# Financial Performance Of Selected Conventional And Islamic Banks In Kingdom Of Bahrain – A CAMEL Ranking Based Approach

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## Abstract

This paper evaluates and compares the performance of Retail conventional and Islamic banks in kingdom of Bahrain using CAMEL ranking approach for the period 2007-14. Empirical studies show that Islamic banks are less profitable and efficient compared to retail conventional banks due to their inherent institutional factors. Current study has tested this postulate by analyzing the performance of retail conventional and Islamic banks in Bahrain under the CAMEL ranking framework. Bahrain has been chosen as the focal point of study as both Islamic and conventional banks play a significant role in Bahrain. Apart from that the extant literature review conducted by authors identified a dearth of similar studies in Bahrain. Islamic banks have demonstrated a superior performance compared to conventional banks under all CAMEL sub-parameters. Among other findings, the empirical results show not only a better performance by Islamic banks in the inter-performance analysis; it has also identified huge variations in the performance of the banks within the sub-parameters under study. The statistical analysis conducted by the authors affirmed that there are significant differences in the intra as well as inter performance of the

conventional and Islamic banks under study. Thus contrary to the conclusions drawn by other notable studies, in this research, the Islamic banks secured top positions compared to conventional banks despite their business being constrained by the sharia rules which prohibits them to undertake all profit making activities.

**Keywords:** Capital adequacy, Asset quality, Earning quality, Managerial efficiency, Liquidity

## Introduction

This paper conducts a comparative analysis of the financial performance of selected Conventional and Islamic Retail Commercial banks in Bahrain during 2007-2014. Bahrain, as the Gulf's financial capital for more than 40 years, has led the Middle East in a range of sectors – from Banking, to asset management, to Islamic finance. The banking industry in Bahrain has come a long way over the last few decades. Segments such as commercial, retail, investments and Islamic banking have made great inroads in the industry. According to a recent survey of 152 economies worldwide, Bahrain's regulatory environment ranks second in the GCC[6] . This is supported by the fact that the Central Bank of Bahrain (CBB), the sector's sole regulator, has provided guidance in setting up Islamic financial structures for over 30 countries. Banking form the biggest part of Bahrain's financial services sector and the commercial banks are playing major role in the mobilization of savings, augmenting capital formation, facilitating investments in all sectors of Bahrain's economy and promoting economic development of the country.

The banking industry in Bahrain has been carved into two main segments: the conventional banking segment and the Islamic banking

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[6] Fraser Institute – a Wall street Journal Company, Economic Freedom of the World 2014 Report

segment. In an attempt to profit from the growing hype of Islamic banking, most banks have created a separate entity or Subsidiary under their wing to focus primarily on this growing market. Currently there are 403 licensed financial institutions in Bahrain out of which there are 79 conventional bank licensees and 24 Islamic bank licensees. Among them 22 under conventional banking and 6 in Islamic banking are focusing mainly on Retail market. Conventional commercial banks have been in operation in Kingdom of Bahrain for more than 80 years. They have dominant share in almost all facets of banking. Since their incorporation in Bahrain, Islamic banks are not only a major source of Islamic banking products, but also offer a variety of banking services such as foreign exchange business, money transfers, documentary trade finance, portfolio management and underwriting of capital market issues. The below table provides a snapshot of the retail commercial banks in Bahrain.

Table 1.1 Structure of Retail commercial banking in Bahrain as at end of March 2015

|  | Conventional banks | Islamic Banks |
|---|---|---|
| No. of Banks | 22 | 6 |
| No. of Branches | 126 | 59 |
| Share of deposits*[7] | 32.62% | 28% |

Source: http://www.cbb.gov.bh/assets/CBBr and BANKSCOPE

The share of Islamic banks in financial intermediary services has phenomenally increased over the years. The Central bank of Bahrain is giving ample focus to the Islamic banking industry in an attempt to maintain their prominent position in the GCC Islamic Centre. This is praiseworthy as they are functioning under dual constraints. While operating as commercial banks they adhere to socio-economic-political-regulatory framework like their conventional counter parts at the same time they are mandated to obey Islamic laws – the sharia principles which are their guiding force. They cannot indulge in certain profit bearing activities as those activities are not in

[7] * Share of deposits of banks selected under study

conformity with the divine laws of Islam which is a constraining factor for their profitability.

Thus it is natural that the Islamic banks face steep challenges in sharing deposits and credit markets. As such it is hypothesized that Islamic banks may not be at par with the conventional banks in terms of their financial performance due to these stringent institutional factors. The main focus of this paper is to look into whether the performance of the Islamic banks is different from the conventional banks with respect to Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality and Liquidity using the CAMEL paradigm for the period 2007-2014. This study of comparison is useful in providing valuable information and suggestions to relevant parties: bank customers, bank management, regulators and rating agencies.

This paper is organized as follows: Section 2 draws the need for the study along with its scope. Section 3 provides review of literature along with methodology, data source and analysis used in the study. Section 4 briefs out the performance measures detailed out as conceptual framework of CAMEL and its sub-parameters. Section 5 contains empirical results and analysis and section 6 provides conclusion along with suggestions and topics for further research.

**Need for the study**

Since growth, efficiency and competitive environment are quintessential for the economic stability and development, it is important to analyze the performance of commercial banks. This exercise is all more relevant in Bahrain because of the existence of conventional and Islamic retail banks competing with each other in spite of the inherent differences in their institutional frameworks. The extant review of literature undertaken by the researchers has proved a dearth of studies in Bahrain's context. Hence the current study is identified to fill the gap.

## Identified research gaps

A detailed literature review conducted by the researchers, indicate that there is a dearth of studies conducted in Bahrain comparing performance of Islamic vis-a-vis conventional banks. The studies conducted in GCC and other East Asian countries have brought out inconsistence results. To resolve the above issues and to smooth the inconsistencies, this study has been undertaken.

## Statement of the research problem

Studies conducted by Samad (2002), Atif Mian (2003), Samad (2004), Hasan, Maher Mohammed and Dridi (2010), Rosnia (2010) have found that conventional banks perform better than the Islamic banks. Current study is under taken to test whether same pattern could be identified in the Bahrain market where evidences based on research is inadequate to reach to a similar conclusion. Hence the current study is undertaken to find out whether there are any differences in the intra and inter group performance of conventional and Islamic banks in Bahrain.

## Research Questions

The study seeks to answer the following research questions.

What are the indicators of financial performance and what are the models used to measure it?

Were there any significant differences in the inter-group and intra-group financial performance of Conventional vis-à-vis Islamic banks with reference to CAMEL ratios? (within the groups and across the groups)

What are the suggestions and recommendations for policy formulations?

## Objectives

This study has the following objectives:

To identify the indicators of financial performance and to choose the models for its measurement.

To study the inter group and intra-group financial performance of in terms of CAMEL ratios of reference bank groups (Conventional and Islamic banks).

## Hypotheses formulated

Based on the objectives outlined above, the following hypotheses have been formulated:

$H_O$: There are no significant differences in the financial performance across reference bank groups in terms of CAMEL ratios.

Ho: There are no significant differences in the financial performance within the conventional banks in terms of CAMEL ratios

Ho: there are no significant differences in the financial performance within the Islamic banks in terms of CAMEL ratios.

## Methodology
## Scope

The study covers the period from 2007-2014. The Bahrain Retail commercial banks have been grouped under two categories: Islamic and Conventional, selected banks from conventional and all the Islamic banks have been taken under the study.

## Sample selection:

As the objective of the study was performance evaluation of retail commercial banks in Bahrain, only commercial banks which provide the core retail banking services[8] have been selected for this study. Thus the study has followed a stratified convenient sampling technique. Samples were chosen based on the following criteria.

Banks providing core retail banking services.

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[8] Core banking services are deposit collection, payment services and loan underwriting along with other banking services like cash management, trust services, risk management services, loan commitments etc.

Comparable Asset size (within 25th rank in asset size)

Data availability (required data for CAMEL).

Out of 28 conventional retail banks, 4 banks fit into the above criteria.

All banks (6) in the Islamic Retail commercial bank group were taken in the study as they fit into the criteria.

Thus out of 34 major banks, 10 banks have been chosen as they fit into the above criteria. The study period covers eight years beginning from the financial year 2007 to 2014. The data processed in the research represent the average of the variables values for the 8 years.

Table 1.2 shows the selected banks for the study and their asset size.

Table 1.2 Banks selected under Conventional Retail Banking Group

| Bank | Asset Size ($ in Millions) | Rank Based on Assets Size in Bahrain |
|---|---|---|
| Ahli United Bank BSC (AUB) | 33,445 | 1 |
| Bank of Bahrain and Kuwait (BBK) | 9,311 | 6 |
| Bank Muscat International (BMI) | 1,744 | 19 |
| National Bank of Bahrain (NBB) | 7,283 | 9 |

Table 1.3 Banks selected under Islamic Banking Group

| Bank | Asset Size ($ in Millions) | Rank Based on Assets Size in Bahrain |
|---|---|---|
| Al Baraka Banking Group BSC (Albaraka) | 23,464 | 3 |
| Al-Salam Bank Bahrain BSC (Al-Salam) | 5,200 | 11 |
| Bahrain Islamic Bank BSC (BISB) | 2,328 | 16 |
| Ithmar Bank BSC (Ithmar) | 7,423 | 8 |
| Khaleeji Commercial Bank (KHCB) | 1,588 | 22 |
| Kuwait Financing House (KFH) | 3,941 | 12 |

Source: BankScope

**Data Source**

To realize the objectives of the study, two distinct data sources are used:

(i) Fact sheets published by Central bank of Bahrain (ii) financial statements published by BANKSCOPE. BANKSCOPE is a complete financial analysis tool, combining information on 11,000 world banks with a financial analysis software program. The information includes detailed spreadsheet data (balance sheet and income statements), ownership information (shareholders and subsidiaries), Reuter's news articles, ratings and rating reports. The data is updated 18 times a year.

## Data Analysis

Different ratios of CAMEL were extracted from the financial statements of the banks from BANKSCOPE.

## Limitations of the current study

The sample size of the study is not uniform because of data constraints. For example we have included all banks in Retail Islamic group, however only 4 banks out of 28 in the retail conventional banks category are selected.

This study used CAMEL framework to measure financial performance. An interesting direction for further research would be to employ parametric Stochastic Frontier Analysis (SFA) and or the non-parametric Data Envelopment Analysis (DEA) and rating method of CAMEL to estimate the technical, allocative and scale efficiency of the selected banks. This would enable to assess the methodological differences in the two popular approaches as well as to assess the sturdiness of efficiency scores calculated under both methods.

## Review of Literature

In academic research, review of related literature plays a significant role as it provides a link between the proposed research and the earlier studies. Performance evaluation started when the first commercial bank was established at Mesopotamia in 3000 BC. In recent times, especially after the advent of financial sector reforms, there are large number of studies undertaken

globally to analyze and evaluate various aspects of performance and its measurement in the banking sector. This section provides a brief review of earlier studies on the financial performance analysis of banks undertaken using CAMEL rating and ranking methods all over the world. Notable studies conducted are: Samad (2002) examines the comparative performance of Bahrain's interest-free Islamic banks and the interest-based conventional commercial banks during the post-Gulf War period with respect to (a) profitability, (b) liquidity risk, and (c) credit risk. Nine financial ratios are used in measuring these performances. Applying Student's t-test to financial ratios for Islamic and conventional commercial banks in Bahrain for the period 1991-2001, the paper concludes that there is no major difference in performance between Islamic and conventional banks with respect to profitability and liquidity. However, the study finds that there exists a significant difference in credit performance. Atif Mian (2003) used 1,600 banks in 100 emerging economies, and identified the strengths and weaknesses of the three dominant organizational designs (state owned, private sector and foreign) in emerging markets. His paper found that foreign banks and private banks provide a sound financial performance compared to their counterparts in the market. Samad (2004) investigated the performance of seven locally incorporated commercial banks in the GCC for the period 1994-2001. Financial ratios were used to evaluate the credit quality, profitability, and liquidity performances. The performance of the commercial banks was compared with the banking industry in Bahrain which was considered a benchmark. The results revealed that commercial banks in Bahrain were relatively less profitable, less liquid and were exposed to higher credit risk. Nimaladasan.B (2008) attempted a comparative study of financial performance of banking sector in Bangladesh. He analyzed 6562 branches of 48 banks under the category of Foreign Commercial Banks (FCBs), National commercial Banks (NCBs), Private commercial Banks (PCBs) and Government Owned Development Financial Institutions (DFIs) for the period 1999-2006. He has used 7 sub – parameters of CAMEL to assess the performance of banks and concluded that foreign commercial banks and

private commercial banks performed better than the National commercial banks (NCBs) and Government owned Development Financial Institutions (DFIS). Mihir Das and Annyesha Das (2010) compared the performance of public sector banks with private/foreign banks under CAMELS framework using rating method. 15 sub-parameters of CAMELS were analyzed and concluded that private/foreign banks fared better than public sector banks in most of the CAMELS sub-parameters. Hasan, Maher Mohammed and Dridi (2010) examined the performance of Islamic banks (IBs) and conventional banks (CBs) during the global crisis by looking at the impact of the crisis on profitability, credit and asset growth, and external ratings in a group of countries where the two types of banks have significant market share. Their analysis suggested that IBs have been affected differently than CBs. Factors related to IBs'business model helped limit the adverse impact on profitability in 2008, while weaknesses in risk management practices in some IBs led to a larger decline in profitability in 2009 compared to CBs. IBs'credit and asset growth performed better than did that of CBs in 2008-09, contributing to financial and economic stability. Rosnia (2010) compared the financial performance of Malaysian conventional banks versus Islamic banks against profitability and liquidity. It found that for the period 2004-08, Islamic banks were less profitable but have greater liquidity compared to conventional banks.

The extant literature review suggests a dearth of research in the performance areas in the GCC especially in Bahrain in spite of its status as the financial hub of the GCC. Thus the current study has been undertaken to fill in the gap by analyzing the financial performance of the selected retail conventional banks versus Islamic banks for the period 2007-2014.

**Performance measures – Theoretical framework of CAMEL**

To gauge the financial soundness and thereby evaluate the efficiency of the banks, regulators all over the world have resorted to CAMELS. CAMELS' ratings are the result of the Uniform Financial Institutions Rating System, the internal rating system used by regulators for assessing financial

institutions on a uniform basis and identifying those institutions requiring special supervisory attention. Regulators assign CAMELS ratings both on a component and composite basis, resulting in a single CAMELS overall rating. When introduced in 1979, the system had five components. A sixth component—sensitivity to market risk—was added in 1996. The CAMEL supervisory criterion in banking sector is a significant and considerable improvement over the earlier criteria such as frequency, check, spread over and concentration. The six components of the new CAMEL model are: • C—Capital adequacy • A—Asset quality • M—Management • E—Earnings • L—Liquidity • S—Sensitivity to market risk.        CAMELS' framework can be used to rate the banks as well as rank them based on their performance in the ratios. Regulators normally assign rating and those banks which fall below with composite CAMELS ratings of 4 or 5, are deemed to be "problem" banks and may be subject to regulatory enforcement actions. The alternative method which is used by many researchers is ranking of CAMEL ratios. As discussed earlier in the current study, financial performance is tested using CAMEL framework. After analyzing financial statements of the various banks under study, 5 sub-parameters were adopted in measuring the bank performance in terms of Capital adequacy, Asset quality, Management efficiency, Earning quality and Liquidity.  The sub-parameters chosen under each of the CAMEL acronym are:

**Capital adequacy**

Capital adequacy reflects whether the bank has enough capital to absorb unanticipated losses and reduction in asset values that could otherwise cause a bank to fail, and provide protection to depositors and creditors in the event of liquidation. The balance sheet of the bank cannot be expanded beyond the level determined by the capital adequacy ratio.

The Sub-parameters of Capital Adequacy parameters are:

Tier1 ratio,

Total capital ratio,

Equity to net loans,

Equity to liabilities

Equity to assets

## Asset Quality

Asset quality is an important parameter to test the financial credibility of the banks and their risk exposure.

The Sub-parameters of Asset Quality parameters are:

loan loss reserve to gross loans,

loan loss provisions to net interest revenue,

loan loss reserve to impaired loans,

Impaired loans to gross loans,

Impaired loans to equity

## Management efficiency

Management efficiency is another quintessential component of the CAMEL model which ensure the growth and stability of a bank.

The sub – parameters chosen to measure management efficiency parameters are:

Recurring earning power,

Non-operational items to net income,

Equity to total asset

Cost to Income ratio

Operating profit to Risk weighted assets (%)

## Earning quality

Earning quality ratios are used to measure the ability of the bank to earn profit compared to expenses. It shows the bank's overall efficiency and performance as it examines the bank's investment decisions as compared to their debt situations.

The Sub-parameters chosen to measure earning quality parameters are:

Net interest margin,

Net interest revenue to average assets,

Other operational incomes to average assets,

Return on average assets

Non-interest expenses to average assets

## Liquidity

Liquidity is the ability of the bank to meet financial obligations as they become due, without incurring unacceptable losses.

The sub-parameters used in this study to analyze liquidity of the banks are:

Interbank ratio (IBR),

Net Loans / Total Assets,

Liquid Assets / Dep plus ST Funding and

Liquid Assets / Total Deposits plus Borrowing.

Net loans to total deposits and borrowing

Performance of selected banks in the above sub-parameters will be calculated, the average of these determines the rank for each of the parameters which finally contribute to the composite rankings.

## Analysis and results discussion

This section presents a discussion on the inter-bank group financial performance of selected retail commercial banks under conventional and Islamic banking framework during 2007-2014. Notable  earlier studies under this focal theme in Bahrain in particular is by Samad (2002) who concludes based on his analysis that there is no major difference in the performance between Islamic and Conventional banks with respect to profitability and liquidity with marked differences in the credit performance. Rosnia, Ebrahim, Osman, Wahad., (2010) compared the financial performance of Malaysian conventional banks versus Islamic banks against profitability and liquidity. The study found that for the period 2004-08, Islamic banks were less profitable but have greater liquidity compared to conventional banks. There is a general perception that conventional banks due to their vast years

of experience as well as interest based services perform better than Islamic banks, which focus mainly on interest free and sharia compliant activities. Following analysis and empirical results shed light on whether the above perception can be upheld and find out if there can be a contrary explanation.

For appraising the financial performance, CAMEL ranking model was used. The performance of the different  bank groups have been studied with reference to Capital adequacy, Asset quality, Management efficiency, Earning quality and Liquidity for the period 2007-2014. This section attempts an inter-bank group analysis and contains intra-bank group comparative study as well.

**Composite Capital adequacy of selected banks under study**

Capital adequacy is a reflection of the inner strength of a bank, which would enable a bank to sustain its stability during the times of crisis. Hence capital adequacy has a bearing on the overall performance of a bank. Capital adequacy is judged by checking those ratios which directly indicate financial soundness such as TIER 1 ratio, Total capital ratio (Capital adequacy ratio), Equity to net loans, Equity to liabilities and Equity to customer and short term funding.

Tier 1 ratio (T 1 R) of capital adequacy measures Tier 1 capital; which is shareholder funds plus perpetual non-cumulative preference shares as a percentage of risk weighted assets and off balance sheet risks measured under the Basel rules. This figure should be at least 4%. A higher ratio reflects a stronger bank.  The mean ratio for the group was 18.5%. The individual bank ratios do not cluster around the mean which has resulted in high CV (47.07%). The highest T1R was maintained by KHCB and BBK maintained the lowest T1R. NBB has secured 2nd position followed by Alsalam and KFH. A very high TIR ratio shows that the banks are taking proactive measures though it is considered to be sound, the high CV values among the banks is of great concern. Another interesting observation is that the banks were only required to keep 4%, yet 5 of the banks under study have kept more than the average, which is quite baffling.

Total capital ratio (TCR) is the total capital adequacy ratio under the Basel rules.

It measures Tier 1 + Tier 2 capital which includes subordinated debt, hybrid capital, loan loss reserves and the valuation reserves as a percentage of risk weighted assets and off balance sheet risks. This ratio should be at least 8%. This ratio cannot be calculated simply by looking at the balance sheet of a bank but has to be calculated internally by the bank. At their option, they may publish this information in their annual report. The highest was maintained by KHCB, followed by NBB and Alsalam, while Ithmar had the lowest ratio. The mean ratio for the group is 20.2 with a CV of 33.38, though it is high compared to other sub-parameter, the CV is comparatively low. Still we can infer that the individual ratios don't cluster around the mean. In Bahrain, the regulator has made it mandatory for the banks to keep 12% TCR. Except for Ithmar, all other banks have kept very high TCR, which has led to the high CV.

Equity to total assets (E/TA) is indicative of the relative proportion of equity applied to finance the assets of a company. This ratio is sometimes referred as net worth to total assets ratio hence provides realistic picture of the long-term or prospective solvency position of the business. In this sub-parameter, KHCB has secured first position followed by KFH and Alsalam. The lowest position was taken by BBK. The mean ratio for the group is 15.7% with a very high CV of 43.22%. A very spectacular finding here is that the Islamic banks have taken the first 4 positions.

Equity to net loans (E/NL) ratio measures the equity cushion available for the banks to absorb losses on the loan book. A higher ratio reflects a stronger bank. The mean ratio for the group was 44.3 with a very high CV of 62.34%. The first position under this parameter was taken by Alsalam bank, followed by Albaraka, KHCB and KFH respectively. In this parameter also Islamic banks had a stellar performance compared to their counter parts in the market.

Equity to total liabilities (E/TL) is a leverage ratio. This leverage ratio is another way of looking at the equity funding of the balance sheet and

is an alternative measure of capital adequacy. Higher the ratio reflects lower risk for the banks. KHCB has secured to the first position followed by KFH and Alsalam and the last two positions were taken by Albaraka and BBK respectively. The mean score for the group is 20% with a high CV of 55.72%, which can be attributable due to the difference in the ratios maintained by the first and last ranked bank among the group.

When all ranks achieved by banks under the four sub-parameters are averaged, due to its stellar performance in all the sub-parameters, KHCB sustained its first position followed by Alsalam and KFH respectively. The lowest 3 ranks are obtained by Ithmar, AUB and BBK respectively. From the regulator's perspective, all the banks are adequately capitalalised, which is a good sign. However, high variances in these ratios especially E/NL, E/TL should be of concern for the regulator.

**Composite Asset quality of selected banks under study**

The quality of assets is an important parameter to study the degree of financial strength. The purpose to measure the asset quality is to ascertain the composition                                             of non-performing assets (NPAs) as a percentage of total assets. The quality of assets of the selected banks is as given below, measured through their performance in the sub-parameters contributing to the overall asset quality.

Loan loss reserve to gross loans ratio (LLR /GL) is a reserve for losses expressed as a percentage of total loans. Given a similar charge-off policy, a higher ratio reflects a poor loan portfolio. The mean ratio for the banks under study was 4.39 percent. It implies that the loans loss perception of the banks was 4.39 percent. In other words the loan recovery perception is 95.61 percent. Across the banks, Alsalam indicates the maximum loan recovery perception of 99.1 percent and a minimum of 90.8 percent by BMI. The ratios categorically indicate that the loan portfolio of the banks under study was good and confidently recoverable. Alsalam has attained first position as the ratio of Loan loss reserve to gross loan was lowest among the group. BMI and Ithmar had the highest ratios. Except for Alsalam, none of

the banks had LLR/GL ratio less than the mandatory rate of 1.5%. As indicated by the C.V. this ratio varies widely across the banks.

Loan loss provision to net interest revenue (LLP/NIR) is the relationship between loan loss provisions in the profit and loss account and the interest income over the same period. Ideally this ratio should be as low as possible and in a well-run bank, if the lending book indicates higher risk, this should be reflected by a higher ratio. The mean ratio for the group was 53.46 implying that 46.54 percent of net interest revenue has been earmarked against probable loan loss. There is no mandatory norm for this ratio but it is good if the ratio is low. Across the banks, Ithmar indicates the highest ratio followed by BISB.  These two banks, especially Ithmar, should critically review its loan portfolio, assess the credit worthiness of its borrowers, and try to reduce the ratio. KHCB has maintained the first position, followed by KFH and NBB. Due to the significant variations across the banks in this ratio, it has resulted in a very high CV( 155.34 percent).

Loan Loss Reserve to Impaired loans (LLR/IL) Loan loss reserve is calculated as the sum of any specific, generic and other types of allowances for loan losses, which might also include those that have been temporarily created in addition to generic and specific. "Impaired loans" are considered to be the measure of problem loans. A loan is deemed to be impaired if there is an objective evidence of impairment (i.e. a "loss event"), and that loss has an impact on the estimated future cash flows. Thus this ratio illustrates the asset quality of the bank. There is mixed views regarding the ranking and performance for this ratio. We have presumed a higher ratio indicates a better performance as it reflects the bank's readiness to meet the problem loans. Accordingly, KFH has been ranked first followed by AUB and NBB, and the last positions were taken by BisB and Ithmar.

Impaired loans to Gross loans (IL/GL) indicate the asset quality of the banks and their ability to mitigate credit risk. Hence a lower ratio reflects a higher quality of assets. The mean ratio for the group was 8.68%, which is considered to be good. However, due to the wide variations across the group the CV was very high. The lowest was maintained by Alsalam and the

highest was maintained by BisB. The management of BisB, BMI and Ithmar need to strictly monitor their loan portfolio as their pattern for this ratio is significantly different from their competitors, which can be a cause of concern during turbulent times.

Impaired loans to equity (IL/E) reflects impaired or problematic loans as a percentage of the bank's equity. This indicates the weakness of the loan portfolio relative to the bank's capital. A high ratio is a cause of concern. The mean ratio for the group was 42.45 percent which is high as per the bank management standard. It also indicates that the loan portfolio of the selected banks for the reference period was very weak. Bank wise, maximum percent was found for BisB followed by BMI. Alsalam has maintained the minimum which is 2.6 percent. The reason for such high ratio for other banks especially BisB, Ithmar, BMI should be an area for further study. Further, there is an urgent need for these banks' management to critically review their loan portfolio.

When the sub-parameters were averaged to gauge the composite asset quality performance, KFH has secured the first place due to its stellar performance, followed by Alsalam. NBB and AUB have secured 3rd and 4th position. It's worth mentioning that BisB, BMI, Ithmar and Albarak should critically review their loan portfolio. The huge variance in the performance of the banks under this study might also be a cause of concern to the regulator and can be a topic for further research. BisB, Ithmar, BMI and Albaraka need to scrutinize their non-performing assets cautiously. Barring a few conventional and Islamic banks, other banks haven't given a satisfactory performance in the asset quality.

## Composite performance in Management efficiency of selected banks under study

Management efficiency is another significant component of the CAMEL model that indicates the growth and survival of a bank. Management efficiency means adherence to set of norms, ability to plan and respond to changing environment, leadership and administrative capability of

the bank. To judge these quintessential features of management, the below five sub-parameters were chosen, which measure the management efficiency not only in terms of increasing revenue but also decreasing cost.

Recurring earning power (REP) ratio is a measure of after tax profits adding back provisions for bad debts as a percentage of total assets. Effectively this is a return on assets performance measurement without deducting provisions. It indicates the ability of the management to ensure persistence growth trend. This also provides the long term vision of the bank and its ability to mitigate the risk and achieve higher returns for the shareholders. KHCB has secured first position followed by KFH and BBK, It is worthwhile to mention that conventional banks have performed well compared to their Islamic peers in this ratio. The mean ratio for the group is 1.66%. 7 banks have scored more than the average. Albarka's management needs to review their ALM to ensure long-term growth.

Equity to total assets (E/TA) equity is the owner's capital and is a cushion against asset malfunction. This ratio measures the amount of protection afforded to the bank by equity. Higher ratio indicates greater protection. KHCB, KFH, Alsalam and BisB have performed satisfactorily ahead of other banks. Albaraka, AUB and BBK have not performed well and have lagged behind the mean ratio for the group.

Non Op income to net income (NOI/NI) this ratio indicates the proportion of non-operating income to the total income. The income generated from non-banking operations was classified as non-operating income (NOI). After the advent of merchant banking and e-banking the proportion of NOI is expected to be high in net income. High proportion is an indicator of diversification. This ratio also shows the same trend as the other ratios as KFH and KHCB have taken the first two positions by securing higher score than the mean ratio of the group. Albaraka and BMI were the last two positions in this ratio, which is a cause of concern.

Cost to income (CTI) ratio is one of the most focused ratios and a measure of management efficiency. The major cost element is salaries of the employees and interest payments for the depositors. CTI is a measure of

operational efficiency. Banks use this ratio extensively for inter-bank and intra-bank (inter branch) comparative analysis and managements generally emphasize to their staff the need to reduce this ratio. A lower ratio reflects a better performance. Conventional banks have outperformed the Islamic banks in this ratio. AUB followed by NBB and BBK had taken the first 3 positions and BMI, Albaraka and Ithmar occupied the last 3 positions. These banks may need to adopt cost saving policies from the conventional banks.

Operating profits to risk weighted assets (OP/RA %) this ratio reflects the management efficiency. A higher ratio is better for the bank as it implies that the management was able to attain profit after setting aside the mandatory risk weighted capital. This ratio also reflects the management's adherence to the rules and regulations. The ratio implies the management's ability to generate profit after maintaining the adequate capital, thereby providing assurance and security to the customers. The mean ratio for the group is 0.85% and the CV is very high due the glaring differences in the ratio across the banks.

Ranks achieved under each sub-parameters of management efficiency were averaged in order to get their overall performance. KFH, KHCB and NBB have secured top position, which indicates that their management practices can be a lesson for the other banks. In general, conventional banks performed better than Islamic banks, with the exception of KHCB and KFH, whose performance in this category was comparable to the performance of conventional banks.

Composite performance in Earning Quality of selected banks under study

It primarily determines the profitability of a bank and explains its sustainability and growth of future earnings and hence this parameter is of particular interest to the management. It also attracts the attention of the equity holders who are interested in the ultimate returns, which depend on the earning quality.

Net interest margin (NIM): This ratio is the net interest income expressed as a percentage of assets. A positive value is desirable as it implies

the bank made optimal lending decisions and is successful in getting the timely interest on loans back from the customers. KHCB and Albaraka secured 1st and 2nd positions respectively. A noteworthy change here is that Albaraka whose presence mostly on the lowest quartile has come up for this ratio. The mean ratio for the group is 2.6 percent with wide variation across the banks as denoted by a high C.V.

Net interest revenue to average assets (NIR/AA): This ratio indicates whether a bank has positioned its assets and liabilities efficiently to take advantage of the interest rate changes. This ratio has an impact on the profitability and earning capacity of the bank as it must be large enough to cover the provisions for loan losses and security losses.  Highest score was achieved by KHCB followed by NBB and BBK. Due to low performance by Albaraka, Alsalam and Ithmar the C.V is very high.

Other operational income to average assets (OOI/AA) This ratio indicates to what extent fees and other income represents earnings of the bank. In other words, OOI represents the income earned by the banks from its diversified and non-traditional banking functions such as merchant banking and e-banking services. It also indicates the extent of diversification of business services apart from its traditional functions such as mobilization of deposits and advancing loans. A high ratio indicates a high level of diversification and vice versa. Especially after the advent merchant banking and e-banking this ratio is expected to be high. Ithmar managed to register its presence in this ratio, which shows that they have a diversified business model. KFH has come out first and Alsalam has taken third position. However, KHCB, which has exhibited a stunning performance in other parameters, scored the 7th position in this sub-parameter, indicating that this is one area where KHCB management can focus on.

Return on average assets (ROAA) is perhaps the most important ratio to compare the earning efficiency and performance of banks as it evaluates the returns generated from the assets owned by the bank. Higher ratio indicates better efficiency. KFH has secured the first position followed by NBB and KHCB. The lowest ranks were achieved by BisB, Ithmar and BMI. The wide

differences in performance of these low performers from the high performers have resulted in very high C.V.

Non-interest expenses to average assets (NIE/AA) non-interest expense accrue from salaries of the staff, fees and other non-interest expenses of the bank. This ratio conveys a bank's efficiency as a lower ratio reflects a higher earning capacity. The mean ratio for the group is 2.7% and the individual scores of the banks cluster around the mean. The most efficient bank under this ratio was NBB followed by AUB and Alsalam. KHCB and KFH came after with 6th and 7th position, which is quite understandable as they have performed quite well with respect to their non-interest income compared to their peers if they can manage the spread efficiently then they do not have to worry about their low ranks. It is commendable here that NBB had performed well with respect to both non-interest revenue and have succeeded in minimizing the expenses, which can be a lesson to be followed by its peers.

For the composite performance of banks under earning capacity, NBB and KHCB have shared the first position, followed by BBK and KFH. Alsalam and Albaraka came after. Ithmaar and BMI scored the lowest in this category. Under earning capacity there are wide variances across banks.

**Composite performance in liquidity of selected banks**

Liquidity for a bank is the quantum of assets which are easily convertible into cash in order to meet their obligations. Liquidity is a crucial parameter in CAMEL as it reflects bank's ability to meet its financial obligations including customer's demand for cash across the counter. Lack of liquidity can have an undesirable impact on the credibility of the bank. The liquidity ratios indicate the bank's short-term solvency and its ability to pay-off the liabilities.

Interbank ratio (IBR) is money lent to other banks divided by money borrowed from other banks expressed in percentage. If this ratio is greater than 100 it indicates that the bank is a net placer of funds, and therefore more liquid. The mean score for the group is 145.5 percent indicating that the

group is a net placer of funds in the market. Albaraka is the net placer of funds to the market and Ithmar the net borrower. Second position is enjoyed by Alsalam and KFH was also a highest borrower in the market. The interbank variations are also very high for this ratio.

Net loans to total assets (NL/TA) is a liquidity ratio that indicates the proportion of assets that are tied up in loans. A higher ratio indicates a lower liquidity of the bank and vice versa. But there are two different opinions regarding maintaining higher liquidity. The traditional view is that, to meet the customers' demand for cash, the banks were expected to maintain liquidity. Otherwise it would lead to undesirable consequences. But another view is that after the advent of e-banking and internet banking, any amount can be transferred from one bank to another within a fraction of seconds. Therefore there is no need to keep excess liquidity, (instead the amount can be invested profitability) and whenever the need arises JIT (Just-in-Time) model be used to meet the customers demand for cash. The mean ratio for the group is 48.2 percent which means the quantum of liquidity was 52.8 percent. Utmost uniformity was witnessed in this ratio across the member banks as almost all member banks maintained around the same ratio.

Net loans to total deposits & borrowing (NL/TD & B) this ratio measures the degree of illiquidity of the bank as it indicates the percentage of the total deposits which are locked into non-liquid assets. A high figure denotes lower liquidity. Alsalam has secured first position and BisB the last. Barring Albaraka and BMI, other banks individual scores cluster around the mean score (48.2%) due to which variations across are insignificant when compared to other ratios.

Liquid assets to deposits plus short term funding (LA/STF) liquid assets form all reserve assets hence are considered to be liquid. This ratio can be considered as a deposit run as it indicates the percentage of short term obligations that could be met with the bank's liquid assets in the case of sudden withdrawals. The higher this ratio, the more liquid the bank is, which reduces its vulnerability to bank run. Alsalam has come out as the less vulnerable bank compared to its peers in the group followed by KFH and

KHCB. Albaraka has taken 10th position. Due to the spectacular performance of those banks who have taken the first 5 positions compared to the remaining, there is high variation across the banks.

Liquid assets to total deposits plus borrowings (LA/TD & B) this ratio has its denominator as deposits plus borrowings with the exception of capital instruments. A higher ratio reflects a higher liquidity for the bank. Albarka has taken the first position in this ratio. The variations across banks are very wide in this ratio.

Ranks achieved by the banks under the five sub-parameters for the time period (2008-14) were averaged and composite ranking has been assigned to all the six banks. Based on that, Alsalam and NBB have achieved first and second position respectively and 3rd and 4th positions went to KHCB and KFH respectively.

**Composite performance of Selected Banks in CAMEL**

Ranks attained by each banks under the CAMEL parameters have been averaged and ranked. Below tables shows the final ranking result.

| Composite performance of Selected Banks in CAMEL | | | | | | | |
|---|---|---|---|---|---|---|---|
| | C | A | M | E | L | Average Ranking | Overall Ranking |
| KFH | 3 | 1 | 1 | 2 | 4 | 2.2 | 1 |
| KHCB | 1 | 5 | 2 | 1.5 | 3 | 2.5 | 2 |
| NBB | 4 | 3 | 3 | 1.5 | 2 | 2.7 | 3 |
| Al Salam | 2 | 2 | 6 | 3.5 | 1 | 2.9 | 4 |
| BBK | 10 | 6 | 5 | 2 | 5 | 5.6 | 5 |
| AUB | 9 | 4 | 4 | 8 | 8 | 6.6 | 6 |
| Albaraka | 7 | 10 | 10 | 3.5 | 7 | 7.5 | 7 |
| BISB | 6 | 9 | 7 | 7 | 10 | 7.8 | 8 |
| BMI | 5 | 7.5 | 8 | 10 | 9 | 7.9 | 9.5 |
| Ithmaar | 8 | 7.5 | 9 | 9 | 6 | 7.9 | 9.5 |

Due to its stunning performance throughout in all sub parameters KFH and KHCB secured first and second position respectively. NBB and Alsalam came 3rd and 4th respectively. BBK and AUB have taken 5th and 6th position .9th position is shared between BMI and Ithmaar.

This result has disproved the popular conception that conventional

banks perform better than the Islamic banks. 2 of the Islamic banks have done better than the oldest bank in Bahrain, NBB. Alsalam bank has taken over the other two conventional banks BBK and AUB.

In order to check whether there are significant differences in the Interbank performance of the selected bans under CAMEL, Single Factor ANOVA test was used to the check and validate the below hypothesis;

$H_0$: There are no significant differences in the inter-bank performance of selected banks under CAMEL parameters as against,

$H_a$: There are significant differences in the inter-bank performance of selected banks under CAMEL parameters.

| Anova: Single Factor | | | | | | |
|---|---|---|---|---|---|---|
| SUMMARY | | | | | | |
| Groups | Count | Sum | Average | Variance | | |
| Column 1 | 10 | 242.4103 | 24.24103 | 120.8741 | | |
| Column 2 | 10 | 401.5788 | 40.15788 | 550.4549 | | |
| Column 3 | 10 | 119.6358 | 11.96358 | 160.9949 | | |
| Column 4 | 10 | 17.95527 | 1.795527 | 0.402845 | | |
| Column 5 | 10 | 640.515 | 64.0515 | 517.541 | | |
| | | | | | | |
| ANOVA | | | | | | |
| Source of Variation | SS | df | MS | F | P-value | F crit |
| Between Groups | 24045.2 | 4 | 6011.3 | 22.25966 | 0.000034456 | 2.578739 |
| Within Groups | 12152.41 | 45 | 270.0535 | | | |
| | | | | | | |
| Total | 36197.61 | 49 | | | | |

Since the calculated value of F (22.25) is greater than the table value (critical value) (2.57), we reject the null hypothesis and accept the alternative hypothesis i.e., there are significant differences in the inter-bank performance of the selected banks under CAMEL parameters. The calculated P-value also reinforces the above statement.

**Intra performance analysis of Conventional banks under CAMEL**

The performance within the conventional and Islamic banks were carried out in order to see whether there are significant differences in their

performance to validates the high C.Vs of the sub-parameters under each of the parameters under CAMEL.

Among the conventional banks, due to its stellar performance NBB has stood first followed by BBK and AUB. BMI had to satisfy with 4th position. In order to check whether there are significant differences in the Intra-bank performance of the selected conventional banks under CAMEL, Single Factor ANOVA test was used to the check and validate the below hypothesis;

$H_0$: There are no significant differences in the intra-bank performance of conventional banks under CAMEL parameters as against,

$H_a$: There are significant differences in the intra-bank performance of conventional banks under CAMEL parameters.

| Anova: Single Factor | | | | | | |
|---|---|---|---|---|---|---|
| SUMMARY | | | | | | |
| *Groups* | *Count* | *Sum* | *Average* | *Variance* | | |
| Column 1 | 4 | 66.39259 | 16.59815 | 13.60686 | | |
| Column 2 | 4 | 137.6349 | 34.40873 | 89.8791 | | |
| Column 3 | 4 | 44.90338 | 11.22585 | 54.63493 | | |
| Column 4 | 4 | 7.265775 | 1.816444 | 0.037442 | | |
| Column 5 | 4 | 224.8232 | 56.20581 | 83.75533 | | |
| | | | | | | |
| ANOVA | | | | | | |
| *Source of Variation* | *SS* | *Df* | *MS* | *F* | *P-value* | *F crit* |
| Between Groups | 7422.477 | 4 | 1855.619 | 38.35292 | 0.00000107 | 3.055568 |
| Within Groups | 725.741 | 15 | 48.38273 | | | |
| | | | | | | |
| Total | 8148.217 | 19 | | | | |

Since the calculated value of F (38.35) is greater than the table value (critical value) (3.05), we reject the null hypothesis and accept the alternative hypothesis i.e., there are significant differences in the intra-bank performance of the conventional banks under CAMEL parameters. The calculated P-value also reinforces the above statement.

**Intra performance analysis of Islamic banks under CAMEL**

Among the Islamic banks, due to its persistent superior performance, KFH has achieved first position followed by KHCB, which competed for the coveted place and lagged behind by marginal points. Alsalam and Albaraka have taken 3rd and 4th position respectively pushing BisB and Ithmar to 5th and 6th.

In order to check whether there are significant differences in the Intra-bank performance of the Islamic banks under CAMEL, Single Factor ANOVA test was used to the check and validate the below hypothesis;

$H_0$: There are no significant differences in the intra-bank performance of Islamic banks under CAMEL parameters as against,

$H_a$: There are significant differences in the intra-bank performance of Islamic banks under CAMEL parameters.

| Anova: Single Factor | | | | | | |
|---|---|---|---|---|---|---|
| SUMMARY | | | | | | |
| *Groups* | *Count* | *Sum* | *Average* | *Variance* | | |
| Column 1 | 6 | 176.0177 | 29.33628 | 131.5244 | | |
| Column 2 | 6 | 263.9439 | 43.99066 | 892.8209 | | |
| Column 3 | 6 | 74.73237 | 12.45539 | 256.2842 | | |
| Column 4 | 6 | 12.66978 | 2.11163 | 0.55439 | | |
| Column 5 | 6 | 415.6918 | 69.28197 | 799.2473 | | |
| | | | | | | |
| ANOVA | | | | | | |
| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
| Between Groups | 16887.17 | 4 | 4221.791 | 10.14643 | 0.00000505 | 2.75871 |
| Within Groups | 10402.16 | 25 | 416.0863 | | | |
| | | | | | | |
| Total | 27289.32 | 29 | | | | |

Since the calculated value of F (10.14643) is greater than the table value, critical value (2.758), we reject the null hypothesis and accept the alternative hypothesis i.e., there are significant differences in the intra-bank performance of the Islamic banks under CAMEL parameters. The calculated P-value also reinforces the above statement.

**Summary of findings**

Based on the analysis it can be safely concluded that the selected Islamic and Conventional banks of Bahrain under study are adequately capitalized for their operations. KFH and KHCB have justified their top rank positions among their peers in the group by maintaining top positions in all the sub-parameters of composite capital adequacy.

The LLR/GL ratios of BMI, Ithmar, BisB and BBK categorically indicate that the loan portfolio of these banks require an immediate review and strict surveillance and monitoring.

All banks except for BMI, Ithmar, BisB have successfully reduced their impaired loans to gross ratio. There is a need for these three banks to scrutinize their loan portfolios more cautiously.

Alsalam bank performed very well in all sub-parameters. However, it has lagged in recurring earning power, which is a quintessential variable determining the growth levels of banks.

The mean CTI ratio for the group was 63.49 percent. It implies that 36.51 percent was the contribution towards fixed charges and other margins. It can be considered as highly satisfactory. A noteworthy observation is that conventional banks have been able to perform better than Islamic banks in this particular sub-parameter, hence their management techniques can be a lessons for the Islamic banks.

There were wide variations across the banks as well as in intra performance in most sub-parameters. Though it is reassuring for the regulator to know that the chances of bank run and panic are minimum, the wide variations could be a cause of concern for the regulator. The variations could be a topic of further studies.

Islamic banks like KFH, KHCB and Alsalam have recorded stunning performances in most of the parameters in the analysis and the last three positions went to BMI, BisB and Ithmar, which did not register their presence throughout in any of the parameters. The banking practices for the leading banks should be a lesson for the other banks. Moreover it is imperative to check the reasons behind their unsatisfactory performance in

spite of working under the same socio-economic-political-regulatory framework.

Islamic banks like KFH, Alsalam and KHCB need to be appreciated for maintaining high asset quality in spite of working in the same business environment as their peers. The banking practices of KFH should be a lesson for other members in the group.

Since Ithmar's CTI ratio is the maximum, it has to critically review its cost structure and take measures to control it. In this connection the cost control measures of the AUB should be a lesson for other members in the group.

After the advent of e-banking and internet banking any amount can be transferred from one bank to another within a fraction of seconds. Therefore there is no need to keep excess liquidity, (instead the amount can be invested profitably) and whenever need arises JIT (Just-in-Time) model be used to meet the customers demand for cash.

The mean IL/E ratio for the banks under study was 42.45 percent which is high as per the bank Management standard. The reason for such high ratio should be an area for further study. One of the major reasons for this high ratio is due to BisB, BMI and Ithmar banks, all of which have a very high IL/E as per the required standards. If we exclude, the low performers, then the mean score for the rest of the banks would be just 9.1% which denotes the enormity of the situation.

KFH, KHCB and NBB have demonstrated a spectacular performance throughout the analysis. Except for liquidity, KFH has commanded a stunning performance in all other sub-paramers. Asset quality of KHCB can be a cause of concern for its management during the long-term; hence a strict monitoring is necessary. Though it has topped among other conventional banks, NBB has been pushed to 4th position in capital adequacy when compared with other top performers. Alsalam bank had a performed well in all parameters, however, there is room for improvement under the management efficiency parameter.

AUB and BBK's position with respect to capital adequacy can be a

cause of concern for the regulator.

NBB needs to be little careful regarding its lending decisions as in some of the significant sub-parameters like loan loss reserve to gross loans LLP/NIR, impaired loans to equity and cost to income, its performance was very low compared to its peers. Though it is understandable that NBB cannot be completely profit driven in its operations especially lending, compromising quality and efficiency in the current scenario will be costly in the long run.

Through-out the CAMEL analysis, Albaraka, BisB, BMI and Ithmar in the group couldn't ensure their presence in any of the parameters or sub-parameters.
In most of the ratios, Ithmar has continuously been pushed to $6^{th}$ position.

Overall there are significant differences in the performance across the banks in CAMEL parameters even though they work under the same socio-economic-political-legal and regulatory framework.

Though the selected conventional and Islamic banks work under the same framework there are marked differences in the intra as well as interbank performances. The empirical results based on CAMEL ranking as well as statistical study based on ANOVA, validates this preposition.


**Conclusion, suggestion and areas for further research**

The present study is an attempt to examine the financial performance of selected conventional and Islamic Retail banks using CAMEL framework in order to assess the efficiency of these major banks in Kingdom of Bahrain.

It is an exploratory study conducted with special reference to selected 10 retail commercial banks. Comprehensive review of literature has enabled the researcher to identify the following research gaps:

The conclusions derived by the earlier researchers were contradictory to each other.

Parameters and sub-parameters chosen to measure efficiency were not uniform.

Most of the earlier studies which have adopted CAMEL framework,

used absolute values to measure financial performance thus distorting the results and

To resolve the above issues and to smooth the inconsistencies, this study has been undertaken.

The study through the CAMEL ranking system has inferred that contrary to earlier findings in the rest of the world, Islamic Banks performed well in all of the parameters and sub-parameters. Except for NBB, other conventional banks like BBK, AUB couldn't compete with the Islamic banks and throughout the analysis BMI was pushed to low ranks.

**Inferences drawn**

What are the indicators of financial performance and what are the models used to measure it?

Financial performance can be gauged by measuring efficiency. CAMEL rating or ranking methods are used to measure financial performance. Current study has used CAMEL ranking method.

Were there any significant differences in the inter-group and intra-group financial performance of Conventional vis-à-vis Islamic banks with reference to CAMEL ratios? (within the groups and across the groups)

As detailed out in section 5, there are significant differences in the inter as well as intra performances of the banks under study.

What are the suggestions and recommendations for policy formulations?

Detailed in section 6.2

**Suggestions and Recommendations**

BMI, Ithmar, BisB and Albaraka should critically review their loan portfolio, assess the credit worthiness of its borrowers and try to reduce their LLP/GL, IL/GL and IL/E ratios.

KFH and Alsalam need to be appreciated for maintaining high asset quality in spite of working in the same business environment as its peers do. The banking practices of these banks should be a lesson for other members

in the group.

An area of Improvement for the Islamic banks is CTI ratio, they need to critically review their cost structure and measures taken to control it. In this connection the cost control measures of the AUB, NBB and BBK should be a lesson for other members in the group.

Banks keeping high liquidity has both merits and drawbacks. After the advent of e-banking and internet banking any amount can be transferred from one bank to another within a fraction of seconds. Therefore there is no need to keep excess liquidity, (instead the amount can be invested profitably) and whenever need arises JIT (Just-in-Time) model be used to meet the customers demand for cash.

In this connection there are two diametrically opposite views regarding the quantum of liquid Assets (conservative school advocating higher ratio to meet the customers demand for cash) whereas the Neo-Banking school advocating the use of e-transactions to meet the customer's demand for cash (JIT model) and more profitable investment of the excess liquidity to earn higher income.

Small banks with respect to asset size like KHCB, KFH and Alsalam performed much better than big banks like AUB and Albaraka. It will be interesting for the management to check whether this adverse performance is attributed by the advent of scales diseconomies.


**Directions for Further Research**

The mean IL/E ratio for the group was 42.45 percent which is high as per the bank Management standard. The reason for such high ratio should be an area for further study.

Wide variations across and within the banks in the CAMEL sub parameters should be an area for further study. It is interesting to note that the variations in making provision for the loan loss across the banks were more pronounced thus indicating differing perception of the individual banks regarding loan loss. The reasons for such higher provision may be an area for further research.

Cost reduction is one of the best generic strategies and hence the cost model of the AUB, NBB and BBK was really fascinating and therefore it should be a lesson for some of the Islamic banks.

It is encouraging to note that in 5 out of 10 banks, LLR/GL ratio was around 3 percent. But in case of BMI (9.2 percent), Ithmar (8.7 percent), BBK (5.1 percent), the loan loss perception was higher. The reasons for the higher proportion of doubtful loan should be an area for further study.

In a conservative system, net placer of funds was considered more liquid and in a liberalized regime, need based liquidity might be more appropriate than excessive locking up of funds in anticipation of demand for cash (liquidity). With so much advancement in e-transactions and net banking the second method viz: JIT (Just in time) appears to be more efficient and profitable than the conventional system. The trade-off between liquidity and profitability of the two different systems may be an area for further research.

It is evident from the analysis that the Islamic banks have outperformed the conventional banks which reinforces the conclusions already drawn in section 5 that there are significant differences in the intra and inter performance of Islamic and Conventional banks in kingdom of Bahrain. In spite of working under the same framework there are marked differences in the intra as well as interbank performances of the conventional and Islamic banks under study. The empirical results based on CAMEL ranking as well as statistical study based on ANOVA, validates this preposition. This result has disproved the popular conception that conventional banks perform better than the Islamic banks. 2 of the Islamic banks have done better than the oldest bank in Bahrain, NBB as well as other conventional banks under study. Alsalam bank has better performed than the BBK and AUB. Thus contrary to conclusions drawn in other studies by Samad, Hasan, Maher Mohammed, Dirdi and Rosnia, in Bahrain, Islamic banks have better performed than the conventional banks.

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## Appendix 1

Table 1. Capital Adequacy Table:

| Composite Capital Adequacy | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | T C R | | T 1 R | | E/TA | | E/NL | | E/TL | | Overall Rank | |
| | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank |
| Retail Banks | | | | | | | | | | | | |
| KHCB | 33.3 | 1 | 37.3 | 1 | 27.8 | 1 | 72.8 | 3 | 41.5 | 1 | 1.4 | 1 |
| Al Salam | 22.1 | 4 | 23.5 | 3 | 23.4 | 3 | 93.0 | 1 | 30.9 | 3 | 2.8 | 2 |
| KFH | 23.0 | 3 | 17.8 | 4 | 24.5 | 2 | 59.6 | 4 | 34.5 | 2 | 3.0 | 3 |
| NBB | 26.4 | 2 | 23.8 | 2 | 12.1 | 6 | 32.4 | 5 | 13.8 | 6 | 4.2 | 4 |
| BMI | 17.9 | 5 | 17.6 | 5 | 12.5 | 5 | 21.7 | 8 | 14.7 | 5 | 5.6 | 5 |
| BISB | 13.2 | 8 | 10.8 | 8 | 14.0 | 4 | 26.3 | 6 | 17.0 | 4 | 6.0 | 6 |
| Albaraka | N/A | 10 | N/A | - | 10.6 | 9 | 73.7 | 2 | 11.9 | 9 | 6.7 | 7 |
| Ithmaar | 12.8 | 9 | 12.1 | 7 | 11.1 | 7 | 25.3 | 7 | 12.5 | 7 | 7.4 | 8 |
| AUB | 15.3 | 7 | 10.3 | 9 | 10.8 | 8 | 19.7 | 9 | 12.4 | 8 | 8.2 | 9 |
| BBK | 17.4 | 6 | 13.1 | 6 | 9.9 | 10 | 18.7 | 10 | 11.3 | 10 | 8.4 | 10 |
| Average | 20.2 | | 18.5 | | 15.7 | | 44.3 | | 20.0 | | | |
| Standard Deviation | 6.73 | | 8.69 | | 6.77 | | 27.63 | | 11.17 | | | |
| Coefficient of Variation | 33.38 | | 47.07 | | 43.22 | | 62.34 | | 55.72 | | | |

Table 2. Asset Quality Table:

| Composite Asset Quality | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LLR/GL | | LLP/NIR | | LLR/IL | | IL/GL | | IL/E | | Group Rank | |
| | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank |
| Retail Banks | | | | | | | | | | | | |
| Al Salam | 0.9 | 1 | 56.7 | 7 | 75.8 | 4 | 1.7 | 1 | 2.6 | 1 | 2.8 | 2 |
| KFH | 2.5 | 3 | 2.5 | 2 | 322.9 | 1 | 3.0 | 3 | 4.6 | 2 | 2.2 | 1 |
| NBB | 2.5 | 4 | 5.5 | 3 | 109.1 | 3 | 4.1 | 4 | 10.6 | 3 | 3.4 | 3 |
| Khaleeji | 4.9 | 6 | -12.2 | 1 | 72.2 | 5 | 7.1 | 5 | 16.1 | 5 | 4.4 | 5 |
| AUB | 2.9 | 5 | 24.1 | 6 | 130.1 | 2 | 2.2 | 2 | 11.8 | 4 | 3.8 | 4 |
| BBK | 5.1 | 8 | 19.6 | 5 | 72.0 | 6 | 7.4 | 6 | 42.2 | 6 | 6.2 | 6 |
| BISB | 4.9 | 7 | 78.4 | 9 | 35.9 | 9 | 21.8 | 9 | 140.7 | 9 | 8.6 | 9 |
| BMI | 9.2 | 10 | 67.1 | 8 | 66.2 | 7 | 14.9 | 7 | 81.5 | 8 | 8.0 | 7.5 |
| Ithmaar | 8.7 | 9 | 274.4 | 10 | 54.0 | 8 | 15.9 | 8 | 71.8 | 7 | 8.4 | 7.5 |
| Albaraka | 2.3 | 2 | 18.5 | 4 | - | 10 | - | - | - | - | - | 10 |
| Average | 4.39 | | 53.46 | | 104.23 | | 8.68 | | 42.45 | | | |
| Standard Deviation | 2.76 | | 83.05 | | 86.62 | | 7.18 | | 47.06 | | | |
| Coefficient of Variation | 62.96 | | 155.34 | | 83.10 | | 82.75 | | 110.87 | | | |

Table 3.  Management Efficiency Table:

| Composite Management Efficiency | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | REP | | NOI/NI | | E/TA | | OP/RWA (%) | | CTI | | Group Rank | |
| | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank |
| Retail Banks | | | | | | | | | | | | |
| AUB | 2.1 | 5 | -12.8 | 4 | 10.8 | 8 | 1.8 | 3 | 32.3 | 1 | 4.2 | 4 |
| BBK | 2.3 | 3 | -24.3 | 3 | 9.9 | 10 | 1.7 | 5 | 43.9 | 3 | 4.8 | 5 |
| NBB | 2.2 | 4 | -4.6 | 5 | 12.1 | 6 | 1.8 | 3 | 34.5 | 2 | 4.0 | 3 |
| BMI | 0.6 | 8 | 17.5 | 10 | 12.5 | 5 | -0.9 | 7 | 81.1 | 8 | 7.6 | 8 |
| BISB | 1.9 | 6 | 13.1 | 8 | 14.0 | 4 | -1.4 | 9 | 64.2 | 6 | 6.6 | 7 |
| Albaraka | 0.2 | 9 | 15.3 | 9 | 10.6 | 9 | - | - | 93.3 | 9 | 9.0 | 10 |
| Khaleeji | 3.1 | 1 | -101.0 | 2 | 27.8 | 1 | 2.2 | 2 | 73.2 | 7 | 2.6 | 2 |
| KFH | 2.6 | 2 | -156.8 | 1 | 24.5 | 2 | 2.5 | 1 | 57.4 | 5 | 2.2 | 1 |
| Al Salam | 1.8 | 7 | 8.8 | 7 | 23.4 | 3 | 1.0 | 6 | 52.5 | 4 | 5.4 | 6 |
| Ithmaar | 0.0 | 10 | -2.8 | 6 | 11.1 | 7 | -0.9 | 8 | 102.5 | 10 | 8.2 | 9 |
| Average | 1.66 | | -24.76 | | 15.67 | | 0.85 | | 63.49 | | | |
| Standard Deviation | 1.06 | | 57.97 | | 6.77 | | 1.52 | | 23.98 | | | |
| Coefficient of Variation | 63.56 | | -234.12 | | 43.22 | | 177.68 | | 37.76 | | | |

Table 4. Earning Quality Table:

| Composite Earning Quality | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NIM | | NIR/AA | | OOI/AA | | ROAA | | NIE/AA | | Group Rank | |
| | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank |
| Retail Banks | | | | | | | | | | | | |
| AUB | 2.2 | 8 | 2.0 | 7 | 1.1 | 8 | 1.4 | 6 | 1.5 | 2 | 6.2 | 8 |
| BBK | 2.8 | 3 | 2.4 | 3 | 1.5 | 5 | 1.5 | 5 | 2.2 | 4 | 4.0 | 2 |
| NBB | 2.6 | 5 | 2.5 | 2 | 0.9 | 9 | 2.0 | 2 | 1.3 | 1 | 3.8 | 1.5 |
| BMI | 2.5 | 7 | 2.3 | 5 | 0.8 | 10 | -1.2 | 10 | 4.1 | 10 | 8.4 | 10 |
| BISB | 2.6 | 4 | 2.4 | 4 | 1.6 | 4 | -0.4 | 8 | 3.9 | 9 | 5.8 | 7 |
| Albaraka | 3.7 | 2 | 1.4 | 8 | 1.3 | 6 | -0.1 | 7 | 2.9 | 5 | 5.6 | 3.5 |
| Khaleeji | 5.3 | 1 | 4.7 | 1 | 1.3 | 7 | 1.9 | 3 | 3.1 | 7 | 3.8 | 1.5 |
| KFH | 2.6 | 6 | 2.2 | 6 | 3.4 | 1 | 2.3 | 1 | 3.0 | 6 | 4.00 | 2 |
| Al Salam | 1.6 | 9 | 1.2 | 9 | 2.2 | 3 | 1.6 | 4 | 2.0 | 3 | 5.6 | 3.5 |
| Ithmaar | 0.1 | 10 | 0.1 | 10 | 2.7 | 2 | -0.8 | 9 | 3.6 | 8 | 7.8 | 9 |
| Average | 2.6 | | 2.1 | | 1.7 | | 0.8 | | 2.7 | | | |
| Standard Deviation | 1.32 | | 1.18 | | 0.84 | | 1.28 | | 0.97 | | | |
| Coefficient of Variation | 50.69 | | 55.06 | | 49.98 | | 159.40 | | 35.46 | | | |

Table 5. Liquidity Table:

| | IBR | | NL/TA | | NL/TDB | | LA/TSF | | LA/TD & B | | Group Rank | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank | Average | Rank |
| **Retail Banks** | | | | | | | | | | | | |
| AUB | 68.4 | 8 | 54.7 | 7 | 64.3 | 7 | 22.4 | 7 | 21.4 | 3 | 6.4 | 8 |
| BBK | 100.9 | 7 | 53.3 | 6 | 61.7 | 5 | 25.8 | 6 | 22.9 | 4 | 5.6 | 5 |
| NBB | 146.7 | 4 | 40.7 | 2 | 46.6 | 2 | 27.2 | 5 | 27.2 | 5 | 3.6 | 2 |
| BMI | 144.8 | 5 | 58.7 | 9 | 69.7 | 8 | 34.7 | 4 | 32.1 | 8 | 6.8 | 9 |
| BISB | 132.4 | 6 | 55.4 | 8 | - | 10 | 21.5 | 8 | - | - | 7.3 | 10 |
| Albaraka | 404.4 | 1 | 63.9 | 10 | 72.9 | 9 | 18.9 | 10 | 13.8 | 1 | 6.2 | 7 |
| KHCB | 168.4 | 3 | 42.8 | 4 | 64.0 | 6 | 38.6 | 3 | 29.9 | 6 | 4.4 | 3 |
| KFH | 55.4 | 9 | 40.9 | 3 | 61.1 | 4 | 47.7 | 2 | 30.8 | 7 | 5.0 | 4 |
| Al Salam | 198.6 | 2 | 27.7 | 1 | 36.6 | 1 | 73.3 | 1 | 72.5 | 9 | 2.8 | 1 |
| Ithmaar | 34.6 | 10 | 43.8 | 5 | 51.2 | 3 | 19.0 | 9 | 18.8 | 2 | 5.8 | 6 |
| **Average** | 145.5 | | 48.2 | | 58.7 | | 32.9 | | 29.9 | | | |
| **Standard Deviation** | 104.84 | | 10.84 | | 11.65 | | 16.99 | | 17.08 | | | |
| **Coefficient of Variation** | 72.07 | | 22.49 | | 19.85 | | 51.64 | | 57.08 | | | |