



## **Does Basil III Implementation Impact on Financial Performance? Evidence from Omani's Commercial Banks**

**Zaroug Osman Bilal<sup>1\*</sup>, Badreldin F. Salim<sup>2</sup>**

<sup>1</sup>Department of Accounting and Finance, College of Commerce and Business Administration, Dhofar University, Salalah, Oman,

<sup>2</sup>Department of Accounting and Finance, College of Commerce and Business Administration, Dhofar University, Salalah, Oman. \*Email: [zosman@du.edu.om](mailto:zosman@du.edu.om)

### **ABSTRACT**

This research aims to investigate and examine the impact Basel III implementation on financial performance of commercial banks in Omani. The annual data for all Omani commercial banks during 2013-2015 are used for calculating key financial ratios in order to assess the impact of Basel III implementation on financial performance in Omani commercial banks. To test whether there is a relationship between Basel III implementation and profitability in commercial banking sector, the research used a correlation analyses model, Ordinary and least square estimation obtained from an SPSS 17.0 package is adopted to analyze the relationship between the variables, where financial performance or profitability of commercial banks was measured in terms of return on assets, return on equity, efficiency ratio (EFR), net interest margin (NIM) and debt-to equity ratio. The findings of the research established a positive impact of Basel III implementation on financial performance of commercial banks in Oman, however this impact is not statically significant.

**Keywords:** Basel III, Commercial Banks, Financial Performance, Oman

**JEL Classifications:** G33, G35, M44

### **1. INTRODUCTION**

Under competitive developments in the global markets in the field of financial transactions, any bank became vulnerable to various banking risks, therefore began to think to look for to face those risks mechanisms, was the first step in this direction formation and the establishment of the Basel Committee on Banking Supervision (BCBS), which submitted its recommendations first on capital adequacy in July 1988, which defined by the Basel I convention. Capital adequacy ratio (CAR) was estimated at 8%, the Commission recommended in which the implementation of this ratio as of the end of 1992.

After revision of Basel I by the (BCBS) and to cover some deficiencies in this agreement. Basel II has come out. This agreement came the most comprehensive and accurate overview of the risks of banks.

As a result of international financial crisis in 2008, the BCBS recognized inadequate regulations in the banking sector.

Thus; the BCBS published detailed measures to strengthen the regulation, supervision and risk management of the banking sector On 12<sup>th</sup> September, 2010. This package of measures, known as Basel III, supplements the existing International Convergence of Capital Measurement Document (Basel II) which came into effect across the European Union, and many other jurisdictions, in 2008.

Oman is not one of the 27 national members of the BCBS; however, The Central Bank of Oman (CBO) has called upon Omani banks to comply with Basel III standards and issued guidelines to implement these standards. The phasing in of the new rules began in January 2013 and will continue until December 2018.

The main objectives behind implementation of Basel III are to cover risk by keep minimum capital requirements. When banks lend money, they expose themselves to the risk of loans not being repaid so capital has to be set aside to cover that risk; banks built up excessive leverage while maintaining strong risk based capital ratios and liquidity requirements Basel III has introduced two

required liquidity ratios: The liquidity cover ratio and the net stable funding ratio.

The study of the influence of Basel II and Basel III implementation on financial performance in banking sector is considered as an important issue in the field of finance and investment especially after the latest international financial crisis 2008. For example Ahmed et al. (2015) studied the impact of Basel II implementation on the financial performance of private commercial banks of Bangladesh during 2008-2012. They concluded that the capital adequacy requirement might have a positive impact on the profitability of the commercial banks. In the same view Weber (2014) examines the Basel III implementation impact on capital adequacy in Europe through qualitative research on main financial institutions. The study clearly state that the overall capital adequacy in Europe is acceptable.

The implementing Basel III has main problem which impacted on profitability while meeting the minimum capital requirements. This may leads to a negative impact on return on equity (ROE) Weber (2014). Therefore, a comparison between the capital ratios of Basel III and the ROE will give an answer on how well banks' have accomplished the implementation of Basel III compared to the damage it has done to the profitability.

This research is another attempt to evaluate the impact Basel III implementation on financial performance in commercial banks in Oman. This research aims to provide investors with sufficient evidence to take informed investment decisions and formulate investment strategies which may result in optimal gains for them. This research is also an attempt to provide the banking sector in Oman a basic understanding of the impact of the Basel III implementation on the on financial performance to help in formulating their future policies.

The main objective of the research is to examine the influence Basel III implementation on financial performance in commercial banks in Oman. The research analyzed the data of all Omani commercial banks for the period 2013 to 2015.

The organization of the research is as follows; section (2) discusses and review literature concerning Basel capital accord implementation on financial performance, while section (3) present some information about banking sector in Oman, section (4) provides a brief about hypotheses of the research and variables definition, section (5) illustrates the data collection and methodology used in the research, section (6) deals with the empirical findings and finally, in section (7) the conclusions of the research is discussed.

## 2. LITERATURE REVIEW

Since its establishment in 1974, the BCBS has formulated and recommended best practices for banking standards. The Basel Accords, in particular, are recommended banking regulations that put emphasis on capital measurement system. The basic principle in the Basel rules is that banks should have capital sufficient to cover for the risks they take.

The first accord, Basel I, issued in 1988, has initially focused on credit risk, but was subsequently refined to incorporate market risk. A further improvement was done with the release of the second accord Basel II, which was released in 2004. The new framework was designed to better address financial innovation and to improve the way regulatory capital requirements reflect underlying risks. In addition, it covered operational risk and risk based supervisory framework.

On December 16, 2010, the Basel Committee presented a new set of regulatory framework for banks, the so called Basel III. The framework presents new and tougher rules for capital and liquidity in the banking sector and was intended to address problems that were made apparent by the 2008-2009 financial crisis. Essentially, it aims to address both bank specific and systemic risks. The implementation of Basel III is expected to considerably increase the quality and required level of banks' capital, thus strengthening banks' capacity to absorb risks and reducing the risk of future banking crises.

### 2.1. Anticipated Benefits

Basel III represents an important adjustment for the global banking industry, with implications for borrowers and national economies more broadly. While higher capital and liquidity standards are designed to contribute significantly to financial stability, there will be costs involved, since equity is a more expensive form of financing than debt, and liquid assets typically yield lower returns. Nonetheless, when considering the costs associated with implementing Basel III, it is essential to keep in mind the enormous negative impact of financial crises: Empirical evidence suggests that the median cumulative loss of past financial crises was 63% of national GDP (BCBS, 2010a).

Quantitative estimates of the expected benefits of Basel III from a rigorous impact assessment conducted by the BCBS and the financial stability board (FSB) are very high, even under conservative assumptions that likely underestimated such benefits (BCBS 2010). The most salient benefits identified are that financial crises would occur less frequently and would be less severe if they did occur. It is also probable that the macroeconomic cycle will be less prone to booms and busts.

Analysis conducted at the Bank of Canada (2010) supports the finding that the potential gains are large, even for countries that already have a sound financial system.

Despite these possible costs, the studies all found a significant net benefit from safer and more resilient banking systems. Netting the long-run benefits for G-20 economies of less frequent financial crises with the associated costs results in average net benefits of 30 per cent of GDP (or about €10 trillion) in present value terms (FSB-BCBS 2010). For Canada, the net gain from a modest increase in the capital ratio was conservatively estimated at 13% of GDP in the 2010 study. A strengthened domestic financial system means that Canada will be more resilient in the face of adverse contagion effects from abroad.

### 2.2. Benefits and Costs of the New Framework

The building blocks of Basel III are: (i) Higher quality and level of capital, (ii) widened risk coverage, (iii) prevention of excessive

leverage, (iv) stronger liquidity, (v) addressing of systemic risk, and (vi) higher standards for risk management and supervision. These are expected to enhance capital and liquidity regulations of the banking system and therefore reduce the intensity and frequency of financial crisis. Given that output losses from financial crisis can be substantial, as what past crisis episodes have shown, then, the primary benefit that can be derived from the new framework is the mitigation of adverse macroeconomic effects in terms of foregone output.

Based on several studies reviewed by the Macroeconomic Assessment Group of the Bank for International Settlements (MAG 2011), the cost of a crisis is 19% of precise GDP if effect of a crisis is temporary while the average probability of a systemic crisis is 4.5% per year for any given country. 13 using this information on global systemically important banks (GSIB) in 14 countries, MAG estimated that that the Basel III framework would reduce crisis probability by 0.45-1.05% per year. Thus, the new guidelines would produce an annual benefit ranging from 0.09% ( $=0.45\% \times 19\%$ ) to 0.20% ( $=1.05\% \times 19\%$ ) of GDP. Meanwhile, based on various studies examined by the Basel Committee on Banking

Supervision (BCBS, 2010a) of the BIS, the median estimate of the cumulative discounted costs of crises is around 60% of pre-crisis output when banking crises are allowed to have a permanent effect on real activity. Thus, each 1.0% point reduction in the annual probability of a crisis yields an expected benefit per year equal to 0.6% of output. BCBS estimates of different models and methodologies consistently show significant reduction in the likelihood of a banking crisis at higher levels of capitalization and liquidity.

Apart from the benefit of reducing the probability of a crisis, Angeline et al. (2011a) argue that tighter regulatory standards may also lead to smaller output fluctuations and, hence, higher welfare even in the absence of banking crises. Based on the various models estimated by Angeline et al. (2011a), a 1% point increase in the capital-to-asset ratio reduces the standard deviation of output by 1.0% on average. Meanwhile, Angeline et al. (2011b) estimate that a 1% increase in capital reduces output variability in the range of 0.32-7% relative to baseline.

### 2.3. Anticipated Drawbacks

There are potential economic costs as well, both during the initial transition period and in the longer term, when the new standards are fully in place. For example, banks may seek to pass on the costs associated with higher capital and liquidity requirements through lower deposit rates or higher lending rates or service fees. Concerns have also been raised about the possible impact of Basel III on financial market functioning.

Despite the benefits, higher capital requirements also come with costs. In banks' attempt to meet the requirements, they may use a combination of strategies that may have adverse impact on aggregate macroeconomic activity.

In order to meet the new capital requirements, banks can:

- i. Issue new equity;

- ii. Increase retained earnings, by: Reducing dividend payments; increasing operating efficiency, including by reducing compensation and other costs; raising average margins between borrowing and lending rates; increasing non-interest (fee) income;
- iii. Reduce risk weighted assets, by: Lowering the size of loan portfolios; tightening loan agreements; reducing loan maturities; reducing or selling non-loan assets and shifting balance sheet composition towards less risky assets.

In its final report, MAG (2010b) results were presented in terms of the impact of the overall increase in bank capital that will be needed to meet the new Basel III requirements, instead of a generic one percentage point increase in target capital ratios. In addition, the implementation period is assumed to be 8 years, 19 instead of 4 years. The report estimated that banks will have to increase their capital by 1.3% points to reach the overall capital ratio prescribed in Basel III. Meanwhile, a 1.0% point increase in capital ratios would cause a shortfall in GDP of 0.17% during the 8-year implementation scenario lower than the 0.19% estimate for the 4 year implementation period. Thus, the estimated accumulated cost of Basel III impact to GDP is 0.34% ( $=1.3 \times 0.17\%$ ) for an 8-year implementation scenario and 0.37% ( $=1.3 \times 0.19\%$ ) for a 4 year implementation scenario. These impacts correspond to annual growth reductions of 4 and 9 basis points, respectively. Given these, MAG (2010b) concluded that Basel III accord would have a "relatively modest impact on growth."

In contrast to the foregoing, Basel III costs estimated by IIF (2011) are relatively large. Over a 5 year implementation period, Basel III reforms are estimated to reduce GDP relative to baseline by 2.7% in the United States, 3.0% in the Euro area, 4.0% in Japan, 5.5% in UK and 3.7% in Switzerland. On average, GDP would in 5 years time be about 3.2% lower than otherwise.

Parcon et al. (2012) argue that the new framework seeks to significantly increase the quality and required level of banks' capital. Hence, it is expected to strengthen banks' capacity to absorb risks and reduce the probability of future banking crises. Nevertheless, different strategies adopted by banks to meet the new rules-such as increasing lending rates - can impact negatively on the economy.

### 2.4. Previous Studies

Wong (2010) aims to find out if the banks in emerging countries really need Basel III regulation or not. His paper takes different banks in Thailand by introducing the Thailand current banking situation from 2009-2011. The result shows that Thailand banks hold low-risk financial instruments and also have a high level of capital. Thus, there is no need for Thailand banks to adopt all main regulations from Basel III. Only leverage ratio that Thailand banks should consider. For the lending spread, it is found that 0.83% lending spread of total asset value needs to be increased in order to maintain the profitability, from increasing 1% in capital level.

Weber (2014) aims to analyze the current capital adequacy in Europe by assessing current capital ratios. The outcome of the study clearly states a bank conversion towards the Basel III framework and demonstrates the significance of regulation. European banks have already adapted to the ratios and some even fulfill the minimum capital requirement today. Thus, it can be concluded that the overall capital adequacy in Europe is acceptable.

Kombo (2014) assesses the effects of Basel III framework on capital adequacy requirement in commercial banks in Kenya. A descriptive survey design was applied to a population of 43 commercial banks operating in Kenya. The findings show that capital adequacy requirement is important in commercial banks because it leads financial stability in the Kenyan economy, improves credit risk management technique. Findings also revealed that capital adequacy affected the balance sheet structure of the commercial banks in Kenya.

Ahmed et al. (2015) their study aimed to explore to what extent the capital control endeavor influences the financial performance of the banks in Bangladesh. The study used data of 25 listed private commercial banks (out of 30) in Bangladesh for the time horizon of 5 years (2008-2012) by using multivariate panel ordinary and least square regression model where financial performance or profitability of commercial banks was measured in terms of relevant influencing variables (e.g. asset turnover, size of the firm, CAR). The result shows that the capital adequacy requirement might have a positive impact on the profitability of the commercial banks in Bangladesh.

Parcon et al. (2012) study a general and preliminary assessment of the macroeconomic impact of implementing Basel III in the Philippines.

Results suggest that the higher capital requirements imposed by Basel III may have an initial negative impact on the Philippine economy. Nevertheless, the new requirements reduce the probability of a crisis. The estimated net effect of Basel III implementation in the Philippines is positive, albeit modest.

The macroeconomic effects of Basel III implementation in the Philippines: A preliminary assessment.

MAG (2011) combined the foregoing results with the increased capital requirements being proposed for GSIB. The analysis concluded that all components of the Basel III agreement would only reduce growth by a minor 0.34% in an 8 year implementation scenario, lowering the annual growth by 0.04% points during the period.

Slovik and Cournède (2009b) found that over a 5-year implementation period, a 1% point increase in capital ratios will reduce GDP relative to baseline by 0.19% in the United States, 0.30% in the Euro area and 0.11% in Japan. On average, GDP is estimated to decline by 0.20% relative to baseline, which translates to 0.04 reduction in annual growth for a period of 5 years. In the

same view Locarno (2011) found that for each percentage point increase in the capital ratio implemented over an 8 year horizon in Italy, the level of GDP would decline by a maximum of 0.33%, corresponding to a reduction of the annual growth rate of output in the transition period of 0.04% points.

Sy (2011) found that output in France will decline by a maximum of 0.30% relative to baseline. Angelini et al. (2011b) found relatively smaller impact, such that for each percentage point increase in the capital ratio, output declines by 0.09% relative to baseline.

Santos and Elliott (2012) using the case of the United States, Europe and Japan, they argue that Basel III implementation will not significantly reduce lending or harm the economy due to banks' ability to adapt to the regulatory changes without taking actions that would harm the wider economy.

Abdel-Baki (2012a) found that implementing Basel III in EMEs would hamper growth by more than 3% points and that the recovery period from the shock would require 3 years and 2 quarters. Among EMEs, advanced EMEs21 are the most adversely affected relative to secondary and frontier emerging EMEs.

Abdel-Baki (2012b) focusing on Egypt and Tunisia, found that Egypt is much less negatively impacted by Basel III implementation compared to Tunisia since its banking sector is adequately prepared to meet the new capital adequacy requirements. However, Egypt is slower to recover than Tunisia largely due to the higher borrowing costs in the former.

The above literature shows different pictures regarding the impact of Basel III implementation on financial performance, in some countries the implementation Basel III impacted positively on financial performance, while in other countries the financial performance has negatively impacted by Basel III implementation and there is no influence on financial performance as result of Basel III Implementation, i.e., neutral impact.

The researchers strive to examine the Basel III implementation on financial performance in Omani commercial banking sector to fill a gap in the literature in this important issue.

### 3. BANKING SECTOR IN OMAN

The banking sector is playing a vital role in achieving the financial balance and economic development and growth. In Sultanate of Oman, the banking sector is composed of Central Bank, commercial banks, specialized banks and Islamic banks/windows. The numbers of commercial banks was 16 at the end of 2012, seven were local bank while 9 were branches of foreign banks, the total number of commercial banks branches are 479 branches of an increase of 4 over the last year. The following are the local commercial banks: Bank Muscat (BM), National Bank of Oman (NBO), Oman Arab Bank (OAB), Bank Dhofar (BD), Bank Sohar (BS), HSBC Bank Oman and Al Ahli Bank (AB) (Sangeetha, 2012). In 2011, the first Islamic bank has been established in the country, based on a royal decree issued by the government. (CBO Annual Report,



2012). Oman is a free market economy, with low taxation levels, fairly liberal investment laws and no control on capital movements and is a member of the Arab Gulf Co-operation Council (GCC). The estimations reveal that, the total banking assets has grown at a compound annual rate of around 13% in Oman during 2011-2014, as a result of expanding of business environment, increasing demand for loans, and international bankers' penetration in the country (Oman Banking Sector Analysis, 2014).

The merger of HSBC Bank Middle East Limited's Oman branches with Oman International Bank in June 2012 is an important change in the institutional structure in Omani Banks. The registered name of the bank is now HSBC Bank Oman. In December 2012 Bank Nizwa was started to provide full Islamic services. It started its business in January 2013 with two branches. Four local banks set up Islamic banking windows with 9 branches during the first quarter of 2013 (Table 1).

#### 4. HYPOTHESES

To examine whether the Basil II implementation has an impact on capital adequacy and profitability of commercial banking sector in Oman, Islamic Banks will not be considered in this research because these banks have been started their activities recently, the following hypothesis has been tested:

H<sub>1</sub>: There is a negative significant relationship between Basel III implementation and profitability. The sub hypotheses are as followed:

1. There is a negative significant relationship between Basel III implementation and return on assets (ROA).
2. There is a negative significant relationship between

Basel III implementation return on equity (ROE).

3. There is a negative significant relationship between Basel III implementation and cost to income ratio (C/I).
4. There is a negative significant relationship between Basel III implementation and net interest margin (NIM).
5. There is a negative significant relationship between Basel III implementation and debt-to-equity ratio.

To find out whether there is a relationship between Basel III implementation and capital adequacy and profitability, this research was rely on the following financial indicators:

##### 4.1. CAR

This ratio is used to protect depositors and enhance the stability and efficiency of the banks keeping in view their risk exposures - it is measures by the following proxy:

NIM, credit to deposit ratio (CDR), interest expense to total loans (IETTL) refers to Interest Expenses divided by total loans, (NIM) refers to interest received - interest paid/average invested assets use the balance sheets of the current year and previous year, to calculate the average earning assets, and (CDR) refers to total credits divided by total loans.

##### 4.2. Profitability Performance

The most common measure of bank performance is profitability. Profitability is measured using the following criteria:

ROA = net profit/total assets shows the ability of management to acquire deposits at a reasonable cost and invest them in profitable investments (Ahmed, 2009). This ratio indicates how much net income is generated per £ of assets. The higher the ROA, the more the profitable the bank.

ROE = net profit/total equity. ROE is the most important indicator of a bank's profitability and growth potential. It is the rate of return to shareholders or the percentage return on each of equity invested in the bank.

Efficiency ratio (EFR) = total cost/total income measures the income generated per O.R cost. That is how expensive it is for the bank to produce a unit of output. The lower the EFR ratio, the better the performance of the bank.

NIM = (Interest income - interest expenses)/total assets.

It is used to examine how successful a firm's investment decisions are compared to its debt situations.

Debt-to-equity ratio = Total debt/total equity. It also shows the extent to which shareholders' equity can fulfill a company's obligations to creditors in the event of liquidation.

**Table 1: Banking sector in Oman**

Type	Date of establishment	Branch network
Local banks		
National Bank of Oman	1973	63
Oman Arab Bank	1973	58
Bank Muscut	1981	137
Bank Dhofar	1990	64
Al Ahli	1997	12
Sohar Bank	2006	24
HSBC Bank Oman	(Merged 2012 with OIB)	70
Foreign Banks		
Standard Chartered	1963	3
Habib Bank Ltd.	1972	7
Bank Melli Iran	1974	1
National Bank of Abu Dabi	1976	9
Bank Saderat Iran	1976	1
Bank of Baroda	1976	3
Stae Bank of India	2004	1
Bank of Beirut	2006	4
Qator National Bank	2007	6
Specialized Banks		
Oman Housing Bank	1977	9
Oman Development Bank	1977	14
Islamic Banks		
Nazwa Bank	2012	10
Al IZ	2013	4

Source: Central Bank of Oman Annual Report (2015)

#### 5. DATA AND RESEARCH METHODOLOGY

To achieve the aforementioned research objectives, qualitative research methods, as well as a descriptive analysis of the findings, the data for this study has been gathered from

published financial statements of commercial banks, their web-sites, CBO reports and other published reports. The annual data for all Omani commercial banks during (2013-2015) are used for calculating key financial ratios in order to assess the impact of Basel III implementation on capital adequacy and financial performance in commercial Omani banks. In addition, another source of data was through reference to the library and the review of different articles, papers, and relevant previous studies.

To test whether there is a relationship between capital adequacy and profitability in commercial banking sector in Oman, the paper used a correlation analyses model where financial performance or profitability of commercial banks was measured in terms of ROA, ROE, C/I, NIM and debt-to equity Ratio.

The study has been done among the seven leading local commercial banks which include BM, NBO, BD, HSBC Oman, OAB, AB, and BS.

For the purpose of testing the relationship between different variables the following model is used:

Models 5-1

Presented below are used to relate the study variables:

$$CAR = \alpha_0 + \alpha_1 ROA + \mu_1 \quad (1)$$

$$CAR = \alpha_0 + \alpha_2 ROE + \mu_2 \quad (2)$$

$$CAR = \alpha_0 + \alpha_3 EFR + \mu_3 \quad (3)$$

$$CAR = \alpha_0 + \alpha_4 NIM + \mu_4 \quad (4)$$

$$CAR = \alpha_0 + \alpha_5 DTE + \mu_5 \quad (5)$$

$$CAR = \alpha_0 + \alpha_1 ROA + \alpha_2 ROE + \mu_6 \quad (6)$$

$$CAR = \alpha_0 + \alpha_1 ROA + \alpha_2 ROE + \alpha_3 EFR + \alpha_4 NIM + \alpha_5 INFR + \mu_7 \quad (7)$$

Where  $\alpha_0$  ---  $\alpha_n$  are coefficients of the explanatory variables N; the error terms and

CAR = Capital adequacy ratio

ROA = Return on assets

ROE = Return on equity

EFR = Efficiency ratio

NIM = Net interest margin

DTE= Debt-to-equity ratio.

## 6. RESEARCH FINDINGS

This research attempts to evaluate the impact Basel III implementation on financial performance in the commercial banking sector in Oman. The hypotheses were analyzed using regression analysis model to examine the relationship between Basel III implementation and financial performance in the banking sector in Oman during 2013 and 2015.

The results from Table 2 shows that ROA was positively correlated with NIM (0.131), IETT (0.826) and CDR (0.830) this correlation is not statically significantly. This implies that there is no negative ROA as result of implementation of Basel III so, hypothesis has been rejected. This result is consistent with Ahmed et al. (2015).

The results from Table 3 show that ROE as a measure of profitability was positively correlated with NIM (0.789) and IETT (0.076) this correlation is not statically significantly. As for CDR (0.060) the results present a positive significant impact of this ratio (CDR) on ROE. This results show that the capital adequacy requirement might have a positive impact on ROE of the commercial banks in Oman that mean the hypothesis has been rejected.

The results from Table 4 present that there is strong relationship between EFR and IETTTL at 0.05 level of significant and was positively correlated with NIM (0.681) and CDR (0.228) this correlation is not statically significantly. This implies that the hypothesis has been rejected.

**Table 2: Correlation between capital adequacy ratios and ROA**

Variables	ROA	NIM	IETTTL	CDR
ROA	1	0.131	0.826	0.830
NIM	0.131	1	0.588	0.784
IETTTL	0.826	0.588	1	0.656
CDR	0.830	0.784	0.656	1

ROA: Return on assets, NIM: Net interest margin, CDR: Credit to deposit ratio, IETTTL: Interest expense to total loans

**Table 3: Correlation between capital adequacy ratios and ROE**

Variables	ROE	NIM	IETTTL	CDR
ROA	1	0.789	0.076	0.060
NIM	0.789	1	0.588	0.784
IETTTL	0.076	0.588	1	0.656
CDR	0.05	0.784	0.656	1

ROE: Return on equity, NIM: Net interest margin, CDR: Credit to deposit ratio, IETTTL: Interest expense to total loans

**Table 4: Correlation between capital adequacy ratios and EFR**

Variables	EFR	NIM	IETTTL	CDR
ROA	1	0.681	0.796	0.228
NIM	0.681	1	0.588	0.784
IETTTL	0.05	0.588	1	0.656
CDR	0.228	0.784	0.656	1

EFR: Efficiency ratio, NIM: Net interest margin, CDR: Credit to deposit ratio, IETTTL: Interest expense to total loans

The results from Table 5 present that the NI was positively associated with NIM (0.131), IETT (0.826) and CDR (0.830) this correlation influence is not significant.

The result from Table 6 show that the DTE was positively associated with NI and the NIM (0.851), IETT (0.929) and CDR (0.565) this correlation influence is not significant. This result is consistent with Santos and Elliott (2012) and Kombo (2014).

## 7. CONCLUSIONS

This research started with introducing the Basel regulatory frameworks published by the BCBS with the focus on the Basel III framework. Basel III has and will affect the banking sector by introducing higher minimum capital requirements as well as stricter capital definitions.

Theoretical, there is a negative relationship between capital adequacy and financial performance. Thus, the main objective of the research was accomplished as the findings state that Basel implementation has a positive impact on financial performance of the commercial banks in Oman, that mean the hypotheses of this research have been rejected. This results is consistent with Ahmed et al. (2015), Santos and Elliott (2012) and Kombo (2014).

This research expects to fill in the void in literature on impact of Basel III implementation in Oman in particular and Middle East in general. Banking sector in Oman should be able to understand the impact of implementation of this policy on their financial performance and and looking for future opportunities that may create efficiencies.

In this research only five dependent variables have been used to understand the impact of Basel III implementation on financial performance. In future researches attempts should be made to include more pertinent determinants so as to be able to explore

**Table 5: Correlation between capital adequacy ratios and NI**

Variables	NI	NIM	IETTTL	CDR
ROA	1	0.106	0.796	0.166
NIM	0.106	1	0.588	0.784
IETTTL	0.982	0.282	1	0.656
CDR	0.166	0.784	0.656	1

CDR: Credit to deposit ratio, IETTTL: Interest expense to total loans, NIM: Net interest margin

**Table 6: Correlation between capital adequacy ratios and DTE**

Variables	DTE	NIM	IETTTL	CDR
ROA	1	0.851	0.796	0.565
NIM	0.851	1	0.588	0.784
IETTTL	0.929	0.588	1	0.656
CDR	0.565	0.784	0.656	1

DTE: Debt-to-equity, NIM: Net interest margin, CDR: Credit to deposit ratio, IETTTL: Interest expense to total loans

the impact of those variables. Furthermore additional period could also be covered in future researches.

## REFERENCES

- Abdel-Baki, M.A. (2012a), The impact of Basel III<sup>rd</sup> on emerging economies. *Global Economy Journal*, 12(2), 1-33.
- Abdel-Baki, M.A. (2012b), Forecasting the Costs and Benefits of Implementing Basel III<sup>rd</sup> for North African Emerging Economies: An Application to Egypt and Tunisia. *AFDB Economic Brief*. Available from: <http://www.afdb.org>.
- Ahmed, M.B. (2009), Measuring the Performance of Islamic Banks by Adapting Conventional Ratios German University in Cairo Faculty of Management Technology Working Paper No. 16. p1-26.
- Ahmed, S.U., Ahaed, S.P., Islam, M.N., Ullah, S.M. (2015), Impact of Basel II implementation on the financial performance of private commercial banks of Bangladesh. *European Journal of Economics, Finance and Administrative Sciences*, 77, 73-84.
- Angeline, P., Laurent, C., Vasco, C., Leonardo, G., Andrea, G., Alberto, R., Dalia, S. (2011a), Bank Behavior in Response to Basel III: A Cross Country Analysis. *IMF Working Paper*, 11/119, May. 2011.
- Angeline, P., Laurent, C., Vasco, C., Leonardo, G., Andrea, G., Jan, V. (2011b), Basel III: Long Term Impact on Economic Performance and Fluctuations. *BIS Working Paper No. 338*, February. 2011.
- Bank of Canada. (2010). Available from: <http://www.bankofcanada.ca/stats/assets/pdf/nraa-2010-en.pdf>.
- Basel Committee on Banking Supervision. (2010), *Bank for International Settlements Communications CH-4002 Basel*, Switzerland: ISBN Print: 92-9131-859-0.
- Central Bank of Oman Annual Report. (2015). Available from: <http://www.cbo-oman.org>.
- Kombo, K. (2014), Effects of Basel III Framework on Capital Adequacy of Commercial Banks in Kenya. Degree Thesis in Master Submitted to United State International University, School of Business.
- Locarno, A. (2011), The macroeconomic impact of Basel III on the Italian economy, Banca d' Italia, *Euros Stem Occasional Papers No. 88*, February. 2011. Electronic Copy. Available from: <http://www.ssrn.com/abstract=1849870>.
- Macroeconomic Assessment Group. (2010b), *Final Report: Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements*. Basel, Switzerland: Bank for International Settlements. 2010.
- Macroeconomic Assessment Group. (2011), *Assessment of the Macroeconomic Impact of Higher Loss Absorbency for Global Systemically Important Banks*. Basel, Switzerland: Bank for International Settlements. 2011.
- Oman Banking Sector Analysis. (2014). Available from: <http://www.oxfordbusinessgroup.com/oman-2014/banking>.
- Parcon, H.C., Eufrocinio, M., Bernabe, J. (2012), The macroeconomic effects of Basel III Implementation in the Philippines: A Preliminary Assessment. *Bangko Sentral ng Pilipinas BSP Working Paper Series*.
- Sangeetha, J. (2012), Financial crisis and Omani commercial banks: A performance review. *European Journal of Business and Management*, 4(8), 171-176.
- Santos, O., Elliott, D. (2012), Estimating the Costs of Financial Regulation, *IMF Staff Discussion Note*, 11 September. 2012.
- Slovik, P., Cournède, B. (2009b), Bank regulation, capital and credit supply: Measuring the impact of Prudential Standards, *Financial Services*

- Authority Occasional Paper Series 36, September. 2009.
- Sy, A. (2011), The Macro Financial Impact of Basel III Capital Requirements, IMF Selected Issues, 8 July 2011.
- Weber, B. (2014), Basel III Implementation Impact on Capital Adequacy in Europe. Degree Thesis in Business Administration, Identification Number 477. Available from: <https://www.theseus.fi/bitstream/hand>.
- Wong, M.C.S. (2010), The New Basel liquidity requirements: Implications and impacts. *Journal of Risk and Regulation North Asia*, 2, 261-266.