JSEG
JOURNAL OF SMART ECONOMIC GROWTH
www.jseg.ro ISSN: 2537-141X Volume 6, Number 3, Year 2021

THE EFFICIENCY OF CONVENTIONAL AND ISLAMIC BANKS IN BAHRAIN: A COMPARATIVE ANALYSIS

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Abstract: *This paper examines the comparative efficiency of Islamic banks and conventional commercial banks in Bahrain during the period 2005–2011 with respect to profitability. Eight financial ratios are used in measuring this performance.*
Applying Student's t-test to financial ratios for Islamic and conventional commercial banks in Malaysia for the period 2005-2011, the paper concludes that there is a major difference in performance between Islamic and conventional banks with respect to profitability ratios (The Return On Assets (ROA), the Return On Equity (ROE), the cost / income ratio (COSR), the size of the bank (BS), the Profit expense ratio (PER), the Net interest margin (NIM), The Non-interest income to total income (NII) and the Earning per share (EPS)).
JEL classification: M48
Key words: The profitability ratio, Comparative Analysis, Islamic banks, Bahrain, Student's t-test

1. INTRODUCTION

Islamic Finance is now experiencing a significant boom across the world and is increasingly establishing itself as a competitor of conventional finance.

The principles that govern the functioning of an Islamic economic system are different from the spirit of conventional systems. Indeed, the Islamic system is distinguished mainly by its moral and religious dimensions in the definition of economic problems, which implies that economic agents should not consider profitability as the sole nor the main criterion for decision-making.

Some researchers see that there is not a fundamental difference between Islamic finance and conventional finance. They see the religious argument as just "marketing" type evidence, used to orient and retain Muslim customers.

Islamic finance, ultimately, has the same purpose as conventional finance. It will therefore be obliged to evolve to adapt to market needs and, given the globalization of certain financial markets, to tolerate convergence with traditional finance practices. But it is also a very charged discipline from an emotional, symbolic and conceptual point of view. It includes a number of ethical principles (namely the prohibition of interest, no uncertainty, no financing of certain sectors deemed illegal ...) which are in addition to the usual operating constraints of any financial institution.

From its inception, Islamic finance gradually developed to take hold, not only in the Islamic world, but also in the Western world.

Bahrain is one of those countries in which the Islamic banking sector is the core of the financial system. Moreover, the financial system of Bahrain is dual, conventional banks work alongside Islamic banks, which facilitates any comparative study between them.

Comparative analysis is often used in literature to measure performance of similar organizations. Financial ratio analysis is one of the tools which have been used extensively in literature to measure and compare performance of banks. Our study is an extension of previous studies and can fill the void concerning the work of comparisons between Islamic finance and conventional banks. Therefore, the purpose of our work is to check if there is a difference between the financial performance of Islamic and conventional banks in Bahrain.

The paper is organized as follows: Section 1 provides a survey of literature. Section 2 describes the methodology, tools, data used and the performance measures. Section 3 contains empirical results and Section 4 concludes.

2. THEORITICAL FRAMEWORK FOR ANALYSIS

Various studies have compared the performance of Islamic and conventional banks. To analysis and evaluate the performance of the Islamic Bank, the study of Samad (1999), Samad and Hassan (2000) used a financial ratios of the Islamic Bank "BIMB" and 8 Malaysian conventional banks during the period 1984 to 1997. These authors have noted an

improvement in the performance of BIMB for certain aspects (risk and solvency), however, the ratio PER is significantly higher for conventional banks compared to Islamic banks. This result is confirmed by Bisha (2004).

Using international data, Bashir (2000) studied the performance variables of 14 Islamic Banks operating in 9 Middle Eastern countries (Bahrain, Kuwait, Qatar, United Arab Emirates, Jordan, Egypt, Turkey and Sudan) between 1993 and 1998. Thus, the study examined the relationship between performance and certain banking variables. Like Haron's studies, Bashir has divided these determinants into internal and external factors. Several conclusions have been reached. First, the measures of profitability of Islamic Banks react positively with capital increase and loan ratios. This result is consistent with previous studies. Second, implicit and explicit taxes have an inverse and statistically significant relationship with the profitability of Islamic Banks. Thirdly, He also noted the importance of customers, short-term financing, non-interest bearing assets and overheads in promoting bank revenues. Fourth, the results reveal that the foreign banks are more profitable than their domestic counterparts.

A similar study by Hassan and Bashir (2005) analyzed how the performance of Islamic Banks is affected by the characteristics of the bank using data on Islamic Banks in 21 countries during the period 1994-2001. Although factors such as capital, gross domestic product, general expenses, and conventional interest rates have a positive relationship with performance, loan indicators, taxes, and bank size have been negatively associated.

In order to compare the performance of 12 Islamic banks and 12 conventional banks for the period 1990-1998, Iqbal (2001) used the same method as Samad and Hassan (2000). The ratios examined are the asset / capital ratio, the liquidity ratio, the asset utilization ratio, the cost / income ratio and the profitability ratios (ROA and ROE). It has been found that, in general, Islamic banks are well capitalized, stable, profitable and that their use of resources is efficient. It also seems that during this period, the two ratios (ROA and ROE) for conventional banks are considerably lower than Islamic Banks. Similarly, with the same balance sheet structure, Hassoune (2002) also showed that Islamic banks are more profitable than their conventional counterparts.

In Malaysia, over the period 1996-1999, Rosly and Abubakr (2003) carried out a study to test the profitability of Islamic and conventional banks. They noted that the return on assets

(ROA) and the profit margin (PM) are higher for the Islamic banks. For its part, Samad (2004) compared the profitability of 6 Islamic Banks and 15 commercial banks in Bahrain over the period 1991-2001. To measure profitability, the following variables are used: Return on Assets (ROA), Return on Equity (ROE) and COSR. The study concluded that only the ROA is significantly higher for Islamic Banks.

Based on financial characteristics, Olson and Zoubi (2006) attempted to study the distinction between conventional and Islamic banks in the Gulf Cooperation Council. The sample includes 26 banks (13 conventional and 13 Islamic) for the year 2000, 28 banks (14 conventional and 14 Islamic) for 2001, and 47 banks (11 conventional and 36 Islamic) for the years 2002 and 2003. The ratios profitability include Return on Assets (ROA), return on equity (ROE), net operating margin (NOM), return of deposit (ROD), and income over expenditure (EEI). The authors found that Islamic banks are, on average, more profitable than conventional banks.

Using a sample of 3 Islamic Banks and 5 conventional banks in the United Arab Emirates, and based on financial ratios such as (ROA, ROE and PER), Kader and Asarpota (2007) assessed the performance between 2000 and 2004. They found that the ROE is significantly lower in Islamic Banks.

In Bangladesh, Ahmad and Hassan (2007) analyzed the performance of Islamic Banks compared to conventional banks through operational ratios, such as net profit margin, net interest income, income relative to assets, interest-free income relative to assets in the period from 1994 to 2001. They showed that, except for return on equity (ROE), the two types of banks are similar in the other ratios.

In Pakistan, Moin (2008) compared the performance of the first Islamic Bank, namely Meezan Bank Limited (MBL), with a group of 5 conventional banks during the period 2003-2007, for the following aspects: profitability, liquidity, risk and efficiency. Several financial ratios (in total 12) are used to evaluate the performance, including the return on assets (ROA), the return on equity (ROE), the loan-to-deposit ratio (LDR) and the loan to asset ratio (LAR), the debt to equity ratio (DER), the asset utilization ratio (AU), and the income to expenditure ratio (IER). The study revealed that the MBL bank is less profitable, more solvent (less risky) and less efficient compared to the average of the 5 conventional banks. However, there was no significant difference in liquidity between the two groups of banks.

On the contrary, Siddiqi (2008) showed that Islamic Banks in Pakistan have been able to maintain good financial performance, sufficient liquidity and better risk management. These results are confirmed by Said (2011).

Furthermore, Olson and Zoubi (2008) studied the performance of 16 Islamic Banks compared to the 28 conventional banks belonging to the Gulf Cooperation Council during the period 2000/2005. The profitability ratios used are: Return on Assets (ROA), Return on Equity (ROE), Profit Margin (PM), Deposit Return (ROD) and Net Operating Margin (NOM). They concluded that conventional banks are less profitable than Islamic banks. Indeed, ROA, ROE and NOM are significantly lower for these banks. However, the debts in relation to the capital of the shareholder are significantly smaller in these banks. This result is confirmed by (Srairi, 2008, Chong and Liu, 2009). For this reason, Karim and Ali (1989) suggest that Islamic banks prefer to obtain funds from depositors rather than shareholders during periods of economic expansion. Besides, when combined with the risk-sharing requirement, ROE is lower for conventional banks than for Islamic Banks.

In the same context, Mohammad Ahmad (2010) examined the performance indicators of 24 Islamic and conventional banks in the Gulf region, during the period 2006-2009. The study used 20 different types of financial ratios including profitability ratios such as (the average return on equity "AROE", and the average return on assets "AROA"). The results show that Islamic banks are more profitable in terms of AROA, and less profitable in terms of AROE than conventional banks.

Moreover, in the purpose of measuring and comparing the profitability of Islamic and conventional banks, before and after the financial crisis of 2008, between 2007 and 2009, Rashwan (2010) identified four variables, namely: the average return on assets (AROA), the average return on equity (AROE), net loan versus total assets (NL / TA) and loan loss reserve over gross loans (LLR / GL). The results show that there is a significant difference between the two sectors in 2007 and 2009; however there are no significant differences in 2008. In fact, Islamic Banks perform better in 2007 and less successful in 2009 than their conventional counterparts. The conclusion of this study is confirmed by Khamis et al, (2010) and Hassan and Dridi (2010).

In order to analyze the banking structures of these two markets, Islamic and conventional, Ariss (2010) based on a sample of 58 Islamic banks and 192 conventional

banks in 13 countries. The two variables used (AROA and AROE) show that there are no significant differences in profitability between the two segments of the industry during the period 2000-2006. This conclusion is confirmed by Abdul-Majid et al, (2005) and Bader et al, (2007), but in contradiction with the results previously found in the literature, that Islamic banks are more profitable compared to their conventional peers (Samad, 1999; Samad and Hassan, 1999; Iqbal, 2001; Hassoune, 2002; Rosly and Abubakr, 2003; Bisha, 2004; Olson and Zoubi, 2006).

Al-Tamimi (2010) examined some variables that influence the profitability of Islamic and conventional banks in the United Arab Emirates during the period 1996-2008. To measure profitability, a regression model was used in which ROE and ROA were used alternately as dependent variables. The explanatory variables are: Gross domestic product (GDP) per capita, size, financial development indicator (FDI), liquidity, concentration, cost and number of industries. The results indicate that liquidity and concentration are the important variables of conventional bank's performance, while the cost and the number of branches have been the determinants of Islamic bank's performance. This result is confirmed by El Masry (2011).

Using data from the financial statements, Chatti et al, (2011) estimated the risk-adjusted performance of eight Islamic Banks in Malaysia. Due to unavailability of data, the sample is limited to the period 2004/2008. Using ROA and RAROC (Risk Adjusted Return on Capital), as analysis ratios, the authors found that retail and commercial banks are the first activities that contribute significantly to the benefit of the bank (about 65% of the total profits of the sample).

Jaffar and Manarvi (2011) examined and compared the profitability of the 5 Islamic banks and 5 conventional banks operating in Pakistan between 2005 and 2009. Using the ROA as a ratio of measurement of the earning capacity of two groups of banks, the authors noted that the profitability of conventional banks is relatively higher than that of Islamic banks. This result is explained by the mismanagement of the leaders of the Islamic Banks.

To verify if there is a difference between the financial performance of Islamic and conventional Malaysian banks, Shaista and Gunasegavan (2013) used a sample of five banks Islamic and 9 conventional banks in Malaysia over the period 2005-2009.The variables employed are: profitability, capital adequacy, liquidity, operational efficiency and quality of

assets, the board of directors and economic conditions. They noted that on average the return on assets, the size of the bank and the board of directors were higher for the case of conventional banks, and the other variables were higher for the case of Islamic banks. All variables except liquidity, board of directors' characteristics and bank type, were found to be very significant in affecting bank performance.

Based on a sample of 74 IBs and 354 CBs in 23 countries during the period between 2007 and 2013, Yanikkaya et al. (2018) measured the bank performance using indicators such as, the net interest margin and the return on assets. They found that both financial ratios are not consistent over time, especially for IBs.

Sulub and Mohd Salleh (2019) analyzed the financial performance of Islamic (IB) and conventional banks (CB) in Malaysia in the period between 2012 and 2016. Using many ratios, namely, Return on Equity (ROE), Return on Assets (ROA), Earnings per Share (EPS) and Debt Ratio, their results revealed that profitability (ROE, ROA and EPS) of CBs was higher than IBs. The authors concluded that ROA, EPS and Debt Ratio were significantly different between the two groups.

To examine whether there is a difference between the financial performance of the Islamic and conventional Banks in Malaysia during the period 2005 and 2011, Mkadmi, (2020) used a sample of 17 Islamic banks and 17 conventional banks. Using the standardized test for independent samples, the results indicate that the mean values for the profitability ratios variables (ROA, ROE and COSR) are significantly different between the two types of banks, while the mean value for the variables relating to capital structure ratios (EQTA, EQL, DTAR and BS) are significantly different between the two groups of banks. For the rest of the ratios (DER and EM), the difference is not significant.

3. THE METHODOLOGY

3.1. Sample and data collection

In order to examine whether there is a difference in performance between Islamic banks and conventional banks in Bahrain, equality of mean test is performed. The equality of mean test for comparing statistics from two or more samples of numeric data drawn from two or more populations is most widely used in the literature of performance and the standard text in statistics. The assumption is that the performance ratios are normally distributed. The null

hypothesis of the equality of mean of the conventional banks and Islamic banks is tested against not-equality of mean.

Hypothesis H0 is here: “The means observed in the two groups of banks are equal”. The objective is to reject this hypothesis H0 to accept hypothesis H1: “The means observed in the two groups of banks are different”.

To achieve this objective, we will employ a sample of 17 Islamic and conventional banks of Bahrain over the period 2005 to 2011. The financial data are collected from the annual activity reports of the banks.

To compare between Islamic banks and conventional banks, many variables were used in the literature, namely: ratios of profitability, ratios of liquidity and solvency. Indeed, several studies have used financial ratios to examine and evaluate these two types of banks (Rosly and Bakar, 2003; Samad, 2004; Ahmad and Hassan, 2007; Olson and Zoubi, 2008).

3.2. Profitability ratios

The profitability ratios are ROA, ROE, COSR, BS, PER, NIM, NII and EPS.

3.2.1 The return on assets ratio (ROA)

This ratio is defined as after-tax profit divided by total assets. It is the most used ratio to compare the profitability of the banks as it indicates the income generated by the assets financed by the bank. The more the ROA increases, the more the financial performance increases.

3.2.2 The return on equity ratio (ROE)

This ratio is defined as the ratio of earnings after tax to equity. This ratio is also referred to as after-tax shareholders' profitability, which is used to evaluate the return on the funds invested by them in the bank. The more the ROE increases, the more the financial performance increases.

3.2.3 The cost-income ratio (COSR)

This ratio is the most used to calculate bank financial performance. It is measured by the ratio of total debt to total income. The lower the ratio, the higher the profitability of banks.

3.2.4 The bank size (BS)

This ratio is determined by the asset size of each bank. The asset usually refers to the cash balance, due from banks, various types of investments and loans. This ratio will be measured by the natural logarithm of total assets. The bigger the size of the bank, the higher the profitability. The reason is that large size may result in economies of scale that will reduce the cost of gathering and processing information.

3.2.5 The profit expense ratio (PER)

This ratio measures the operating profitability of the bank with regards to its total operating expenses. The ratio measures the amount of operating profit earned for each dollar of operating expense. It indicates to what extent bank is efficient in controlling its operating expenses. A higher PER means bank is cost efficient and is making higher profits (Samad and Hassan, 2000).

3.2.6 The Net interest margin (NIM)

This ratio is defined as the net interest income minus net interest expenses over the total assets. The interest income is referring to the income that bank collects from asset such as interest charged on loans, overdrafts and trade finance. The interest expense is the amount of interest payment that bank pay for its liabilities (savings accounts and other accounts).NIM was employed as a ratio of profitability by Hassan and Bashir (2003). Higher the NIM ratio, higher is the quality of the management decision.

3.2.7 The Non-interest income to total income (NII)

The NII is the income bank earned from all the non-interest based activities such as fees, commissions, service charges, handling fee, transaction fee, professional fee, corporate advisory fee....This ratio is defined as the non-interest income in the year over the total annual income in year. The higher NII, the higher income from noncredit activities.

3.2.8 The Earning per share (EPS)

This ratio measures the net income every share, which consequences in direct income allocated to shareholders if 100% distributed in Annual General Meeting (AGM). Therefore, higher the EPS better seems to be the performance of the company.

The following table summarizes the definitions and measures used for the different variables used.

Tab. 1 - Definitions and measures of variables used

Variables	Definitions	Mesures
ROA	The Return on assets	Net profit / total assets
ROE	The Return on Equity	Net profits / equity
COSR	The Cost to income ratio	Total cost / total income
BS	The Size of the bank	The natural logarithm of total assets
PER	The Profit expense ratio	Net profit / total expense
NIM	The Net interest margin	Net interest income − Net interest expense/ Average total asset
NII	The Non-interest income to total income	Non-interest income/ total income
EPS	The Earning per share	Net profit for shareholders / total number of shares

4. RESULTS AND DISCUSSIONS

The results of descriptive statistics between the two groups of banks for the eight variables used are summarized in Table 2.

The student's t-test results show that variables such as ROA, ROE, BS, PER and EPS are significantly different at the 1% level between the two types of banks, whereas the average value of COSR, NIM and NII are significantly different at the 5% level.

JOURNAL OF SMART ECONOMIC GROWTH
JSEG
www.jseg.ro ISSN: 2537-141X Volume 6, Number 3, Year 2021

Tab. 2 - Descriptive statistics of continuous variables for the two groups of Bahrain banks during the period 2005-2011

Variables	Size		Average		Standard deviation		Test t for equality of averages	
	CB	IB	CB	IB	CB	IB	t-value	p-value
ROA	118	120	0,055	-0,09	0,200	0,400	-3,743	0,000*
ROE	118	120	0,51	-0,28	2,097	1,411	-3,466	0,001*
COSR	118	120	24,81	93,87	18,21	377,12	2,004	0,047**
BS	118	120	9,910	8,970	1,39	1,1200	-5,686	0,000*
PER	118	120	0,101	72,04	0,188	0,3016	0.499	0,000*
NIM	118	120	20,06	10,69	0,353	0,4050	2,101	0,043**
NII	118	120	1,128	0,391	0,702	0,3352	0,061	0,025 **
EPS	118	120	0,280	0,850	0.056	0.0583	3.34	0.0016*

p< 1% , ** p< 5%, ***p < 10%

Source: Output using STATA 9.0.

4.1 Analysis based on the ROA ratio

From Table N°2, we notice that conventional banks are, on average, more profitable than Islamic banks. Differences in means are significant at the 1% level. Indeed, the return on assets (ROA) is significantly higher for conventional banks (5.5%) than that of Islamic banks (-9.9%).

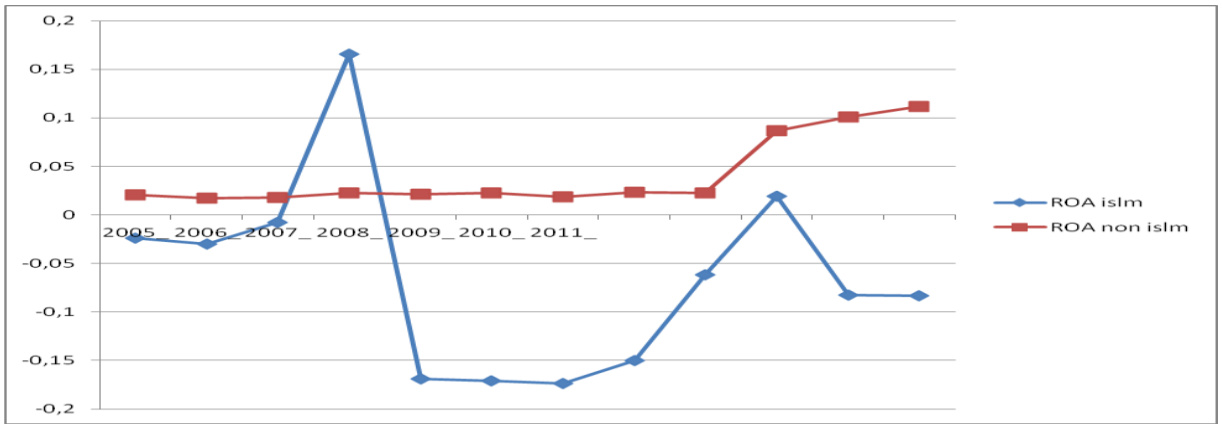

Fig. 1 – Comparison of performance in terms of ROA

4.2 Analysis based on ROE ratio

Regarding the variable ROE, it is interesting to note that the average return on equity realized by Islamic Banks (-28%) is lower than that of conventional banks (51%). The differences between the two groups are significant at the 1% level. This result is inconsistent with previous empirical investigations by Iqbal (2001) and Olson and Zoubi (2008).

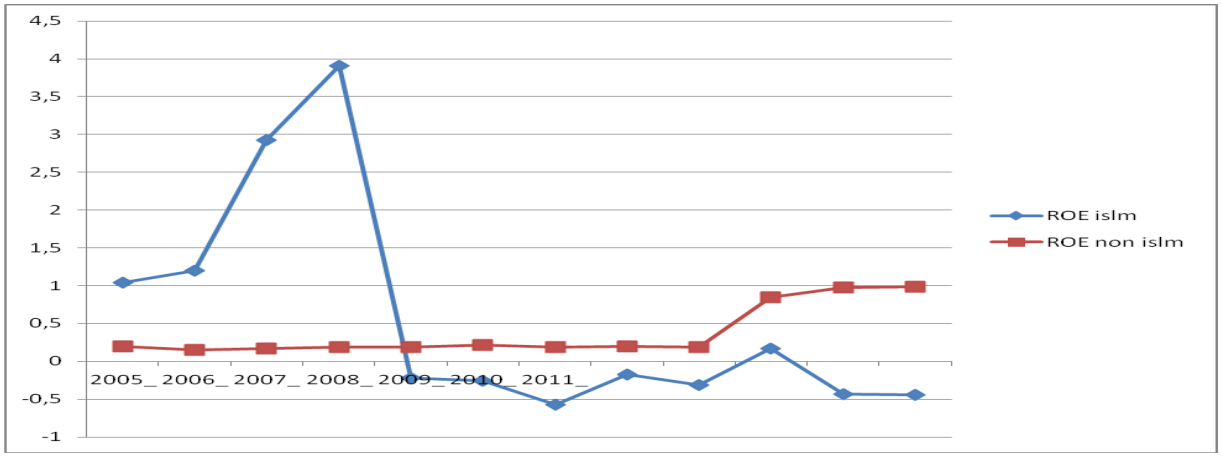

Fig. 2 – Comparison of performance in terms of ROE

4.3 Analysis based on the COSR ratio

The t-test for the equality of averages shows that there is a statistically significant difference in bank performance between the two groups as measured by the cost to income ratio (COSR). The differences between the two groups are significant at the 5% level. Thus, the cost to income ratio is significantly higher in Islamic Banks than that of conventional banks. This result does not support the conclusions of Hassoune (2003) and Samad (2004).

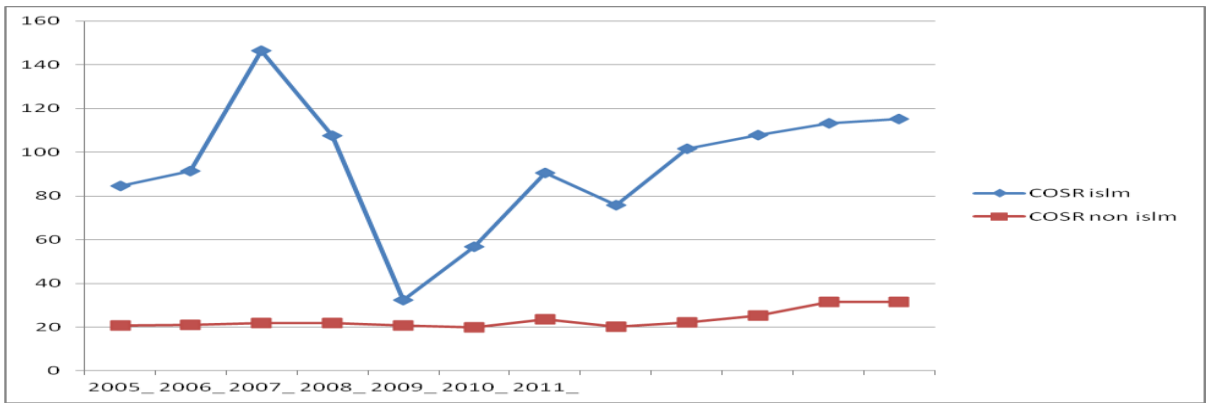

Fig. 3 – Comparison of performance in terms of COSR

4.4 Analysis based on the BS ratio

Besides, as far as the size variable is concerned, Islamic Banks are much smaller than traditional banks. Differences in means are significant at the 1% level.

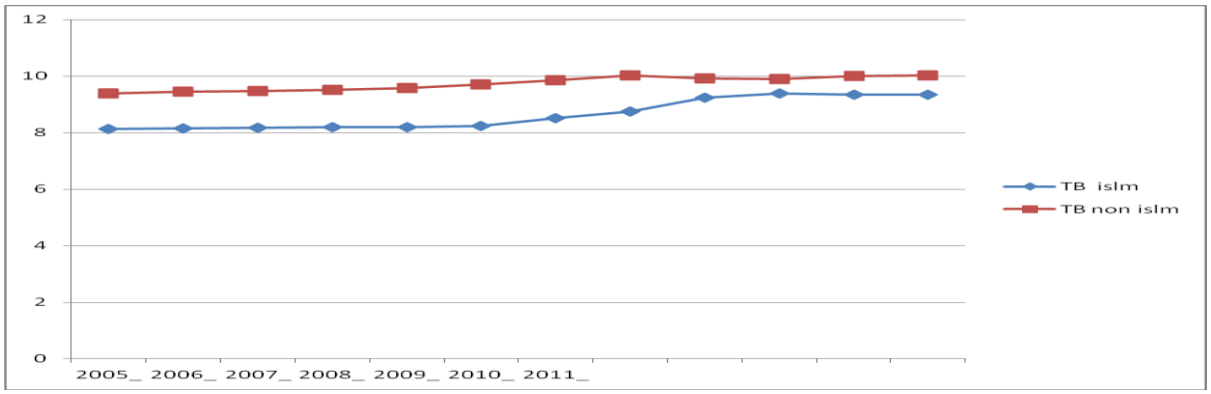

Fig. 4 – Comparison of performance in terms of BS

4.5 Analysis based on the PER ratio

The results show that the mean of PER ratio for Islamic banks is slightly higher than conventional banks during (2005- 2011). The difference is statistically significant at the 1% level.

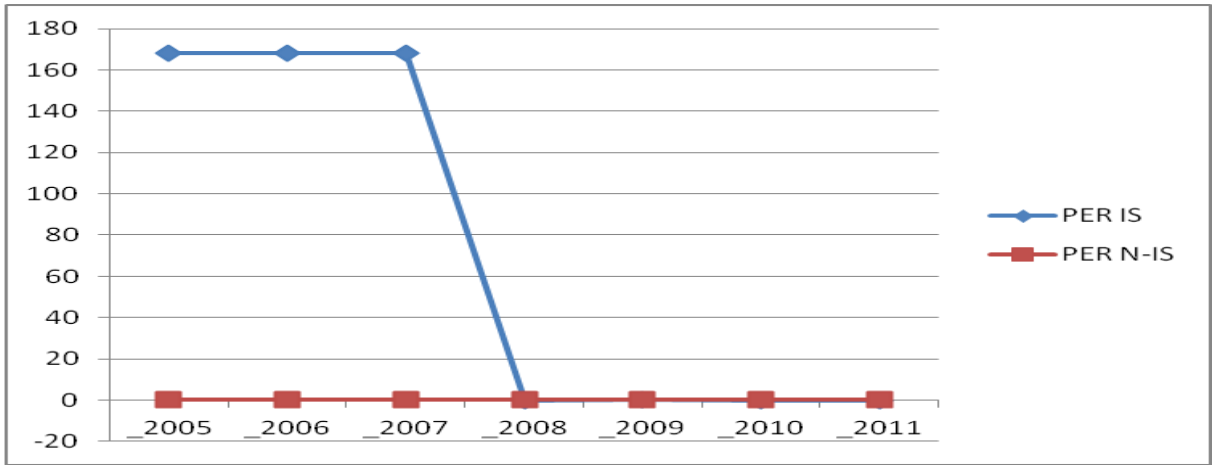

Fig. 5 – Comparison of performance in terms of PER

4.6 Analysis based on the NIM ratio

From the above table, it has been observed that NIM of conventional is higher than Islamic banks. The differences between the two groups are significant at the 5% level.

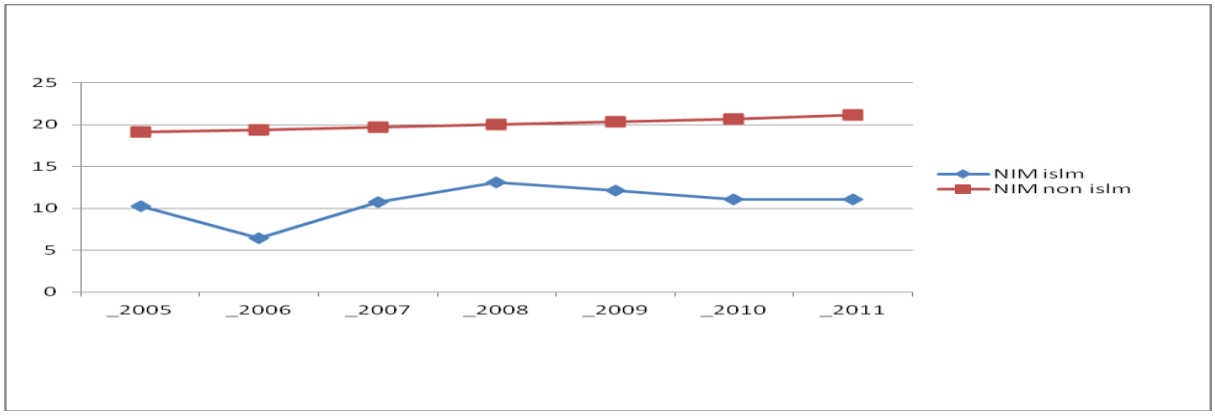

Fig. 6 – Comparison of performance in terms of NIM

4.7 Analysis based on the NII ratio

From the above table, it has been observed that NII of conventional is higher than Islamic banks. The differences between the two groups are significant at the 5% level.

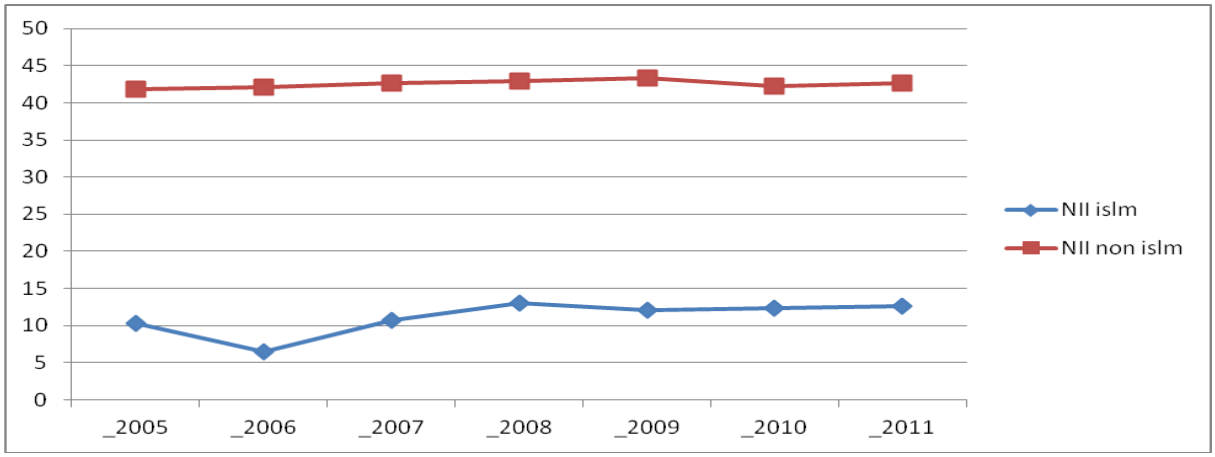

Fig. 7 – Comparison of performance in terms of NII

4.8 Analysis based on the EPS ratio

Finally, Results indicate that EPS of Islamic banks is higher than conventional banks. The differences between the two groups are significant at the 1% level.

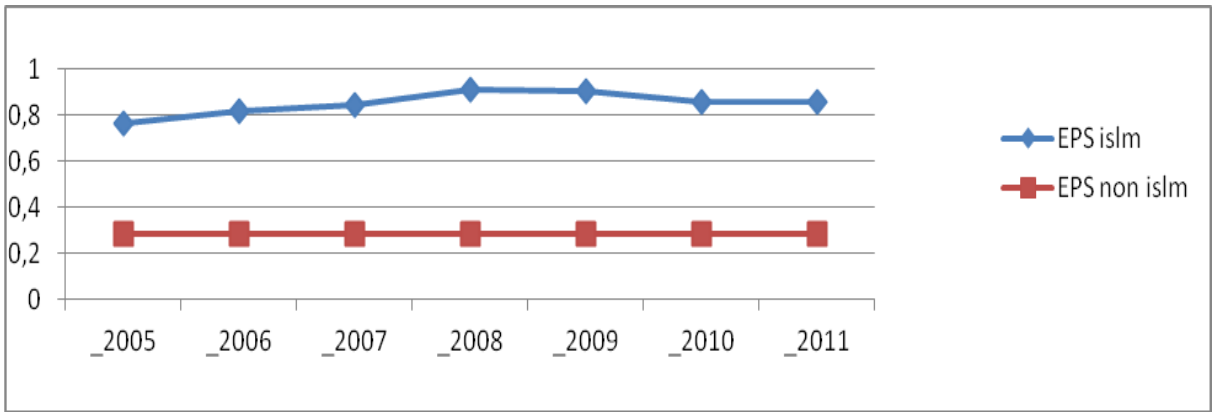

Fig. 8 – Comparison of performance in terms of EPS

From these descriptive statistics, we note that there are statistically significant dissimilarities between Islamic and conventional banks. On the other hand, the analysis of the results of the comparison in terms of various financial ratios indicates that there are significant differences between the two groups of banks for the following variables: the return on assets, the return on equity, the cosr ratio, the size of the bank, the Profit expense ratio, the Net interest margin, The Non-interest income to total income and the Earning per share. Indeed, we find that Islamic banks, as newcomers in the financial market, are less efficient than conventional banks.

This finding is parallel to Samad (2004) and Samad and Hassan (2009). According to them, the cause for the decrease of profitability of Islamic banks is that the scope of investment of Islamic banks is limited. Moreover, these differences can be explained by the internal factors and the specificity of each group of banks. That's why, some authors have recommended adapting financial ratios to the specificities of Islamic Banks or applying other indicators more appropriate to the principles of Sharia.

5. CONCLUSIONS

The purpose of this study is to compare financial performance of Islamic and conventional banks in Bahrain over the period (2005-2011) using Financial Ratio Analysis. The study sample consists of 17 Islamic and conventional banks. A comparative study is undertaken based on performance indicators, 8 financial ratios were estimated to measure performances in terms of profitability. T-test is used in determining their significance. The study concluded differences in financial performances between conventional and Islamic banks.

The comparison of financial measures indicates that there is a major difference in profitability between Islamic banks and conventional banks. The findings also indicate that Islamic banks as newcomers to the financial market are less efficient in term of returns compared to conventional banks.

These results can be explained by the fact that taking into account a moral dimension in financial decisions leads to a change in the internal organization of the Islamic bank. In

addition, the rules on which the functioning of Islamic banking is based will also modify the bank-client relationship as it exists in the world of conventional finance. Since the depositor becomes, to a certain extent, an investor and bears, in part, the same risks as the bank.

To complete the comparative analysis between the two group of banks, we should add others variables, namely, liquidity, risk …etc.

CONFLICTS OF INTEREST AND PLAGIARISM: The authors declare no conflict of interest and plagiarism.

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