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Bank-Specific and Macroeconomic Determinants of Bank Profitability: Evidence from Kuwaiti Banks

Husain Y. Alyousef
Accounting Department, Kuwait University
E-mail: halyousef@cba.edu.kw

Rula O. Saffouri
Accounting Graduate Student, Kuwait University
E-mail: rula.saffouri@grad.ku.edu.kw

Ahmad F. Alqassar
Accounting Department, Kuwait University
E-mail: a.alqassar@cba.edu.kw

Abstract

This paper examines bank specific and macroeconomic determinants of bank profitability in Kuwait. The data was collected for ten banks; five Islamic and five non-Islamic banks for the period from 2009-2016. Profitability is measured by Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q ratio as functions of bank specific and macroeconomic determinants. Results show that Islamic banks have higher profitability than non-Islamic banks. Bank diversification toward non-interest income has a significant positive relation with bank profitability. Asset quality and expense management are other significant factors affecting bank profitability; higher NPA and Operating Expenses affect profitability adversely. Interest income which is the traditional income for banks has a significant positive correlation on bank profitability. Under Tobin's Q model, there is a negative relationship between inflation and bank profitability.

Keywords: Return on Assets, Return on Equity, Tobin's Q; Conventional and Islamic Banks, determinations of bank profitability; Kuwait Banking System

1. Introduction

An efficient banking system is vital for a strong financial market and growing economy. Banks function as the intermediary for money supply of an economy by creating a monetary channel between borrowers and savers in an effective manner. By matching supply and demand of money markets, they help to create an efficient economy. Moreover, the latest financial crisis drew attention to the importance of a stable banking system in ensuring a steady economy that can overcome economic downturns. Due to the importance of banks in an economy, we wanted to study the determinants of banks profitability in Kuwait.

The Kuwaiti banking industry is characterized as a strong sound system conserved by tough government support. Central Bank of Kuwait (CBK) plays an important role in maintaining a solid financial situation and ensuring banks compliance with its firm laws. There is strong competition among local banks. On the other hand, CBK enforces strict rules that in turn constrains startups entry to the market and limits foreign competition. There are ten banks in Kuwait; five Islamic banks and

five conventional (non-Islamic) banks. All ten banks are listed in Kuwait Stock Exchange. Recently, Kuwait Stock Exchange has been upgraded from a frontier market to a secondary emerging market by FTSE effective on September 2018. This upgrade increases transparency and creditability of Kuwait's market creating efficient trading which in turn is expected to boost foreign investment in Kuwait's market. As a result, it is predicted that Kuwaiti Banks will attract additional investments which again emphasizes on the significance of this study.

Determinants of bank profitability can be categorized as either internal or external. Internal determinants are factors that are within the control of the bank's management, whereas external determinants are factors that are beyond the management's control and effect the whole economy.

Although previous papers studied the determinants of bank profitability in developed countries' banks, research in this area is scarce with regard to developing countries. Moreover, to the best of our knowledge, this is the first paper that studies determinants of bank profitability in Kuwait.

Even though it is obvious that the banking sector of developing countries is less stable relative to that of developed countries (Beck & Rahman, 2006; Sufian & Habibullah, 2009; Uddin & Suzuki, 2011; Rahman et al., 2015), it is unknown whether banks' profitability in developing countries are effected by the same factors. It is also worth noting that this study provides a unique opportunity to study the effect of Islamic banking on profitability due to the significant presence of Islamic banks in the Kuwaiti banking sector.

This study analyzes the internal and external determinants of bank profitability of all Kuwaiti banks between 2009 and 2016. Three models were constructed to test the effect of six bank specific factors (internal factors) and two macroeconomic factors (external factors) on ROA and ROE, and Tobin's Q. The results show that bank specific factors have a stronger effect on bank profitability relative to macroeconomic factors. Moreover, results of the ROA and ROE models show a significant relationship between five of the bank specific variables and bank profitability. On the other hand, no significant relationship was found between macroeconomic factors and bank profitability, nor between bank size and bank profitability in Kuwait under the two models. Finally, the Tobin Q model confirmed that Islamic banks are significantly correlated with bank profitability and are thus considered more profitable than conventional banks in Kuwait.

The contribution of this paper is twofold. First, it studies whether internal and external bank factors have the same effect on bank profitability in developing countries as in developed countries. Second, it studies the relationship between Islamic banking and bank profitability. An area that is relatively under-researched given the significance of Islamic banking in the region. The findings of this study may aid local banks in identifying the crucial factors that influence their profitability and may be useful to foreign banks who are competing or considering to compete in the Kuwaiti banking sector.

The paper is structured as follows. Section II of this paper discusses the previous work related to this study. Section III presents the data and research methodology used. Section IV explains the empirical results. Section V, final section, is the conclusion for our findings.

2. Literature Review and Previous Studies

Although there has been little research done on the determinants of banks profitability in Kuwait, there has been several important studies done on country-specific level in addition to studies of observations from several countries. These studies have supported the fact that banks profitability, normally measured by Return on Assets (ROA), is affected by bank specific determinants. Some of which are bank size, expense management, diversification, asset quality, traditional income (interest income). In addition, to several macroeconomic determinates including economic growth and inflation.

There has been mixed results on the relationship between bank size and bank profitability. Some found results supporting the theory of economies of scale in which profitability would increase with the increase of size. Country-specific studies of banks in Turkey, Ukraine, Bangladesh, and Greece have found significant positive relationship between size and profitability (Alper and Anbar,

2011; Davydenko, 2011; Rahman, Hamid, and Khan, 2015; Kosmidou, 2008). Another study sampling 110 Islamic banks in 25 different countries also indicated that economies of scale exists within these Islamic banks (Alharbi, 2017). In contrast, other studies indicated a significant negative relationship between size and profitability. Kosmidou, Tanna, and Pasiouras (2005); Sufian and Chong (2008); Sufian and Habibullah (2009); Ramadan, Kilani, and Kaddumi (2011); Javaid, Anwar, Zaman and Gafoor (2011); Obamuyi (2013) have found the existence of diseconomies of scale in their research sample from UK, Philippines, China, Jordan, Pakistan, and Nigeria respectively. Another study of domestic and foreign banks in the 15 European Union countries supported the studies that found diseconomies of scale for larger banks (Pasiouras and Kosmidou, 2007). Diseconomies of scale has been explained by the rise of bureaucratic procedures and managerial inefficiencies as financial institutions get extremely large.

Previous studies have concluded that expense management is one of the most significant indicators of banks' profitability. Different studies used different proxies for expense management. Guru, Staunton, and Shanmugam (1999) used total expenditure divided by total assets to indicate the significant negative relationship between expense management and profitability. Davydenko (2011) used administrative costs divided by total assets in support of the importance of expense management. Obamuyi (2013) used operating expenses divided by total assets which also resulted in a significant negative relationship. This is majorly explained by the bank's inability to pass expenses to customers and lack of operating efficiency which can be improved by reducing costs of operations.

Diversification toward non-interest income is another important internal determinant that can affect bank profitability. Existing literature on country-specific samples indicated that diversification toward non-interest income such as revenue from fees and commissions has a significant positive relationship with profitability (Sufian and Chong, 2008; Sufian and Habibullah, 2009; Olweny and Shipho, 2011; Alper and Anbar, 2011; Rahman, Hamid, and Khan, 2015). These includes studies on banks of Philippines, china, Kenya, Turkey and Bangladesh. Olweny and Shipho (2011) emphasize that diversification is highly significant in large and small banks. A study of Indian banks has found out that non-interest income is of highest significance in foreign banks followed by private sector banks and then public sector banks due to diversification in new business units (Singh, 2010).

Asset quality is another bank-specific determinant that influence profitability. Singh (2010), reported results of significant negative relationship between non-performing assets to total assets ratio (NPA) and profitability. This means the higher NPA the bank has, the lower profits it will make. This finding is also supported by Olweny and Shipho's (2011) study of Kenyan banks in which they note that large banks have higher asset quality than smaller banks. Asset quality can be improved by enhancement of the screening of credit customers and monitoring of credit risk (Olweny and Shipho's, 2011).

Little literature exists on the effect of interest income on banks' profitability when other bank-specific and macroeconomic determinates are considered. Interest income is the traditional income for banks. Singh (2010) indicated a positive relationship between interest income and bank profitability significant at five percent level for Indian banks; however, he indicated no significant relationship found for foreign banks operating in India.

There is a significant amount of literature on the effects of macroeconomic determinants on banks' profitability. The two major determinants are economic growth and inflation which are measured by GDP and CPI respectively. Several country-specific studies supports the argument that economic growth positively affects the performance of the financial sector (Kosmidou, Tanna, and Pasiouras, 2005; Sufian and Chong, 2008; Sufian and Habibullah, 2009; Davydenko, 2011). Davydenko (2011) explains that with better economic growth, banks have better collections, thus, creating new loans for customers. Ben-Khedhiri and Ben Khediri (2009) has also reported a positive relationship between economic growth and profitability with their sample of forty banks from ten countries in the MENA region including Kuwait.

There is a mixed relationship between inflation and banks' profitability in previous studies. Guru, Staunton, and Shanmugam (1999) indicated that there is a positive relationship between inflation and bank's profitability. They explain their results by the good prediction of inflation rates by management. In contrast, a study of commercial banks of Pakistan resulted in a significant negative relationship between inflation and profitability (Ali, Akhtar and Ahmed, 2011).

Finally a recent study by Hewaidy & and Alyousef (2018) studied bank specifics and country specific factors impact on Capital Adequacy Ratio (CAR), their findings suggests that CAR tends to be more affected by how efficient bank resources are utilized than by any other bank characteristic or macroeconomic variable.

3. Research Objective, Questions, and Hypothesis

3.1. Research Objectives

As mentioned earlier, the recent financial crisis has drawn attention to the importance of a strong and stable banking systems. Because of banks' essential role in controlling economic activity, understanding the determinants of bank's profitability has been an interest in present literature. No earlier study has been done for Kuwait's banking system. The objective of this study is to determine and analyze the bank-specific and macroeconomic determinants of banks' profitability of Kuwaiti Banks. The recent upgrade of the Kuwait Stock Exchange from a frontier market to a secondary emerging market by FTSE emphasizes on the importance of such study as Kuwaiti banks holds a major market share of the Kuwait Stock Exchange.

3.2. Research Questions

Based on the research objective, this study intends to answer the following questions:

1. Is there a relationship between each of the bank-specific factors and profitability of Kuwaiti banks measured by ROA, ROE, and Tobin's Q?
2. Is there a relationship between each of the macroeconomic factors and profitability of Kuwaiti banks measured by ROA, ROE, and Tobin's Q?

In order to achieve the research objective and to answer these questions, data from annual reports of all Kuwaiti banks (five conventional banks and five Islamic banks) were collected for the period from 2009 to 2016.

3.3. Variable Definition and Research Hypothesis

Three models were constructed using three different dependent variables for banks' profitability. Profitability was measured by accounting-based measurements; Return on Assets (ROA) and Return on Equity (ROE), and by using market-based measurement (Tobin's Q). Independent variables consist of eight variables; two macroeconomic variables and six bank-specific variables which are discussed in detail in this section. A list of variables is summarized in Table 1. Gross Domestic Product (GDP) and Consumer Price Index (CPI) are the two macroeconomic variables used in this study. Bank-specific variables used in this study are: size of the bank, bank's diversification, operating profit, expense management, asset quality, and the categorical variable Islamic vs. conventional bank.

Dependent Variables

The dependent variable for this paper is profitability. Three models were constructed using three different measures for profitability; two accounting-based measurements, Return on Assets (ROA) and Return on Equity (ROE) and one market-based measurement, Tobin's Q. The three profitability measures are discussed below.

Return on Assets (ROA)

Return on Assets (ROA) is the dependent variable used to measure probability in the first model. Return on Assets (ROA) is calculated as Net Profit divided by Total Assets. ROA reflects how profitable a company is relative to its total assets. In other words, it shows how efficient management is at using its assets to generate earnings. ROA is used to evaluate the competence and operational performance of banks (Rahman, Hamid & Khan, 2015; Jahan, 2012; Golin, 2011). ROA has been the most commonly used indicator of profitability in previous literature. Some studies have claimed ROA as a better indicator than other profitability indicators (Hasan and Bashir, 2003). More specifically, Rivard and Thomas (1997) explained that ROA is better than ROE because of its independence of leverage. As a result, ROA is used as the main dependent variable in this study.

Return on Equity (ROE)

Return on Equity (ROE) is the dependent variable used to measure profitability in the second model. Return on Equity (ROE) is calculated as Net Profit divided by Shareholders' Equity. ROE measures earnings relative to the amount invested by shareholders. In other words, it shows how efficient management is at maximizing return to shareholders based on their investment. Although ROE was not indicated as the best measure of profitability in the literature (Rahman, Hamid & Khan, 2015; Dietrich & Wanzenried, 2011), results using ROE would still add value to the study taking consideration the leverage and amount of equity the bank has.

Tobin's Q

Tobin's Q ratio is the third profitability measure used in this study as a Market-based measurement. It is measured as Total Market Value divided by Total Assets. The upgrade of Kuwait's market as a secondary emerging market highlights the need to use market measures in addition to accounting measures. Tobin's Q is considered a good indicator capturing future growth opportunities and long-term financial performance as expected by the stock market (Aivazian et al., 2005; Alyousef 2010).

Independent Variables and Hypothesis

Previous studies have used linear regression model to test the correlation between bank profitability and bank specific and macroeconomic variables. In this paper, the six bank specific variables used are size of the bank (natural log of total assets; LNTA), operating profit (interest income over total assets; II/TA), bank's diversification (non-interest income over total assets; NII/TA), asset quality (nonperforming assets over total assets; NPA/TA), expense management (operating expenses over total assets; OEXP/TA), and the categorical variable Islamic vs. conventional banks. In additional to bank specific variables, two other macroeconomic variables were used; economic growth (the log of Gross Domestic Product; LogGDP) and inflation measured by Consumer Price Index (CPI).

Bank Size (LNTA)

The natural log of total assets (LNTA) is used in the study as a measure of size to indicate the existence of economies of scale. As indicated in the literature review section, there are mixed results regarding the relationship between bank size and profitability of a bank. A positive relationship indicates the presence of economies of scale. On the other hand, a negative relationship indicates diseconomies of scale that might have resulted from high risks associated with increased diversification. In our research paper we have tested the following hypothesis regarding the proxy of bank size:

H1: There is a significant relationship between bank size and bank profitability

Bank Diversification (NII/TA)

Non-interest income over total assets (NII/TA) is used as a measure of bank diversification. NII/TA is basically a measure of non-traditional income of a bank. As indicated in the literature review section, most studies have found a positive significant relationship between bank diversification and bank

profitability (Sufian and Chong, 2008; Sufian and Habibullah, 2009; Olweny and Shipho, 2011; Alper and Anbar, 2011; Rahman, Hamid, and Khan, 2015). In our research paper we have tested the following hypothesis regarding the proxy of bank diversification:

H2: There is a significant relationship between bank diversification and bank profitability

Operating Profit (II/TA)

Interest income over total assets (II/TA) is used to measure the operating profit of a company that results from a bank's traditional income. Interest income is the main source of revenue for banks and therefore it is expected to have a positive relationship with bank's profitability as has been indicated by Singh (2010). It is important to note that little literature exists on the effect of interest income on bank's profitability. In our research paper we have tested the following hypothesis regarding the proxy of bank's interest income:

H3: There is a significant relationship between bank operating profit and bank profitability

Expense Management (OEXP/TA)

Operating expenses over total assets (OEXP/TA) is used to measure expense management of banks. Non-interest expense consists of staff expenses, other administrative expenses, depreciation, amortization, bad debt expense, impairment losses and taxes. Banks, like all other businesses, aim to minimize their operating expenses to maximize their profits. A lower operating expense represents more efficient operations. As indicated in the literature review section, most studies have found a negative significant relationship between bank operating expenses and bank profitability (Davydenko, 2011; Obamuyi 2013). In our research paper we have tested the following hypothesis regarding the proxy of bank operating expenses:

H4: There is a significant relationship between bank expense management and bank profitability

Asset (Credit) Quality (NPA/TA)

Non-performing assets over total assets (NPA/TA) is used to measure credit quality or asset quality of banks. A lower NPA/TA ratio, indicates a less risky environment and good control of lending operations. NPA/TA is expected to have a negative significant relationship with bank profitability as have been indicated in previous studies by Singh (2010) and Olweny and Shipho's (2011). In our research paper we have tested the following hypothesis regarding the proxy of bank asset quality or credit quality:

H5: There is a significant relationship between bank asset quality and bank profitability

Islamic Vs. Conventional Bank (Islamic)

The categorical variable Islamic vs. non-islamic bank (conventional) is used as the sixth bank specific variable. It is expected that Islamic bank variable will have a positive significant relationship with bank profitability. This is based on the fact that the regulations in Kuwait allow certain services to be provided only by Islamic banks. It is also based on the general belief that Muslims prefer Islamic banks over conventional banks. In our research paper we have tested the following hypothesis regarding the proxy of Islamic vs. conventional bank:

H6: There is a significant relationship between type of bank (Islamic vs. conventional) and bank profitability

Macroeconomic Variables (LogGDP, CPI)

Previous literature suggests that bank's profitability is affected by macroeconomic factors. Generally speaking, all industries are affected by the economic conditions of the countries they are operating in. Gross Domestic Product, measured by log of GDP (logGDP) and Consumer Price Index (CPI) are the two macroeconomic control variables used in this study. GDP is the most commonly used

macroeconomic indicator for measuring the economic activity of a specific country. It affects supply and demand and is expected to affect bank profitability positively. In general, better economic growth allows banks to lend more and charge higher rates to their customers which result in an increase in profits. Consumer Price Index (CPI) measures inflation or deflation in a country for a specific period of time. There are mixed results in the literature regarding inflation's effect on bank profitability. In our research paper we have tested the following hypothesis regarding the macroeconomic factors:

H7: There is a significant relationship between economic growth and bank profitability

H8: There is a significant relationship between inflation and bank profitability

Table 1: List of Variables

Variables	Abbreviation	Definition	Expected Correlation
Return on Assets	ROA	Net profit divided by total assets	
Return on Equity	ROE	Net Profit divided by shareholders' equity	
Tobin's Q	TQ	Total market value divided by total assets	
Bank Size	LNTA	Natural log of total assets	Positive
Diversification	NIITA	Non-interest income over total assets	Positive
Operating Profit	IITA	Interest income over total assets	Positive
Expense Management	OEXPTA	Operating expenses over total assets	Negative
Asset or Credit Quality	NPATA	Non-performing assets over total assets	Negative
Islamic Vs. Conventional	Islamic	Islamic vs. conventional	Positive (Islamic)
Economic Growth	LogGDP	log of GDP	Positive
Inflation	CPI	CPI	Positive

4. Data Collection and Methodology

Kuwait's ten banks that are sampled consist of five Islamic banks and five non-Islamic banks sampled for the period from 2009-2016 (except for the new established Warba bank for the period from 2012-2016). Data before 2009 was not used due to the financial crisis effect that might distort the data and the results. A total of 77 observations were collected on a yearly basis from Kuwait Institute of Banking Studies (Bayanati website). Our sample contains in total 41 conventional bank-year observation and 36 Islamic bank-year observations summarized in Table 2. Macroeconomic data were collected from World Bank and

International Monetary Fund Websites.

Table 2: Data Distribution by Year and Bank Type

Year		2009	2010	2011	2012	2013	2014	2015	2016	Total
Bank Type	Conventional	6	5	5	5	5	5	5	5	41
	Islamic	3	4	4	5	5	5	5	5	36
Total		**9**	**9**	**9**	**10**	**10**	**10**	**10**	**10**	**77**

For the purpose of this study, a panel research design was used to control for individual heterogeneity, to lower collinearity between variables and to track trends within the data which cannot be found using time-series or cross-sectional data (Olweny & Shipho, 2011; Baltagi, 2005). The data collected was analyzed using a multiple linear regression analysis. t-statistic was used to identify the importance of independent variables in affecting profitability and hypotheses were conducted based on a 5% significance level. Based on a linear regression analysis, the data was assumed to be normally distributed. This assumption was confirmed using a normality test in Stata. Other assumptions had to be tested to ensure the data fit into a linear regression model. Variance Inflation Factor (VIF) was also used in Stata to test for multicollinearity. VIF results showed no multicollinearity exists in the data. In addition to the (VIF) test, a correlation matrix was generated to provide the degree of collinearity between our dependent and independent variables. In general, the correlation matrix shows the

correlation between explanatory variables are not very strong, suggesting that multicollinearity problems are not severe or non-existent. The correlation matrix is present in Table 3. Another test was conducted using heteroskedasticity tool in Stata. It was concluded that the disturbances in the population are homoscedastic with equal variances of error and thus no heteroskedasticity exists.

To test Hypotheses 1 through 8 discussed in section 3.3, we constructed three regression models for each dependent variable as follows:

$$\text{Profitability (ROA)} = a + b_1 \text{LNTA} + b_2 \text{NIITA} + b_3 \text{IITA} + b_4 \text{OEXPTA} + b_5 \text{NPATA} + b_6 \text{Type} + b_7 \text{LogGDP} + b_8 \text{CPI} + e \quad (1)$$

$$\text{Profitability (ROE)} = a + b_1 \text{LNTA} + b_2 \text{NIITA} + b_3 \text{IITA} + b_4 \text{OEXPTA} + b_5 \text{NPATA} + b_6 \text{Type} + b_7 \text{LogGDP} + b_8 \text{CPI} + e \quad (2)$$

$$\text{Profitability (Tobin's Q)} = a + b_1 \text{LNTA} + b_2 \text{NIITA} + b_3 \text{IITA} + b_4 \text{OEXPTA} + b_5 \text{NPATA} + b_6 \text{Type} + b_7 \text{LogGDP} + b_8 \text{CPI} + e \quad (3)$$

Where:

Profitability: dependent variable measured three times by ROA, ROE, and Tobin's Q. ROA is measured by net profit over total assets to test efficiency in using assets to generate earnings. ROE is measured by net profit over shareholders' equity to test efficiency in maximizing return to shareholders based on their investment. Both are accounting-based measurements to measure profitability. Tobin's Q is the third profitability measure used as a market-based measurement. It is measured by total market value over total assets as an indicator of future growth and long-term financial performance expected by the stock market.

LNTA: proxy for size measured by natural logarithm of total assets. This variable was constructed to test H1.

NIITA: proxy for diversification measured by net income over total assets. This variable was constructed to test H2.

IITA: proxy for operating profit measured by interest income over total assets. This variable was constructed to test H3.

OEXPTA: proxy for expense management measured by operating expenses over total assets. This variable was constructed to test H4.

NPATA: proxy for asset (credit) quality measured by non-performing assets over total assets. This variable was constructed to test H5.

Type: categorical variable takes the value of 1 if the bank conduct its business in accordance with Islamic Sharia Law. Otherwise, 0 is the value given for conventional banks. This variable was constructed to test H6.

LogGDP: macroeconomic variable measured by Logarithm of Gross Domestic Product. This variable was constructed to test H7.

CPI: Consumer Price Index as a proxy for inflation; another macroeconomic variable. This variable was constructed to test H8.

Table 3: Correlation Matrix for Dependent and Independent Variables

	ROA	ROE	Islamic	LNTA	LogGDP	CPI	IITA	NIITA	NPATA	OEXPTA
ROE	0.957*** 0.000									
Islamic	-0.201* 0.079	-0.139 0.229								
LNTA	0.427*** 0.000	0.385*** 0.001	-0.419*** 0.000							
LogGDP	0.078 0.503	0.119 0.303	0.019 0.869	-0.054 0.638						
CPI	0.200* 0.082	0.244** 0.032	0.045 0.701	0.111 0.337	0.068 0.555					
IITA	-0.019 0.871	-0.080 0.489	-0.064 0.580	0.272** 0.017	-0.451*** 0.000	-0.535*** 0.000				
NIITA	-0.097 0.405	-0.071 0.543	-0.047 0.687	0.372*** 0.001	0.049 0.673	-0.186 0.108	0.173 0.135			
NPATA	-0.144 0.215	-0.125 0.282	-0.139 0.229	0.008 0.942	-0.171 0.140	-0.510*** 0.000	0.449*** 0.000	0.113 0.329		
OEXPTA	-0.819*** 0.000	-0.821*** 0.000	0.325*** 0.004	-0.213* 0.065	-0.056* 0.628	-0.325*** 0.004	0.214* 0.063	0.507*** 0.000	0.096 0.410	
TobinsQ	0.050 0.665	0.091 0.431	0.411*** 0.000	-0.209* 0.068	0.006 0.957	-0.143 0.214	0.044 0.707	-0.355*** 0.002	-0.142 0.220	-0.142 0.219

* Significant at the (0.1) level, ** Significant at the (0.05) level, *** Significant at the (0.01) level. Two-tailed p-values are presented in the second line of the row.

ROA: (Net profit/Total Assets).

ROE: (Net profit/Total Equity).

Islamic: Categorical variable takes the value of 1 if the bank conduct its business in accordance with Islamic sharia law, 0 otherwise.

LNTA: natural logarithm of total assets to represent size.

LogGDP: natural logarithm of Gross Domestic Product.

CPI: natural logarithm Consumer Price Index as proxy for inflation.

IITA: interest income over total assets as proxy for operating profit.

NIITA: non-interest income over total assets as proxy for diversification.

NPATA: non-performing assets over total assets as proxy for asset quality.

OEXPTA: operating expenses over total assets as proxy for expense management.

TobinsQ: total market value divided by total assets.

5. Research Results & Analysis

5.1. Descriptive Statistics

Table 4: Descriptive Statistics

Bank Type		ROA	ROE	TQ	Size	NIITA	IITA	OEXPTA	NPATA	LogGDP	CPI
Conventional	N	41	41	41	41	41	41	41	41	41	41
	Mean	0.009	0.072	0.252	7257.536	0.011	0.036	0.036	0.037	4.91	108.99
	Median	0.009	0.075	0.210	4671.844	0.010	0.036	0.034	0.023	4.75	108.26
	Min.	-0.006	-0.069	0.086	2949.098	0.006	0.026	0.027	0.003	4.66	95.70
	Max.	0.023	0.145	1.473	24204.069	0.018	0.050	0.052	0.242	5.16	121.95
	Std. Dev.	0.006	0.043	0.210	5915.823	0.002	0.006	0.006	0.045	0.21	8.63
Islamic	N	36	36	36	36	36	36	36	36	36	36
	Mean	0.006	0.048	0.542	4713.599	0.011	0.035	0.046	0.027	4.93	110.46
	Median	0.009	0.067	0.271	2260.533	0.008	0.036	0.043	0.019	5.04	111.19
	Min.	-0.054	-0.593	0.000	223.451	0.003	0.014	0.024	0.003	4.66	95.70
	Max.	0.015	0.144	2.111	17181.911	0.026	0.047	0.138	0.106	5.16	121.95
	Std. Dev.	0.012	0.119	0.542	5524.993	0.007	0.007	0.020	0.025	0.21	8.06
Total	**N**	**77**	**77**	**77**	**77**	**77**	**77**	**77**	**77**	**77**	**77**

Bank Type		ROA	ROE	TQ	Size	NIITA	IITA	OEXPTA	NPATA	LogGDP	CPI
	Mean	0.008	0.061	0.388	6035.125	0.011	0.036	0.041	0.032	4.92	109.68
	Median	0.009	0.071	0.230	3904.303	0.010	0.036	0.038	0.019	5.04	111.19
	Min.	-0.054	-0.593	0.000	223.451	0.003	0.014	0.024	0.003	4.66	95.70
	Max.	0.023	0.145	2.111	24204.069	0.026	0.050	0.138	0.242	5.16	121.95
	Std. Dev.	0.009	0.088	0.424	5835.678	0.005	0.007	0.015	0.037	0.21	8.35

ROA: net profit/total assets
ROE: net profit/total equity
TQ: total market value divided by total assets
Size: Total Assets
NIITA: non-interest income over total assets
IITA: Interest income over total assets
OEXPTA: operating expenses over total assets
NPATA: non-performing assets over total assets
LogGDP: natural logarithm of Gross Domestic Product
CPI: natural logarithm Consumer Price Index

Table (4) provides descriptive statistics for both conventional and Islamic banks samples, as well as for the total. The table shows descriptive statistics for the study variables (the three dependent variables, and the seven independent variables). The observed descriptive statistics consists of mean, median, minimum, maximum and standard deviation. For the total sample, the dependent variables (ROA, ROE & TQ), show a mean (average) of 0.8%, 6% and 39% respectively. From that we can observe there is no skewness in the variables. Moreover, the descriptive statistics indicate that there are slight differences between the "Size" means and medians for both subsamples and the differences diminish when compared to the total sample. For example, the mean (median) for the size in the total sample is 6035.125 (3904.303), while the mean (median) for conventional banks and Islamic banks sub samples are 7257.536 (4671.844) and 4713.599 (2260.533), respectively. This difference in the size should not be of a concern as the use of natural logarithm of total assets in the regression equation would eliminate this problem when conducting our hypotheses testing. As for the rest of the variables, the means and medians are approximately equal in the years for the entire sample and also for each subsample. The main conclusion from this table is that variables are not skewed based on the differences between the medians and the means for each variable.

5.2. Empirical Results

Our three regression models showing the relationship between Kuwaiti bank's profitability and the explanatory variables are presented in Tables 5, 6, and 7. Profitability as the dependent variable is measured three times as ROA, ROE, and Tobin's Q under three different models. The explanatory variables explained in the data and research methodology section include the following: (LNTA) which represents the size of the bank and calculated as the natural log of total assets, (NIITA) which represents bank diversification towards non-interest income and is calculated by dividing non-interest income over total assets, (IITA) which represents traditional income of a bank and is calculated by dividing interest income over total assets, (OEXPTA) which represents expense management and is calculated by dividing operating expenses over total assets, (NPATA) which represents asset quality and is calculated by dividing non-performing assets over total assets, (Islamic) which represents the type of the bank (Islamic vs. conventional), (LogGDP) which represents economic growth and is calculated as the log of GDP, and finally (CPI) which represents Consumer Price Index to measure inflation.

Table 5: Regression Model Using ROA as the Dependent Variable

Bank Profitability (ROA) = a + b_1 Type (Islamic) + b_2 LNTA (Size) + b_3 LogGDP + b_4 CPI + b_5 IITA (Operating Income) + b_6 NIITA (Diversification) + b_7 NPATA (Asset Quality) + b_8 OEXPTA (Expense Management) + e									
	(Constant)	**b_1 (Islamic)**	**b_2 LNTA (Size)**	**b_3 Log GDP**	**b_4 CPI**	**b_5 IITA (Oper. Income)**	**b_6 NIITA (Diversif-ication)**	**b_7 NPATA (Asset Quality)**	**b_8 OEXPTA (Exp. Mgmt.)**
Coefficient	0.01	0.00***	0.00	0.00	0.00*	0.31***	0.81***	-0.05***	-0.70***
t – value	0.93	4.74	0.94	1.05	-1.93	3.45	7.73	-4.05	-19.88
p – value	0.36	0.00	0.35	0.30	0.06	0.00	0.00	0.00	0.00

* Significant at the (0.1) level, ** Significant at the (0.05) level, *** Significant at the (0.01) level. Two-tailed p-values are presented in the second line of the row.

ROA: (Net profit/Total Assets).

ROE: (Net profit/Total Equity).

Islamic: Categorical variable takes the value of 1 if the bank conduct its business in accordance with Islamic sharia law, 0 otherwise.

LNTA: natural logarithm of total assets to represent size.

LogGDP: natural logarithm of Gross Domestic Product.

CPI: natural logarithm Consumer Price Index as proxy for inflation.

IITA: interest income over total assets as proxy for operating profit.

NIITA: non-interest income over total assets as proxy for diversification.

NPATA: non-performing assets over total assets as proxy for asset quality.

OEXPTA: operating expenses over total assets as proxy for expense management.

TobinsQ: total market value divided by total assets.

Table 6: Regression Model using ROE as the Dependent Variable

Bank Profitability (ROE) = a + b_1 Type (Islamic) + b_2 LNTA (Size) + b_3 LogGDP + b_4 CPI + b_5 IITA (Operating Income) + b_6 NIITA (Diversification) + b_7 NPATA (Asset Quality) + b_8 OEXPTA (Expense Management) + e									
	(Constant)	**b_1 (Islamic)**	**b_2 LNTA (Size)**	**b_3 Log GDP**	**b_4 CPI**	**b_5 IITA (Oper. Income)**	**b_6 NIITA (Diversif-ication)**	**b_7 NPATA (Asset Quality)**	**b_8 OEXPTA (Exp. Mgmt.)**
Coefficient	0.03	0.05***	0.00	0.03*	0.00	2.38***	9.01***	-0.27***	-6.90***
t – value	0.24	6.91	0.12	1.85	-0.77	3.22	10.45	-2.69	-23.67
p – value	0.81	0.00	0.90	0.07	0.44	0.00	0.00	0.01	0.00

* Significant at the (0.1) level, ** Significant at the (0.05) level, *** Significant at the (0.01) level. Two-tailed p-values are presented in the second line of the row.

ROA: (Net profit/Total Assets).

ROE: (Net profit/Total Equity).

Islamic: Categorical variable takes the value of 1 if the bank conduct its business in accordance with Islamic sharia law, 0 otherwise.

LNTA: natural logarithm of total assets to represent size.

LogGDP: natural logarithm of Gross Domestic Product.

CPI: natural logarithm Consumer Price Index as proxy for inflation.

IITA: interest income over total assets as proxy for operating profit.

NIITA: non-interest income over total assets as proxy for diversification.

NPATA: non-performing assets over total assets as proxy for asset quality.

OEXPTA: operating expenses over total assets as proxy for expense management.

TobinsQ: total market value divided by total assets.

Table 7: Regression Model Using Tobin's Q as the Dependent Variable

Bank Profitability (Tobin's Q) = a + b_1 Type (Islamic) + b_2 LNTA (Size) + b_3 LogGDP + b_4 CPI + b_5 IITA (Operating Income) + b_6 NIITA (Diversification) + b_7 NPATA (Asset Quality) + b_8 OEXPTA (Expense Management) + e									
	(Constant)	**b_1 (Islamic)**	**b_2 LNTA (Size)**	**b_3 Log GDP**	**b_4 CPI**	**b_5 IITA (Oper. Income)**	**b_6 NIITA (Diversif-ication)**	**b_7 NPATA (Asset Quality)**	**b_8 OEXPTA (Exp. Mgmt.)**
Coefficient	2.19	0.41***	0.05	0.04	-0.02***	-0.48	-24.50**	-2.22*	-5.82
t – value	1.34	4.39	0.83	0.19	-2.76	-0.05	-2.20	-1.71	-1.55
p – value	0.19	0.00	0.41	0.85	0.01	0.96	0.03	0.09	0.13

* Significant at the (0.1) level, ** Significant at the (0.05) level, *** Significant at the (0.01) level. Two-tailed p-values are presented in the second line of the row.

ROA: (Net profit/Total Assets).

ROE: (Net profit/Total Equity).

Islamic: Categorical variable takes the value of 1 if the bank conduct its business in accordance with Islamic sharia law, 0 otherwise.

LNTA: natural logarithm of total assets to represent size.

LogGDP: natural logarithm of Gross Domestic Product.

CPI: natural logarithm Consumer Price Index as proxy for inflation.

IITA: interest income over total assets as proxy for operating profit.

NIITA: non-interest income over total assets as proxy for diversification.

NPATA: non-performing assets over total assets as proxy for asset quality.

OEXPTA: operating expenses over total assets as proxy for expense management.

TobinsQ: total market value divided by total assets.

Islamic, the indicator explanatory variable, has a positive significant effect (at the 99% confidence level) on ROA, ROE, and Tobin's Q with a coefficient of 0.00, 0.05, and 0.41 respectively. This finding demonstrates that Islamic banks are more profitable and are expected to have a better financial performance by the stock market relative to conventional banks in Kuwait.

LNTA, the bank size explanatory variable, was found to be insignificant in all three models. This result shows that bank size does not affect bank profitability.

IITA, the operating income explanatory variable, has a positive significant effect (at the 99% confidence level) of 0.31 and 2.38 on ROA and ROE respectively. The result shows that interest income remains an important aspect of bank operation and significantly contributes to its profitability. The result also supports prior literature that argue that local banks rely on interest-based income, relative to foreign banks' reliance on fee-based income (Singh, 2010).

NIITA, the non-interest or diversification income explanatory variable, has a positive significant effect (at the 99% confidence level) of 0.81 and 9.01 on ROA and ROE respectively. This result shows that Kuwaiti banks have successfully relied on non-interest income to increase their profits. Moreover, the results also show that NIITA has a negative significant effect (at the 95% confidence level) of 25.5 on Tobin's Q. Although this result seems counterintuitive, it clearly shows how Tobin's Q departs from ROA and ROE. Whereas ROA and ROE rely on historical accounting information, Tobin's Q relies on the market value of a company. Thus, in this instance the result essentially suggests that the market is undervaluing the banks, which may be due to investors' future expectations of profitability.

NPATA, the asset quality explanatory variable, has a negative significant effect (at the 99% confidence level) of 0.05 and 0.27 on ROA and ROE respectively and a negative significant effect (at the 90% confidence level) of 2.22 on Tobin's Q. This result shows that, as expected, the increase of non-performing assets increases the inefficiency of the banks and ultimately hinders their profitability.

OEXPTA, the operating expenses explanatory variable, also has a negative significant effect (at the 99% confidence level) of 0.7 and 6.9 on ROA and ROE respectively. This result illustrates the expected negative impact of expenses on profitability and supports prior research in finding that poor

expense management is among the main factors of decline in profitability (Pasiouras and Kosmidou 2007; Kosmidou 2008).

Finally, we look at the effect of macroeconomic variables on profitability. As shown in the three models above, GDP has an insignificant effect on ROA and Tobin's Q and a slight positive effect of 0.03 (at the 90% confidence level) on ROE. On the other hand, CPI has a minimal positive effect on ROA (at the 90% confidence level) and a negative effect of 0.02 on Tobin's Q (at the 99% confidence interval). This result illustrates that the market does not have a positive outlook for banks considering rising prices. This can be explained by the decrease in the general purchasing power of investors, which reduces the value of banks as inflation increases.

In conclusion, the three models show that Islamic banks, the diversification of income, and the quality of assets are three consistent and significant determinants of profitability in the Kuwaiti banking sector. Moreover, the results also show that traditional interest-based income (IITA) and operating expenses (OEXPTA), have significant effects on ROA and ROE but not on the market-based measure Tobin's Q. It is worth noting that bank size did not have any effect on profitability in any of the three models.

6. Summary, Limitation and Future Research

This paper studies the factors that affect bank profitability in Kuwait. We sampled all domestic banks in Kuwait (a total of ten banks) for the period 2009-2016. The factors were divided into two categories; bank specific indicators and macroeconomic indicators. We used a total of six bank specific factors and two macroeconomic factors. Bank specific factors included bank size, type of bank (Islamic vs. conventional), traditional income, bank diversification towards non-interest income, asset quality, and expense management. Macroeconomic factors included GDP to measure economic growth and CPI to measure inflation. Three models were constructed under three different measurements for profitability as the dependent variable; two accounting-based measures, ROA and ROE, and the third, Tobin's Q, as a market-based measure.

The results show that bank specific factors affected bank profitability more significantly than macroeconomic factors. Furthermore, results of the ROA model show a significant relationship between five of the bank specific variables and bank profitability with a confidence level of 99% and the ROE model shows similar results (with a lower confidence level for two of the five independent variables). On the other hand, no significant relationship was found between macroeconomic factors and bank profitability, nor between bank size and bank profitability in Kuwait under the two models.

Diversification of income (NIITA) was found to be the strongest significant indicator of bank profitability in Kuwait. As banks increase their non-interest income, their profitability increases significantly. The study has also confirmed that Islamic banks are more profitable than conventional banks in Kuwait. Moreover, the study illustrated that the quality or non-performance of bank assets has an inverse relationship with bank profitability. As non-performing assets percentage of total assets increase, bank profitability decrease. Also, traditional income of banks, measured by interest income over total assets, was found to have a significant positive effect on bank profitability.

The third model, using Tobin's Q as the dependent variable, confirmed the fact that Islamic banks are more profitable than conventional banks. The results showed a significant correlation between Islamic banks and bank profitability with a confidence level of 99%. The model shows that there is a negative relationship between inflation and bank profitability measured by Tobin's Q at 90% confidence level. This means that as inflation increases, the profitability of the bank decreases. This can be explained by the decrease in the general purchasing power, which ultimately reduces the value of the bank as inflation increases. The other independent variables did not show any correlation with bank profitability.

This paper introduces new avenues for future research. Results of this paper has shown that bank-specific factors and economic factors vary in their effect on ROA, ROE, and Tobin's Q. Future

papers can research the reason behind the larger effect on ROE (relative to ROA) and the variance of the factors effect on accounting-based profitability and market-based profitability. It is also suggested to include all banks from the Gulf Cooperation Council (Kuwait, Saudi Arabia, Qatar, Bahrain, United Arab Emirates, and Oman) in future studies, as these countries' economies influence on each other. Future research can also include foreign banks operating in Kuwait and study whether the same bank-specific factors influence their profitability.

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