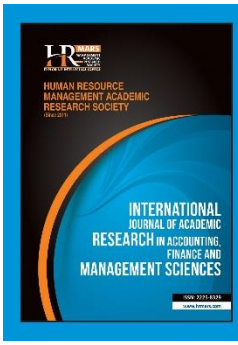

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY
EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2225-8329

Capital Adequacy, Cost Income Ratio and the Performance of Saudi Banks (2007-2011)

Ahmad Aref Almazari

To Link this Article: http://dx.doi.org/10.6007/IJARAFMS/v3-i4/478 DOI:10.6007/IJARAFMS /v3-i4/478

Received: *17* October *2013,* ***Revised:*** *20* November 2013*,* ***Accepted:*** *02* December 2013

Published Online: *18* December 2013

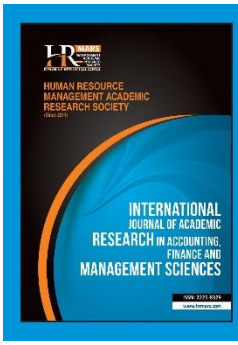
In-Text Citation: (Almazari, 2013)

To Cite this Article: Almazari, A. A. (2013). Capital Adequacy, Cost Income Ratio and the Performance of Saudi Banks (2007-2011). *International Journal of Academic Research in Accounting Finance and Management Sciences. 3(4),* 379 – 392.

Vol. 3, No. 4, 2013, Pg. 379 – 392

http://hrmars.com/index.php/pages/detail/IJARAFMS | JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at
http://hrmars.com/index.php/pages/detail/publication-ethics


INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY
EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2225-8329

Capital Adequacy, Cost Income Ratio and the Performance of Saudi Banks (2007-2011)

Ahmad Aref Almazari
Department of Administrative Sciences-Finance Section King Saud University-RCC
P.O.Box 28095, Riyadh 11437, Kingdom of Saudi Arabia
Email: aalmazari@ksu.edu.sa, ahmadarif26@hotmail.com

Abstract
This paper examines the relationship between Capital adequacy and profitability. Necessary data were gathered from the financial statements of nine Saudi banks listed in the stock exchange market over the period of 2007-2011. The results of analyzing the data based on the implementation of linear regression technique reveals that there is a meaningful relationship between capital adequacy, cost-income ratio and bank size with profitability. Profitability represented in this study by the return on assets and return on equity has a negative relationship with capital adequacy. It was also found that Saudi banks efficiency as measured by the cost-income ratio is negatively related to bank profitability. The essence of capital adequacy enhances bank profitability and help in reducing the expected costs of financial distress, including bankruptcy.
Keywords: Capital Adequacy (CA), Cost Income Ratio (CIR), Return on Assets (ROA), Return on Equity (ROE), Debt to equity (DE)

Introduction

The capital structure of banks is highly regulated. Capital adequacy helps bankers and regulators to absorb any shocks that the bank may experience. Capital plays an important role in reducing the number of bank failures and losses to depositors, at the same time banks take excessive risk in order to maximize shareholders value at the expense of fund providers. Capital adequacy plays crucial role for reducing different risk components in banking Industry, and it is necessary to reduce moral hazard and competitiveness. Furthermore, adequate capitalization is an important variable in business, banks must have enough capital to provide funds for its internal needs and for expansion, as well as ensure security for depositors. Adequacy of capital is also affected by expected economic conditions of the entire economy.

On the other hand, bank profitability is affected by internal and external factors. The internal factors include: capital adequacy, bank size, liquidity, and the level of provisioning. External factors such as lack of capital, the money supply, competition, government regulation, ownership, and inflation. The differences between banks performance reflects management philosophy and the market served. Athanasoglou *et al* (2006) concurred and argued that profitability is a function of internal factors that are mainly influenced by a bank's management decisions and policy objectives such as the level of liquidity, provisioning policy,

capital adequacy, expense management and bank size, and the external factors related to industrial structural factors such as ownership, market concentration and stock market development and other macroeconomic factors. However, well capitalized banks are more profitable than low capitalized banks. Highly capitalized banks had less cost of bankruptcy, and less requirement for external funding especially in emerging economies where external borrowing is difficult.

This study focuses on the relationship between two determinants (capital adequacy and cost-income ratio) and the profitability of the commercial banks of Saudi Arabia. Efficiency is measured by capital adequacy ratios (CARs) and cost income ratio (CIR), and bank's profitability is measured by ROA and ROE. Previous research shows that a positive relation exists between capital adequacy and profitability (Berger, 1995; Ghosh et al., 2003) while a negative relationship exists between cost income ratio and profitability (Hess and Francis, 2004; Ghosh et al., 2003). This study is considered important as it is one of the limited studies deals in the Saudi banks, as well as it is a source of help for both, the academicians and bank regulators. Academicians will be able to carry more studies on the same issue, and bank regulators will be able to maintain their investment and gain more returns with less losses.

Literature Review

There are many studies in the literature that explained the relationship between capital adequacy and other financial indicators.

Onaolapo and Olufemi (2012) examined the effects capital adequacy conditionality on the performance of selected banks within the Nigerian banking sector. The study hypothesized no significance between Capital Adequacy Ratio (CAR) (Statutorily mandated) and five bank performance variables. Data employed were mainly secondary and were obtained from the publications of regulatory agencies like the Central Bank of Nigeria in a ten year period 1999-2008. Ordinary Least Square (OLS) estimation was adapted to analyze relationship between the variables. Findings indicate that all the performance indicators tested such as Returns on Assets (ROA), Returns on Capital Employed (ROCE) and Efficiency Ratios (ER) among others do not reflect much on Capital Adequacy Ratio (CAR) of the Nigerian banking sector. The non-significance relationship between reflective adjustment in banks' capital base, profitability and performance informed by the paper recommendations for pragmatic changes in bank regulatory focus, improved corporate governance, personnel training and stable polity as antidotes for ensuring sound financial health for the Nigerian banking sector.

Samadi et al (2012) investigated the impacts of operating risk and capital structure on profitability of banking industry. The study included 17 commercial banks, which were active from 2006 to 2010 in Iran and the results of the study indicated that although there was a positive relationship between capital structure and profitability but there was no meaningful relationship between operating risk and capital structure.

Syafri et al (2012) analyzed the factors that affect the profit of commercial banks in Indonesia. Type of data used is polling data from commercial banks listed on the Indonesia Stock Exchange between 2002 and 2011. Bank profitability is measured by Return on Assets (ROA) as a function of banks specific determinants. Analysis technique used is pooling data regression model. The empirical results show that loan to total assets, total equity to total assets, loan loss provision to total loan have positive effect on profitability, while inflation rate, the size of bank and cost-to-income ratio (BOPO) have negative effect on profitability. Economic growth and non interest income to total assets have no effect on bank profitability.

Ghadimi et al (2012) examined the effects of various important factors on profitability of banking system in Iran for a panel data over the period of 2001-2010. The sample of banking system incorporated ten various banks with two different types of internal and external variables. Internal factors included ownership ratio, ratio of total loans given to all assets, ratio of bank customers' deposit to banks' assets, ratio of interest free revenues, ratio of total interest free loans on total assets, on total revenue. External factors included actual rate of interest, economic growth, and inflation rate. They implemented econometrics technique and their results indicated that ownership ratio, ratio of total equity on total assets, along with inflation rate had negative effect on profitability. Besides, the ratio of customers' deposit on total assets, the ratio of total loans on total assets and economic growth had positive influence on profitability.

Ho and Hsu (2010) investigated the relationship between firms' financial framework and their risky investment policies in Taiwan's banking industry. They used regression analysis in two different periods of before the period of 1996-2000 and after the first financial reform of 2001–2006 to study the effects of the first financial reform on banking firms' financial structures. The first results indicated that the restrictions on CAR had influenced firms' risky investment strategies, as market share and leverage were positively related.

Christian et al (2008) stated that capital adequacy measures provide significant information regarding a firm's returns, while a few of the individual variables representing asset quality and earnings are informative. Size and growth and loan exposure measures do not appear to have any significant explanatory power when examining returns. The study establishes that the change in total assets is also significant.

Navapan and Tripe (2003) explained that comparing banks' Returns on Equity (ROE) is one way of measuring their performance relative to each other. The return on equity looks at the return on the shareholder's investment and thus from the shareholder's perspective, allows a comparison of investment in a bank's shares with other investment opportunities, while it can also provide a measure of the bank's riskiness. They also stated that there should be a negative relationship between a bank's ratio of capital to assets and its return on equity may seem to be self-evident as to not need empirical verification. In addition, they found a negative relationship between capital and profitability. Ghosh et al (2003) explained that banks are required to hold capital equal to a certain percentage of the total risk-weighted assets.

It is therefore important to note that Berger (1995) found evidence for a positive relationship that is, the ratios of capital to assets and returns on equity were positively related. He argued that a higher capital ratio (with reduced risk of bankruptcy) should reduce a bank's cost of funds, both by reducing the price of funds and the quantity of funds required, thus improving a bank's net interest income and hence profitability.

Neceur (2003) using a sample of 10 Tunisian banks from 1980 to 2000 and a panel linear regression model, reported a strong positive impact of capitalization to ROA. Sufian and Chong (2008) also reported the same results after examining the impact of capital to the performance of banks in Philippines from 1990 to 2005.

Overview on the Saudi Banking Industry

The Saudi banking industry has enjoyed a steady growth and stability during the period 2007-2011. Table 1 shows a number of key banking indicators during the study period:

Table 1

Key Banking Indicators in Saudi Arabia

End o f Year	2007	2008	2009	2010	2011	Growth rate%	Average %
No of Banks	17	19	20	21	23	35.3	-
Total Branches	1,353	1,410	1,519	1,591	1,646	21.7	-
Total Assets(million SAR)	1,075,221	1,302,271	1,370,258	1,415,267	1,544,434	43.6	-
Total Deposits(million SAR)	717,564	846,118	940,548	984,850	1,103,634	53.8	-
Bank Credit(million SAR)	594,840	744,802	736,905	775,342	856,626	44.0	-
Capital & Reserves(million SAR)	106,026	131,822	163,642	178,025	190,140	79.3	-
Total Equity to Total Assets Ratio*	9.9%	10.1%	11.9%	12.6%	12.3%	-	11.4%
Regulatory Capital to Risk-Weighted Assets	20.6%	16.0%	16.5%	17.1%	17.4%	-	17.6%
Return on Assets	2.8%	2.7%	1.9%	1.9%	2.0%	-	2.3%
Return on Equity	22.3%	20.5%	13.7%	13.6%	14.5%	-	16.9%

Source: Calculated from SAMA Annual Report -Various Publications 2007-2011.

From the table 1 we can observe that 23 banks are now operating in the Kingdom in 2011 compared to 17 banks in 2007. Out of these banks, there are 11 foreign bank branches and 6 joint-venture banks. This shows that the foreign presence in the Saudi banking sector is significantly high. The Saudi banking sector consists primarily of 12 domestic banks, 11 domestic banks are listed on the stock market, while one domestic bank namely National Commercial Bank (NCB) is the only privately held bank. Most banks in Saudi Arabia have launched Islamic banking products, either through a separate Islamic window or a subsidiary.

Saudi Arabian Monetary Agency (SAMA) has adopted several regulatory frameworks for banks to ensure financial stability. Thus, the branch network grew by 22%, reaching 1,646 branches. At the end of Dec 2011, total bank assets grew by 44.0% compared to the end of 2007, reaching SR 1.54 trillion. Moreover, bank deposits increased by 54% during the same period to reach SR 1.10 trillion. Bank credit to the private sector increased by 44% to SR 856.6 billion. Banks are well capitalized and the total amount of capital and reserves increased by 79.3%during the same period to reach SR190.140 billion at the end of 2011; their total equity capital to total assets ratio averaged 11.4% which is more than the international standard of 8%. Stress tests conducted recently also demonstrate that Saudi banks are sound and well-equipped to withstand any shocks. It is clear from table.1 that Saudi banks are doing well in the issue of profitability, the return on assets ratio and return on equity ratio averaged at 2.3% and 17% respectively during the study period. Moreover, Saudi Arabia has been able to avoid a systemic banking crisis such as those faced by many countries in the recent years (Trade Policy Review, 2011)

Methodology of Research

For the purpose of analysis, financial ratios and statistical tools were applied to examine and compare the impact of independent variables on the dependent variables. Analysis of variance (ANOVA) was used in testing the hypotheses and to measure the differences and similarities between the sample banks according to their different characteristics. Pearson correlation coefficient was also used to investigate the correlation between the study variables at 5% level of confidence according to the SPSS software package.

The necessary information were gathered from the financial statements of nine Saudi banks over the period of 2007-2011.These data were used to compute key financial ratios of the selected Saudi banks for the mentioned period, as well as to assess the performance of these banks. In addition, data was also gathered from Books, papers, articles, Specialized International Journals, the World Wide Web (Internet), and relevant previous studies.

This study uses a descriptive financial analysis to describe, measure, compare, and classify the financial situations of the selected banks. Only 9 banks out of 11 banks which are listed in the Saudi stock exchange market were considered as a sample of study, which it accounts for 82 % of the study population, two banks were excluded from the study as they were established after the year 2000.

Hypothesizes and Proposed Model

The proposed model of this paper considers three hypothesizes as follows:

H1: Capital adequacy is negatively related to bank profitability. Based on this hypothesis, the following sub-hypotheses were extracted:

H1-1: Core capital to total assets ratio is negatively related to bank profitability.

H1-2: Total equity capital to total assets ratio negatively related to bank profitability.

H1-3: Core capital to weighted-risk assets ratio is negatively related to bank profitability.

H1-4: Total equity capital to weighted-risk assets is negatively related to bank profitability

H1-5: Assets to liabilities is negatively related to bank profitability.

H1-6: Debt to equity is negatively related to bank profitability.

H2: Cost-income ratio is negatively related to bank profitability.

H3: Bank size is negatively related to bank profitability.

Proposed Model

The proposed study uses the following model:

$$ROA_{i,t}=\beta 0 +CCA_{i,t}+ TRC_{i,t}+ TCA_{i,t} +\beta 1ECA_{i,t}+\beta 2CIR_{i,t}+ AL_{i,t} + DE_{i,t} +\beta 3BS_{i,t}+ \varepsilon_{i,t}, \quad (1)$$

$$ROE_{i,t} = \beta 0 +CCA_{i,t}+ TRC_{i,t}+ TCA_{i,t} +\beta 1ECA_{i,t}+\beta 2CIR_{i,t}+ AL_{i,t} + DE_{i,t} +\beta 3BS_{i,t}+ \varepsilon_{i,t}, \quad (2)$$

Where:

ROA represents Return On Asset for bank i at time t.

ROE represent Return On Equity for bank i at time t.

CCA represent Core Capital to Total Assets Ratio for bank i at time t.

TRC represent Core Capital to Weighted-Risk Assets Ratio for bank i at time t.

ECA represent Total Equity Capital to Total Assets Ratio i at time t.

CIR represent Cost to Income Ratio for bank i at time t.

TCA represent Total Equity Capital to Weight-Risk Asset Ratio for bank i at time t.

AL represent Liabilities to Assets Ratio for bank i at time t.

DE represent Debt to Equity Ratio for bank i at time t.

BS represent Bank size for bank i at time t.

i = 1 to 9 banks.

t = 2007-2011.

u= Error term.

The Dependent Variable of this Study

Return on Assets Ratio (ROA) & Return on Equity Ratio (ROE)

In measuring the profitability of a bank, bank regulators and analysts have used return on assets (ROA) and return on equity (ROE) to assess industry performance and forecast trends in market structure as inputs in statistical models to predict bank failures and mergers and for a variety of other purposes where a measure of profitability is desired (Gilbert and Wheelock, 2007; Mostafa, 2007; Christian *et al.,* 2008). However, dependent variable is usually used in the study of bank profitability as a return on assets (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM); Syafri (2012). This study use ROA as dependent variable where ROA is the ratio of net income to total assets. ROA measures the profit generated from the asset and reflect how well the bank's management uses real investment resources to generate profits (Naceur, 2003).

The Main Independent Variables used in this Study

1. Total Equity Capital to Total Assets Ratio (ECA)

The total equity capital to total assets ratio, which is measured by total equity over total asset, reveals capital adequacy that capture the general safety and soundness of the financial institution. It indicates the ability of a bank to absorb unexpected losses (Javaid *et.al.*, 2011). Banks that have higher levels of equity would decrease the cost of capital (Molyneux and Thorton, 1992), which ultimately will have a positive impact on bank profitability. Moreover, an increase in capital may raise expected earnings by reducing the expected cost of financial distress, including bankruptcy (Berger, 1995).

2. Cost to Income Ratio (CIR)

The other factor affecting bank's profitability is its efficiency as measured by the cost to income ratio. The cost to income ratio, defined by operating expenses divided by operating income, can be used for benchmarking by the bank when reviewing its operational efficiency. Hess and Francis (2004) observed that there is an inverse relationship between the cost income ratio and the bank's profitability. Ghosh *et al* (2003) also found that the expected negative relation between efficiency and the cost-income ratio seems to exist. However, the cost income ratio (CIR), with its limitations (Welch, 2006), is another emerging measure of bank's efficiency and a benchmarking metric (Hess and Francis, 2004).

3. Bank Size (BS)

The size of bank as one of the independent variable could create economies of scale which lower the average cost and has a positive impact on bank profits. At the same time, if the size of a bank becomes larger, phenomenon of the diseconomies of scale appears, the more difficult for management to conduct surveillance and the higher the level of bureaucracy that have a negative impact on bank profitability (Athanasouglau, Brissimis and Delis, 2005). Gul, Irshad and Zaman (2011) found a direct relationship between the size of banks and profitability.

Other Independent Variables used in this Study

1-1.Core Capital to Total Assets Ratio (CCA)
1-2.Total Equity Capital to Total Asset Ratio (TCA)
1-3.Core Capital to Weighted-Risk Assets Ratio (TRC)
1-4.Total Equity Capital to Weighted-Risk Assets Ratio (TCA)

1-5. Assets to Liabilities Ratio (AL)
1-6. Debt to Equity Ratio (DE)

The formula of the variables used in this study is computed as follows:

1. Return on Assets Ratio (ROA): Net Income/Total Assets.
2. Return on Equity Ratio (ROE): Net Income/Total Equity.
3. Core Capital to Total Assets Ratio (CCA): Tier 1 Capital/Total Assets.
4. Total Equity Capital to Total Assets Ratio (ECA): Total Equity/Total Assets.
5. Core Capital to Weight-Risk Assets Ratio (TRC): Tier 1 Capital/Weight-Risk Assets.
6. Total Equity Capital to Weight-Risk Asset Ratio (TCA): Total Equity/Weight-Risk Assets.
7. Cost to Income Ratio (CIR): Operating expenses/Operating Income.
8. Assets to Liabilities Ratio (AL): Total Assets/Total Liabilities.
9. Debt to Equity Ratio (DE): Total Debt/Total Equity.
10. Bank size (BS): Natural Logarithm of Total Assets.
11. Total Assets Growth (TAG): {(Total Assets in 2011-Total Assets in 2007)/Total Assets in 2007}.

Data Analysis and Findings

Table 2 shows the summary statistics of the collected variables. The total observations are n = 45. The banks return on assets(ROA) included in the sample had an average mean and median of 0.016 and 0.017 respectively, and a higher mean (median) of 0.57 (0.60) percent return on equity(ROE).While the core capital to total assets (CCA) mean (median) was 0.076 (0.06). The total equity capital to total assets (ECA) mean is 0.14 and median = 0.13. The average of the core capital to weighted-risk assets (TRC) was 0.098 (median =0.072). The mean (median) of total equity capital to weighted-risk asset (TCA) averages 0.17 (0.16) respectively. While the cost income ratio (CIR) was 0.68 (0.50). The average assets to liabilities (LA) was 0.87 (median =0.87). The mean (median) of debt to equity (DE) averages 5.76 (5.8) respectively.

Table 2. Summary Statistics of the Collected Variables

	ROA	**ROE**	**ECA**	**TRC**	**TCA**	**CIR**	**AL**	**DE**	**CCA**	**BS**
N	45	45	45	45	45	45	45	45	45	45
Mean	0.016	0.57	0.14	0.098	0.169	0.68	0.87	5.76	0.076	7.88
Median	0.017	0.60	0.13	0.072	0.16	0.50	0.87	5.80	0.06	8.00
Minimum	-0.014	0.097	0.09	0.004	0.10	0.04	0.78	3.33	0.004	7.21
Maximum	0.04	0.66	0.22	0.35	0.37	3.7	0.91	7.97	0.19	8.29
Std. Deviation	0.01	0.098	0.029	0.065	0.053	0.66	0.03	1.16	0.043	0.33
Variance	0.000	0.010	0.001	0.004	0.003	0.44	.001	1.4	0.001	0.11

Source: SPSS Output Generated based on data analyzed

All the CARs indicate that Saudi banks operate above the minimum statutory levels. A typical bank in the sample had a cost income ratio of 68% (median = 50%). This ratio implies that Saudi banks are keen on managing their efficiency levels in relation to cost-cutting innovations. The total assets to total liabilities mean averaged 87% (median = 87%), with a minimum bank average in the sample of 78%. The minimum total equity capital to weighted-risk asset is 10%, where as the maximum is 37%.

The mean average of typical bank size is 7.88, as measured by the natural logarithm of total assets. The rate of total asset growth was 35% during the period (2007-2011).These descriptive statistics imply that most banks are keen on ensuring that their capital levels are above the minimum required statutory limits. Table 3 shows that, Pearson correlation coefficient is used to investigate the correlation between the variables that were included in the regression models. However, the results indicates that, the return on assets ratio (ROA) is positively correlated with; return on equity ratio (ROE), assets to liabilities ratio (AL), debt to equity ratio (DE) and bank size (BS). The results also indicate that, the return on assets ratio (ROA) is negatively correlated with; total equity capital to total assets ratio (ECA), core capital to weighted-risk assets ratio (TRC), total equity capital to total asset ratio (TCA), cost income ratio (CIR), and core capital to total assets ratio (CCA).

It is also clear from the analysis that, the return on equity (ROE) is positively correlated with return on assets ratio (ROA), assets to liabilities ratio (AL), debt to equity ratio (DE) and bank size (BS). Furthermore, it was found that, the return on equity ratio (ROE) is negatively correlated with; total equity capital to total assets ratio (ECA), core capital to weight-risk assets ratio (TRC), total equity capital to total asset ratio (TCA), cost income ratio (CIR) and core capital to total assets ratio (CCA).

Based on the analysis in Table 3, there are a logical meaningful correlation between independent variables and dependent variables when the level of significance is set to one percent. Therefore, we can accept the first, second and third hypotheses. In other words, there is a meaningful relationship between capital adequacy, cost income ratio and bank size with profitability.

Table 3. Pearson Correlation of the Study Variables

ROA	Pearson Correlation	1	.071	-.198	-.589**	-.343*	-.628**	.186	.143	-.636**	.632**
	Sig. (2-tailed)		.642	.192	.000	.021	.000	.222	.349	.000	.000
	Sig. (2-tailed)	.642		.624	.094	.563	.846	.518	.691	.266	.110
ECA	Pearson Correlation	-.198	-.075	1	.676**	.845**	.095	-.992**	-.963**	.744**	-.426**
	Sig. (2-tailed)	.192	.624		.000	.000	.535	.000	.000	.000	.004
TRC	Pearson Correlation	-.589**	-.253	.676**	1	.810**	.287	-.670**	-.574**	.965**	-.755**
	Sig. (2-tailed)	.000	.094	.000		.000	.056	.000	.000	.000	.000
TCA	Pearson Correlation	-.343*	-.088	.845**	.810**	1	.127	-.837**	-.769**	.858**	-.590**
	Sig. (2-tailed)	.021	.563	.000	.000		.405	.000	.000	.000	.000
CIR	Pearson Correlation	-.628**	-.030	.095	.287	.127	1	-.096	.003	.304*	-.474**
	Sig. (2-tailed)	.000	.846	.535	.056	.405		.533	.986	.042	.001
AL	Pearson Correlation	.186	.099	-.992**	-.670**	-.837**	-.096	1	.955**	-.735**	.410**
	Sig. (2-tailed)	.222	.518	.000	.000	.000	.533		.000	.000	.005
DE	Pearson Correlation	.143	.061	-.963**	-.574**	-.769**	.003	.955**	1	-.655**	.280
	Sig. (2-tailed)	.349	.691	.000	.000	.000	.986	.000		.000	.062
CCA	Pearson Correlation	-.636**	-.169	.744**	.965**	.858**	.304*	-.735**	-.655**	1	-.754**
	Sig. (2-tailed)	.000	.266	.000	.000	.000	.042	.000	.000		.000
BS	Pearson Correlation	.632**	.241	-.426**	-.755**	-.590**	-.474**	.410**	.280	-.754**	1
	Sig. (2-tailed)	.000	.110	.004	.000	.000	.001	.005	.062	.000	

Source: SPSS Output Generated based on data analyzed

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Capital adequacy ratio shows insignificant relationship with return on assets ratio, which means that well-capitalized banks experience negative returns. This result does not consistent with the banking reality as this result different from what the advanced studies proved, and perhaps explained by the weakness of the operational performance of the assets that participate in the normal operations of the banks which ultimately led to the low rate of exploiting resources and reflected negatively on the degree of capital adequacy.

Table 4, shows the results of regression analysis. The value for the R-squared adjusted in the model is 0.723 which endorses that 72% of the variation in the dependent variable is explained by the independent variables of the model, and the 28% remains unexplained by the independent variables of the study. The value for the F-statistics is 13.750 and is significant endorsing the validity and stability of the model relevant for the study. Durbin-Watson ratio is calculated as 2.138, which means there is no correlation between residuals. In addition, the DW is above 2 and this signifies the presence of a negative serial correlation between the dependent and independent variables.

Table 4. The Results of Regression Analysis

Dependent variable: ROA						
Variable		Un-standardized Coefficient			T	Sig
		B	Std. Error	Beta		
(Constant)		.038	.227		.167	.869
ROE		-.002	.009	-.025	-.279	.782
ECA		.254	.262	.768	.968	.339
TRC		.072	.051	.483	1.416	.166
TCA		.053	.047	.229	1.136	.264
CIR		-.006	.001	-.400	-4.160	.000
LA		-.105	.209	-.327	-.501	.619
DE		.005	.003	.646	1.736	.091
CCA		-.381	.102	-1.491	-3.741	.001
BS		.003	.004	.105	.680	.501
Model Summary	Standardized Coefficient					
R	.883[a]					
R- squared	.780					
Adjusted R-squared	.723					
D-W statistic	2.138					
F – ratio	13.750					

Source: SPSS Output Generated based on data analyzed

a. Predictors: (Constant), BS, ROE, DE, CIR, TRC, TCA, LA, CCA, ECA

The results also shows that the size have significant positive relation with ROA. This positive relationship shows that the size of the bank have significant positive impact on profitability. It suggests that larger banks achieve a higher ROA. Same results have been found by (Molyneux and Thornton, 1992).

The results show that the Cost-income ratio (CIR) has a negative relationship with ROA. Poor expenses management is the main contributors to poor profitability (Sufian and Chong, 2008). Same results have been found by (Hess and Francis, 2004). Ghosh *et al* (2003), also found that the expected negative relation between efficiency and the cost-income ratio seems to exist. Although the relationship between expenditure and profits appears straightforward implying that higher expenses mean lower profits and the opposite, this may not always be the case. The reason is that higher amounts of expenses may be associated with higher volume of banking activities and therefore higher revenues. In relatively uncompetitive markets where banks enjoy market power, costs are passed on to customers; hence there would be a positive correlation between overheads costs and profitability (Flamini et al., 2009). Neceur (2003) found a positive and significant impact of overheads costs to profitability indicating that such cost are passed on to depositors and lenders in terms of lower deposits rates/or higher lending rates.

It is clear from table 5 which shows the average ratios of the study variable that SHB bank obtained the first position in DE and LA, and the lowest position in ECA and TCA. The RIBL bank has gained the lowest position in DE, while the BJAZ bank has gained the highest position in CIR. The BSFR bank has obtained the highest average ratio in ROE, and the SABB bank occupied the last position in CCA. The SAMBA bank gained the first position in ROA, and last position in ROE and CIR. The bank ALBI has obtained the highest average ratio in CCA, TCA, TRC and ECA, and the lowest in DE, LA and ROA.

Table 5
Average Ratios of the Study Variables 2007-2011

	CCA	DE	LA	CIR	TCA	TRC	ECA	ROE	ROA
SHB	5.4%	713.7%	90.2%	64.5%	10.5%	6.2%	10.5%	52.6%	1.3%
RIBL	8.0%	478.0%	84.7%	43.1%	15.3%	9.4%	15.3%	60.0%	1.8%
BJAZ	9.6%	512.5%	84.0%	183.9%	15.9%	12.8%	15.9%	53.8%	1.0%
SAIB	9.0%	500.3%	85.2%	67.7%	14.8%	11.0%	14.8%	55.3%	1.2%
BSFR	5.4%	595.5%	87.2%	35.5%	12.8%	6.3%	12.8%	64.1%	2.3%
SABB	4.4%	681.7%	89.2%	42.4%	10.8%	5.3%	10.8%	60.9%	2.0%
ANB	5.8%	617.3%	87.6%	47.1%	12.4%	6.6%	12.4%	61.2%	2.1%
SAMBA	4.6%	597.1%	87.4%	30.5%	12.6%	5.5%	12.6%	48.3%	2.5%
ALBI	15.8%	485.5%	83.4%	94.3%	22.8%	25.0%	16.6%	52.0%	0.3%

Source: Computed from the financial statements of the banks under study (2007-2011).

Conclusion

It was observed in this study that Saudi banks are well positioned to meet the competitive challenges from a more open and liberal environment around the world. They were less affected by the recent world financial crisis.

However, the results indicates that, the return on assets ratio (ROA) is positively correlated with; return on equity ratio (ROE), assets to liabilities ratio (AL), debt to equity ratio (DE) and bank size (BS). It was also found that, the return on assets ratio (ROA) is negatively correlated with; total equity capital to total assets ratio (ECA), core capital to weighted-risk assets ratio (TRC), total equity capital to total asset ratio (TCA), cost income ratio (CIR), and core capital to total assets ratio (CCA). Most Saudi banks are keen on ensuring that their capital levels are above the minimum required statutory limits.

Furthermore, deposits have positive impact on profitability and banks depending on deposits for funds can achieve better return on assets. With more loans the chances of return on assets will be high. The higher the equity to assets ratio, the lower the need to external funding and therefore the higher the profitability of the banks. In addition, well capitalized banks face lower costs of going bankrupt which reduces their costs of funding. The study also adds to previous findings that there is a negative relationship between capital adequacy and profitability. Capital adequacy requirement limits the risk profile of investment of a bank and therefore affects its capacity to achieve a target level of profitability. That means the essence of capital adequacy enhance bank profitability and help in reducing the expected costs of financial distress, including bankruptcy.

References

Athanasouglau, P. P., Brissimis, S. N., & Delis, M. T. (2005). Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability. Working Paper, Bank of Greece, (25): 1-37. URL: http://www.bankofgreece.gr/BogEkdoseis/Paper200525.pdf

Athanasoglou, P. P., & Delis, M. T. (2006). Determinants of bank profitability in the South Eastern European region. Working Paper, MPRA. URL: http://mpra.ub.uni-muenchen.de/10274/.

Berger, A. N. (1995). The relationship between capital and earnings in banking. Journal of Money, Credit, and Banking, 27, 432-456. URL:http://links.jstor.org/sici?sici=0022-2879%28199505%2927%3A2%3 C432%3ATRBCAE%3E2.0.CO%3B2-4&origin=bc

Christian, C., Moffitt, J. S., & Suberly, L. A. (2008). Fundamental Analysis for Evaluating Bank Performance: What Variables Provide the Greatest Insight into Future Earnings? Journal of Bank Accounting and Finance, 22: pp.17-24.

Flamini, V. C., McDonald & Schumacher, L. (2009). The determinants of commercial bank profitability in sub-saharan Africa. IMF Working Paper, (International Monetary Fund, African Department, WP/09/15). http://www.imf.org/external/pubs/ft/wp/2009/wp0915.pdf.

Ghadimi, M., Taghavi, M., & Kassaipour, N. (2012). A study on the effect of different factors on profitability of banking system. Management Science Letters, 2, 1849-1854.

Ghosh, S. N., Narain, D. M., & Sahoo, S. (2003). Capital requirements and bank behaviour: An empirical analysis of indian public sector banks. J.Int.Dev.,15:145-156. DOI:10.1002/jid.947 URL: http://hdl.handle.net/10.1002/jid.947

Gilbert, R. A., & Wheelock, D. C. (2007). Measuring Commercial Bank Profitability: Proceed with Caution. Federal Reserve Bank St. Louis Review, 22: pp. 515-532. https://research.stlouisfed.org/publications/ review/07/11/Gilbert.pdf

Gul, S., Irshad, F., & Zaman, K. (2011). Factors Affecting Bank Profitability in Pakistan. The Romanian Economic Journal.pp.61, No. 39 URL: www.rejournal.eu/.../Gul%20et%20al%20-%20JE%.

Hess, K., & Francis, G. (2004). Cost income ratio benchmarking in banking. Benchmarking: An Int. J., 3: 303-319. DOI: http://dx.doi.org/10.1108/14635770410538772

Ho, S. J., & Hsu, S. C. (2010). Leverage, performance and capital adequacy ratio in Taiwan's banking industry. Japan and the World Economy, 22(4), 264-272. URL: www.up.98ia.com/images/rjq198wo 2b5cs9idyfz.pdf

Javaid, S., Anwar, J., Zaman, K., & Gaffor, A. (2011), "Determinants of Bank Profitability in Pakistan: Internal Factor Analysis". Mediterranean Journal of Social Sciences,2(1): 59-78. www.mcser.org/images/ stories/.../saura%20javaid.pdf...

Molyneux, P., & Thorton, J. (1992). The determinants of European bank profitability. Journal of Banking and Finance 16 (6), 1173-1178. DOI: 10.1016/0378-4266(92)90065-8

Mostafa, M. (2007). Benchmarking Top Arab Banks Efficiency through Efficient Frontier Analysis. Industrial Management & Data Systems, 107(6): 802-823. DOI: 10.1108/02635570710758734

Naceur, S. (2003). The Determinants of the Tunisian Banking Industry Profitability: Panel Evidence. [Online].October 2003. Available from: www.mafhoum.com/press6/ 174E11.pdf

Navapan, K., & Tripe, D. (2003). An exploration of the relationship between bank capital levels and return on equity. Proceeding of the 16th Australasian Finance and Banking Conference, December 2003, Palmerston North, pp: 1-15.Direct Link

Onaolapo, A. A., & Olufemi, A. E. (2012). Effect of Capital Adequacy on the Profitability of the Nigerian Banking Sector; Journal of Money, Investment and Banking. ISSN 1450-288X Issue 24 © EuroJournals Publishing, Inc. 2012 http://www.journalofmoneyinvestmentandbanking.com

Samadi, M. T. (2012). An empirical study on the impact of operating risk on structure capital and profitability in Iranian banking sector. Management Science Letters, 2, 1689-1694.

Financial Statements & Indicators of the Saudi Banks- Tadawul. (2007-2011). www.tadawul.com.sa/

Sufian, F., & Chong, R .R. (2008). Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from Philippines. Asian Academy of Management Journal of Accounting and Finance. [Online] 4(2) pp.91-112. Available from: http:// www.usm.my/journal/aamjaf/vol%204-2-2008/4-2-5.pdf.

Syafri. (2012). Factors Affecting Bank Profitability in Indonesia.,The 2012 International Conference on Business and Management, 6–7 September 2012, Phuket-Thailand 236 www.caal-inteduorg.com/ibsm2012/.../018Mix-Syaf...

Trade Policy Review-Report by the kingdom of Saudi Arabia, WT/TPR/G/256- (2011). www.wto.org/english/tratop_e/tpr_e/g256_e.doc

Welch, P. (2006). Rethinking bank efficiency: The failings of the cost-income efficiency ratio. http://www.bankecon.com/downloads/BankEcon%20-%20Rethinking%20Bank%20Efficiency%20-%20synopsis.pdf.