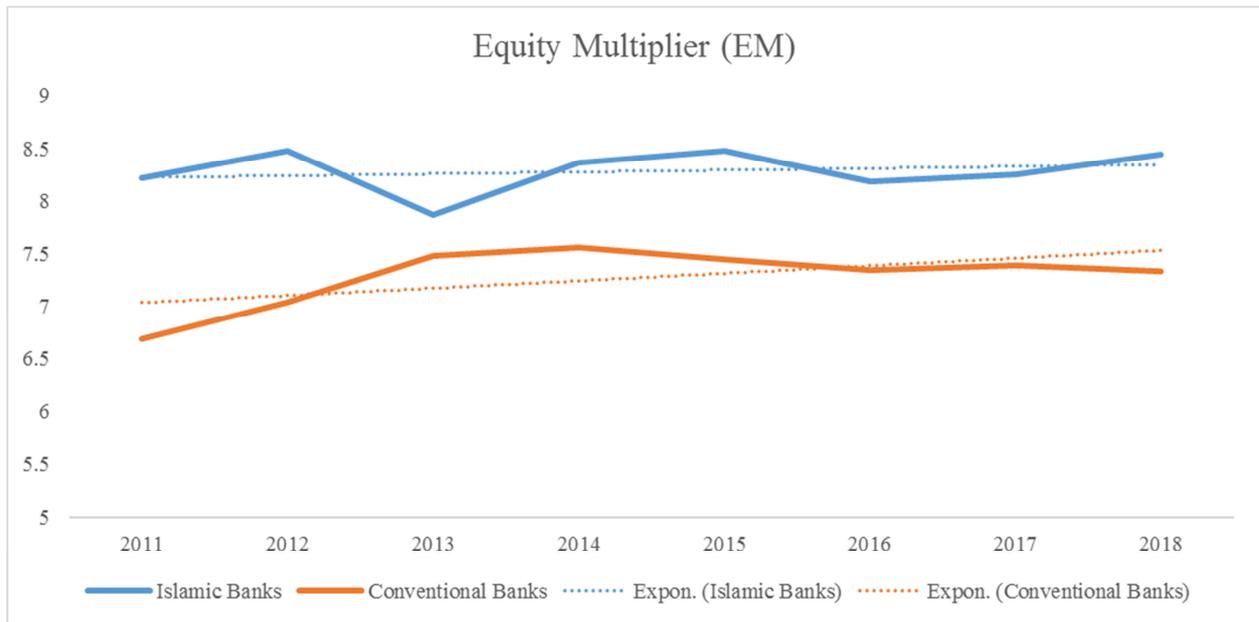


Figure 3. Equity Multiplier (EM)

The original DuPont model had return on assets (ROA) are the main target for the model. On an average, conventional banks achieved a ROA ratio of 1.21% compared to 0.97% for Islamic banks. But during the last two years of the study period Islamic banks produced a higher ROA ratio than conventional banks. As seen from figure (4), Islamic banks are showing an upward trend in that ratio while conventional banks are showing a downward trend. Islamic banks showed a high standard deviation in that ratio which might indicate some level of uncertainty in maintaining such growth. When taking the effect of the volatility of that ratio into consideration in calculating the Sharpe ratio, it can be seen that Islamic banks produced a Sharpe ratio of 3.65% compared to 7.41% for conventional banks that had a less volatility.

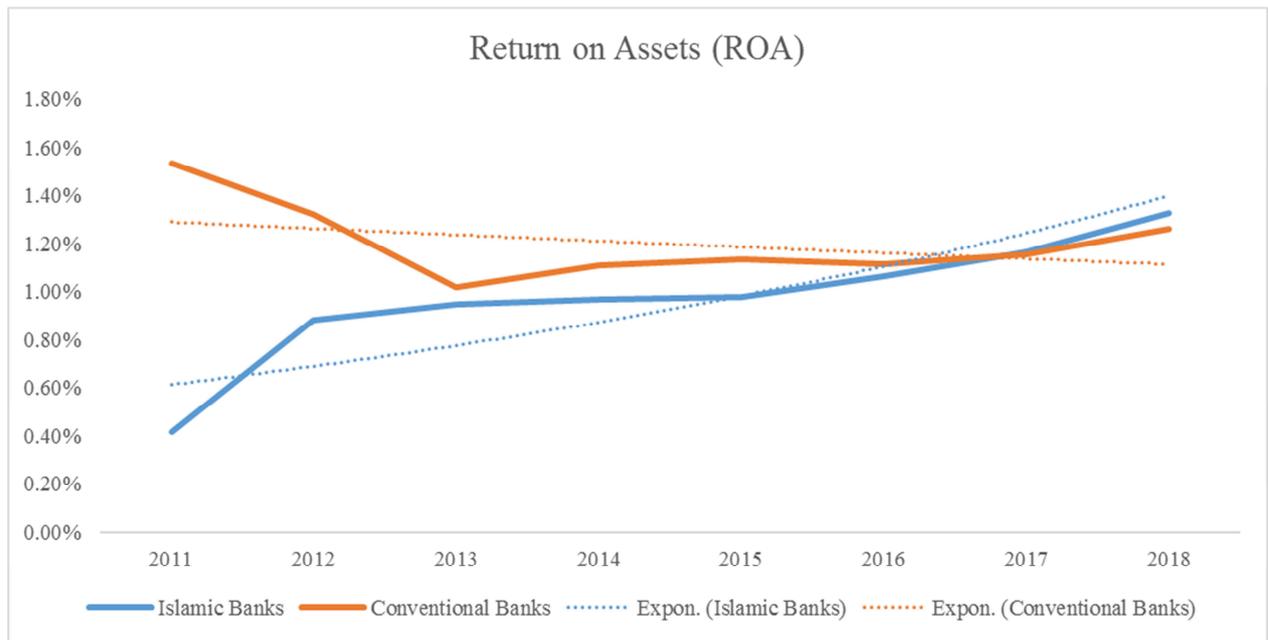


Figure 4. Return on Assets (ROA)

When examining mean difference between Islamic and conventional bank in terms of return on assets (ROA) using the t-test, it can be seen from table (2) that there was no significant difference between the banks since the *P*-value is lower than the confidence level of 0.05. In terms of variance, results show that the *F*-critical was higher than the *F*-value which means that Islamic and conventional banks had an equal variance.

Table 2. *t*-test and *F*-test results (ROA)

t-Test: Two-Sample Assuming Equal Variances			F-Test Two-Sample for Variances		
	<i>ROA Islamic</i>	<i>ROA Con</i>		<i>ROA Islamic</i>	<i>ROA Con</i>
Mean	0.0097	0.0121	Mean	0.0097	0.0121
Variance	7.0E-06	0.0000	Variance	0.0000	0.0000
Observations	8	8	Observations	8	8
Pooled Variance	4.8E-06		df	7	7
Hypothesized Mean Difference	0		F	2.648	
df	14		P(F<=f) one-tail	0.111	
t Stat	-2.169		F Critical one-tail	3.787	
P(T<=t) one-tail	0.024				
t Critical one-tail	1.761				
P(T<=t) two-tail	0.048				
t Critical two-tail	2.145				

In the 1970's the interest of financial managers shifted from return on assets (ROA) to return on equity (ROE) and making the maximization of the shareholders wealth their ultimate target. This shift led to the modification of the original DuPont model and return on equity (ROE) became the final output of the model. Again on an average conventional banks produced a higher return on equity (ROE) than Islamic banks producing a mean ROE ratio of 8.75% compared to 8.04% for Islamic banks, but over the last three years of the study period Islamic banks produced a better ROE ratio than conventional banks. When taking the volatility into account, Islamic banks produced a Sharpe ratio of 3.59% compared to 10.62% for conventional banks.

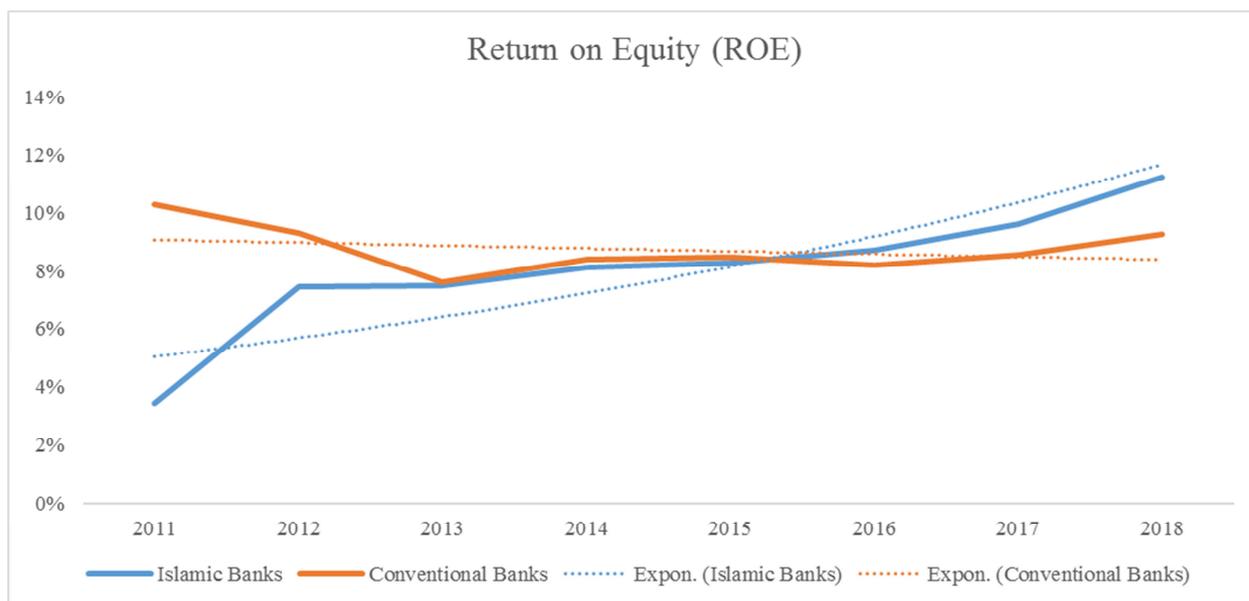


Figure 5. Return on Equity (ROE)

By looking at table (3) it can be seen that when it comes to mean difference the results shows a *P*-value of 0.4103 which is higher than the 0.05 and for that it can be concluded that there is a significant difference in return on equity (ROE) mean between Islamic and conventional banks at the 95% confidence level. In terms of variance the results show that there is an unequal variance between the return on equity (ROE) of Islamic banks and conventional banks.

Table 3. *t*-test and *F*-test results (ROE)

t-Test: Two-Sample Assuming Equal Variances			F-Test Two-Sample for Variances		
	<i>ROE Islamic</i>	<i>ROE Con</i>		<i>ROE Islamic</i>	<i>ROE Con</i>
Mean	0.0804	0.0875	Mean	0.0804	0.0875
Variance	0.0005	0.0001	Variance	0.0005	0.0001
Observations	8	8	Observations	8	8
Pooled Variance	0.0003		df	7	7
Hypothesized Difference	Mean 0		F	7.4001	
df	14		P(F<=f) one-tail	0.0085	
t Stat	-0.8486		F Critical one-tail	3.7870	
P(T<=t) one-tail	0.2052				
t Critical one-tail	1.7613				
P(T<=t) two-tail	0.4104				
t Critical two-tail	2.1448				

4. Discussion

This study was conducted to compare the financial performance between Islamic and conventional banks listed at Kuwait stock exchange over the period 2011 to 2018. Results obtained from this study showed that, over the study period, conventional banks had a better financial performance than Islamic banks in terms of average return on assets (ROA) and average return on equity (ROE). The results also revealed that Islamic banks had a higher volatility in these two parameters resulting in a lower Sharpe ratio. While Islamic banks underperformed conventional banks during the study period, Islamic banks have demonstrated huge improvement in their ROA and ROE ratios in the last three years compared to conventional banks which makes them more likely to gain more market share in the near future if they continue at the same bass.

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