

Oil Price Change: Its Effects to the Stability and Profitability of Banks in the Sultanate of Oman

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Abstract

This study investigated the effects of the change in oil price to the bank's profitability and stability in the Sultanate of Oman. The decreasing oil prices and the role of banks in the country's economic diversification goals are the researcher's primary motivation to embark on the study. Trend and financial ratio analysis and simple linear regression were used to examine the association between oil price and bank performance. Findings of the study include downward trend on the ROE and ROA of banks but upward trend on CAR in the last ten years. The study also found strong positive correlation between oil price and ROE where the impact of oil price to ROE is statistically significant. There was moderate positive correlation between oil price and ROA and oil price and CAR but these associations were statistically insignificant. Findings of this research can be useful for the authorities in setting policies related to economic diversification efforts and to bank management for policies to improve bank performance.

Keywords: Bank profitability; oil price change; capital adequacy ratio; bank stability; return on equity; return on assets; bank financial position.

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INTRODUCTION

The recent economic slowdown and the failure of OPEC+ to reach an agreement triggered an oil price war between the world's largest oil producers creating a huge excess on supply and causing oil prices to drop at historically-low levels. This occurrence has naturally affected the Gulf Cooperation Council (GCC) economies which are highly dependent on oil and gas exports. In the Sultanate of Oman, the hydrocarbon sector was responsible for about 89% of the growth of nominal GDP in the year 2018 reflecting the key role of this sector in the Oman economy (Central Bank of Oman, 2019). Such continued heavy reliance on this sector has made Oman vulnerable to adverse economic events especially in times of a volatile global oil market.

The Central Bank of Oman (CBO) reported in its 2020 Financial Stability Report that the average spot price of Oman crude oil declined by 8.8% in 2019 reversing its generally upward trend since 2017 (Muharrami, 2016). This was aggravated by the COVID19 pandemic and the unusual adverse development in the global oil market since the first half of 2020. In 2019, the hydrocarbon sector accounted for

about 58% of the decline in Oman's nominal GDP, mainly attributed to the lowering of oil prices. Recognizing such vulnerability, the Omani government made its economic thrust in its long-term development strategy, Oman Vision 2040, which was to create wealth through economic diversification.

Banks play an important role in overcoming the challenges of economic diversification as they provide the necessary financial services to the investors, businesses and the government. They act as financial intermediaries that stand between savers and borrowers and, ultimately, employ the necessary capital businesses need through the savings they receive from individuals and other entities. Being the main driver of the Oman economy, the hydrocarbon sector will naturally have an impact on the banking industry.

With the significant role banks play in the development of the nation, it is imperative that the banking industry remain resilient and prepared to overcome any adverse economic blows. It is necessary that banks maintain a healthy level of capitalization and profitability so as risks brought about by declining oil price changes will not lead to systemic vulnerability that may cause a domino effect or closure of banks.

Preventing systemic risks and mitigating financial sector vulnerabilities can be done by knowing the sources of these risks and vulnerabilities and should be a high policy interest to the authorities.

Basing on the significance of the hydrocarbon sector's impact to the Oman economy, this study shall look into the effects of Oman's oil price fluctuations into the stability and profitability of banks, in cognizance with the role they play in economic growth. Crude oil prices in Oman shall be analyzed vis-à-vis the resilience and performance of banks which will be measured through the adequacy of bank capitalization and profitability, respectively. Furthermore, it can be considered of high importance to embark on a study that tackles a source of financial vulnerability. It will also be beneficial, both to the government and the banking industry in the Sultanate of Oman, to know if relationship exists between oil price change and bank performance since this can provide information necessary for an objective decision making particularly in their diversification efforts.

There are many studies about the impact of the oil sector on the economy but only few particularly explains the relationship between oil price change and banks particularly in the Sultanate of Oman. This study examines this gap by analyzing the effect of the oil price changes to the Omani banking sector.

OBJECTIVES OF THE STUDY

This study aims to find out the effects of oil price change to the banking sector of a country that is heavily dependent on oil production particularly the Sultanate of Oman.

Specifically, it intends to describe the trends of Oman's crude oil price changes and production in the last 10 years; determine the listed banks' performance in terms of their financial position, stability and profitability; test the significant relationships between oil price changes and bank performance; and come up with a policy recommendation for Oman's banking sector.

REVIEW OF LITERATURE

The Banking Sector in the GCC

The financial sector in the GCC is generally dominated by the banking sector, which is relatively concentrated with a few domestic players dominating the market. Islamic banks have grown in recent years to become a prominent source of financial intermediation in the Gulf countries. Among the GCC members, Oman's banking system is the smallest in the region with a share of 66 percent of GDP. As a result, some of the largest government projects are directly financed by foreign banks. The banking sector is highly concentrated with the largest two banks controlling more than 55 percent of the sector's assets.

Across the GCC, the banking sector is largely domestically owned. This reflects entry barriers and licensing restrictions for foreign banks, including GCC banks. Except for Bahrain, all GCC countries have limits on foreign ownership: Oman (35 percent), Kuwait and Qatar (49 percent), Saudi Arabia (40 percent for non-GCC nationals and 60 percent for GCC nationals), and U.A.E. (40 percent). Therefore, the cross-border presence of GCC banks and other foreign banks is limited and is mostly in the form of branches, in many cases as single branches. However, foreign bank presence in Bahrain and the U.A.E. is important, at 57 and 21 percent of total assets, respectively. Market shares of foreign banks by total assets in the rest of the GCC are 2 percent in Saudi Arabia, 12 percent in Oman, 10 percent in Qatar, and 10 percent in Kuwait (Hassan *et al.*, 2010).

The domestic banking sector in the GCC (i.e. banks that are majority owned by domestic shareholders) continues to have significant public and quasi-public sector ownership, but its extent varies considerably, ranging between 13 percent in Kuwait and over 52 percent in the U.A.E. Oman and Saudi Arabia have a relatively high public sector ownership (30 percent and 35 percent, respectively), although the majority of this is attributed to quasi government ownership. The U.A.E.'s domestic banking system stands out with almost half of the domestic sector's assets owned by the public sector, a significant amount of which is attributed to direct ownership by the Government (41.5 percent) and the Royal family (10.3 percent). Contrary to common perceptions, except in the U.A.E., royal family ownership in the GCC is almost nonexistent.

The GCC banking sector performance has displayed resiliency in the past decade. According to KPMG (2015) (2018) (2020) reports, listed banks in the GCC marked solid capitalization, despite decreased profitability ratios in the last ten years.

Oman's Banking Sector

Oman's financial system consists, mainly, of conventional and Islamic banks, finance and leasing companies, money exchange establishments, investment/ brokerage companies, insurance companies and pension funds. Entities coming under the jurisdiction of the Central Bank of Oman (CBO), are banks, finance and leasing companies and money exchange companies licensed by it.

As of 2016, the conventional segment of the banking system includes seven local commercial banks and nine foreign banks (with 470 local branches and five overseas branches and representative offices). There are also two specialized banks (23 domestic branches), six finance and leasing companies (43 branches), sixteen money exchange establishments (317 branches) doing money changing and issue of drafts

and 36 money changers doing money changing only. While one specialized bank caters to housing finance requirements, the other is a development bank focusing primarily on SMEs (Muharrami, 2016).

Since authorization of Islamic Banking in 2012, CBO started licensing Islamic Banking entities to do Islamic Banking on dedicated basis. These have, so far, been in the form of two full-fledged/local Islamic Banks and six Islamic Banking Windows of six local commercial banks – in all having 70 dedicated Islamic Banking. As at the end of 2014, there were two full-fledged locally incorporated Islamic banks. Six out of the seven locally incorporated conventional commercial banks were also offering Islamic banking services through dedicated windows. The Islamic banks and windows together operated with 46 branches at the end of 2014. In total, Islamic banking entities had 43 on-site ATMs and 19 on-site cash deposit machines by the end of 2014 (Central Bank of Oman, 2020).

In the area of interest rates, Oman has put in place a deregulated system. The process of deregulation commenced in 1993, first on the deposit front, followed by lending rates, except for the personal loan category. With regard to personal loans, both quantum of loan and interest rate, continues to be regulated by the CBO. Given the interest in flexible demand for consumer loans mainly emanating from the young households, the CBO has set a quantitative ceiling at 35 percent of total credit for non-housing personal loans and 15 percent for residential housing loans, while keeping in view bank credit needs for other sectors of the economy.

With regard to interest rates on personal loans, a ceiling has been stipulated from time to time in order to safeguard borrowers from banks likely to charge high interest rates, given the excessive demand. Initially, an interest rate ceiling of 13 percent per annum was applicable to personal loans in 1999. Over the years, the ceiling has been steadily reduced and presently stands at 6 percent per annum. Despite the fall in overall deposit and lending rates, commercial banks continued to operate with a relatively high interest rate spread (Muharrami, 2016).

Understandably, the banking industry of Oman is relatively young, and like most budding industries, it is riddled with challenges, moving to uncharted waters. There are a handful of challenges that besets it but needless to say have to overcome them since obviously the banking sector is the backbone of any emerging economy.

According to Sanyal (2011), the biggest challenge for the banking industry is to serve the citizens of Oman, shifting the focus from the products to the customers. He further added that the better banks understand the customers, the more successful they can be in meeting their demands. He suggested further that

in order to mitigate the mentioned challenges, commercial banks in Oman must continue their operational performance further, enhance service quality, increase the awareness levels among the customers, keeping the update information resources available to the customers.

While authors like Sanyal focused on the marketing aspect and challenges posed by marketing related variables to the banking sector, there are other researches that point to other directions and analyze other macro variables. For instance, Mohammed and Alam (2020) revealed in their study that the recent global banking crises had a negligible effect on Islamic banking as compared to conventional banking sector in Oman. However, they noted that there are some future challenges and threats that must need to be addressed properly. For instance, lack of standard practices and the emerging market and disciplinary issues. They also put impetus on corporate governance problems.

In a study that compared the liquidity ratios of the banks in Oman with their international counterparts, Singh (2016) reported that, on the basis of liquidity ratios, the domestic banks of Oman are not at par with the international banks. This difference, according to him lies on the fact that the sample banks are operating in two different markets, where international banks are enjoying a much bigger and diversified market compared to Oman's rather limited market. However, he pointed out that Oman's banking system have outstanding practices that enables it to veer away from pitfalls that may compromise or even cripple the whole industry. It was observed that the domestic banks of Oman are following proper liquidity management system and are closely monitored by the Central Bank. They have internal policies of liquidity contingency which are prepared in light of the detailed guidelines issued by the Central Bank of Oman. These policies from time to time are reviewed and approved by their Board Risk Committee.

Liquidity risk positions of the bank are supervised regularly with the help of different analysis reports, e.g. Liquidity ratios, EWI (Early Warning Indicators) and Stock Ratios. Furthermore, the Omani local banks also frequently conduct stress testing based on the market situations and bank conditions as per the standards laid down by the Basel Committee. Central Bank of Oman monitors the liquidity reports of each bank. They have set standards for all the banks to follow in order to avoid any future liquidity risk. The Central Bank, on monthly and quarterly basis, also requires all banks, whether local or foreign, to submit the liquidity risk reports such as maturity analysis, lending ratios and the newly adopted Basel Committee's liquidity coverage and net stable funding ratios. In the end of the research, Singh (2016) highly emphasized the need for Oman to check their financial performance indicators.

The ongoing pandemic however, has shifted the winds to unfavorable business and economic conditions and Oman's banking sector is not spared from the havoc caused by the pandemic crisis. A report made by the KPMG (2020) showed that a majority of Oman's banks are feeling the impact of tightening operating conditions. Oman's banks saw a decline in credit flow, revenue compression, and significant increase in non-performing loans. The average profits of banks in Oman for H1'20 declined by 34.2% compared to H1'19, primarily on account of increase in expected credit losses by 120.9% compared to H1'19 on loans and advances to customers.

It appears that the effect of Covid-19 and the consequent lockdowns by governments has impacted several sectors globally. The banking industry is no exception. Oman's economy and the banking sector have taken a hit due to the slowdown in the economy and the decline of oil prices. To adjust to this turmoil, governments and central banks announced various economic support measures. Central Bank Oman, in its first stimulus package, reduced interest rates and urged banks to consider reducing the existing fees related to various banking services and avoided introducing any new fees for the duration of 2020.

Determinants of Financial Performance in Banks

While it is moot and academic that companies need to have, and to actively monitor performance indicators regardless of industry they are in, the relative importance of measuring financial performance of the banking sector cannot be undermined and can arguably be said to be of paramount importance to banks whichever market they are in. As Pinto *et al.*, (2017) put it, the financial performance of banks guides to analyse the outcomes of a firm's policies, performance, efficiency and effectiveness in monetary terms. These results reflect in the firms return on investment, return on assets and profit earning. It also emphasizes on how a bank is effectively utilizing its financial and other resources to earn profit.

Financial performance evaluation is a subjective measure to assess firm's usage of assets from its primary mode of business and generation of revenues. It also includes net operating income (NOI), earnings before interest and taxes (EBIT), profit after taxes (PAT) and net asset value (NAV). This also measures how efficiently a bank uses its assets and other resources to generate revenues, which in turn measures the firm's overall financial condition for a given period, and can be used to compare industries with each other.

What is interesting to note is that financial performance are interlinked with a multitude of variables, and their effects cannot be ascertained to be true and similar across different banks, countries and even generations. To illustrate, Pinto's *et al.*, (2017)

research reveal that there are significant differences on how certain economic variables affect financial performance indicators across different banks in the GCC.

Several research works have been conducted on financial soundness and performance of banking sector throughout the world by using variety of approaches. The study of Levine (1997) have reported that the efficacy of a financial system to reduce information and transaction costs plays an important role in determining the rate of savings, investment decisions, technological innovations and hence the rate of economic growth. Hassan & Bashir (2005) conducted a study covering Islamic banks worldwide during 1994 - 2001 to identify the determinants of Islamic banks' profitability. The study concluded that high capital and loan-to-asset ratios lead to higher profitability and implicit and explicit taxes affect the bank performance measures negatively while favorable macroeconomic conditions impact performance measures positively.

A study carried out by Kosmidou *et al.*, (2005) examined the relationship between performance of UK banks and credit risk measured in terms of loan loss reserves. Findings indicate that loan loss reserves are positive on net interest margin, but have negative insignificant effect on bank profits.

Sufian and Habibullah (2009) examined the performance of 37 Bangladeshi commercial banks between 1997 and 2004. The study revealed that bank loans intensity, credit risk, and cost have positive and significant impacts on bank performance whereas bank size exhibits a negative impact on return on average equity (ROAE). Furthermore, the study also examined the impact of macroeconomic indicators and concluded that the variables have no significant impact on bank profitability except inflation which has a negative relationship with Bangladeshi banks profitability.

Chowdhury and Kashfia (2009) concluded that the prospect of private commercial banks in Bangladesh is very bright as they have observed a stable growth of branches, employees, deposits, loans and advances, net income, earnings per share during the period of 2002-2006.

For assessing the financial performance of Palestinian commercial banks, Alkhatib and Harasheh (2012) took five Palestinian commercial banks listed on Palestine Securities Exchange covering the period 2005-2010. By employing multiple regression analysis, the study found statistically insignificant impact of bank size, credit risk, operational efficiency and asset management on financial performance of Palestinian commercial banks. Kolapo *et al.*, (2012) carried out an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in

Nigeria over the period of 11 years (2000 - 2010). The results showed that an increase in non-performing loan and loan loss provision reduce profitability (ROA) of banks while an increase in total loan and advances led to increase in profitability.

Choong *et al.*, (2012) studied the Performance of Islamic Commercial Banks of Malaysia and analyze their performance. The empirical results indicated that credit risk, liquidity rate and concentration of Islamic commercial banking are the most contributing factors in the performance of local Islamic commercial banks in Malaysia.

There are numerous literatures too that point out that macroeconomic variables, such as inflation and interest rates have an influence on bank profitability. Banks adjust interest rates whenever inflation increases, and hence increase their revenues and profits. Empirical academic literature on differences in commercial and Islamic banks is very scarce, mainly touching upon financial stability (Čihák & Hesse, 2016) and does not examine their relationship with oil - the main revenue source for government in these oil-exporting countries.

Conceptually, the impact of oil prices on banks varies according to the size and type of bank whether conventional or Islamic. Literature indicated a positive relationship between size and bank performance. Larger banks tend to be more able to raise cheaper capital, making them more profitable. Islamic banks often tend to fund themselves with Sukuk, besides Shariah compliant deposits, and higher oil prices are associated with higher liquidity. Therefore, with deposit inflows that can be intermediated into lending, a positive relationship between oil prices and bank performance for Islamic banks is likely. However, with oil prices falling from their peak, the reduced oil liquidity has not only hit Islamic banks but also their conventional peers. It is also likely that Islamic banks that focus on a stable deposit base might suffer less than Islamic banks relying mainly on wholesale funding, especially when liquidity becomes scarce after adverse oil price shocks.

Similarly, one would expect that investment banks, with their typically wholesale funded business models and have higher leverage than their conventional and Islamic banking peers, would be negatively affected from a liquidity squeeze.

Factors Affecting the Profitability and Stability of Banks

Banks create liquidity on the base of their balance sheets by the process of transforming liquid liabilities to non-liquid assets and according to the intermediation theory, this transformation is in the core of the fulfillment of the bank's role in the economy which is creating liquidity and transferring risks to boost the economic growth. Hence, liquidity is the

cornerstone of the banking industry (Essayem, Khiari, & Lajmi, 2020).

However, there are still skepticisms that the insufficient liquidity buffers were an essential cause of the 2008 financial crisis and the ongoing shortcomings of the international financial system. This complication makes the enhancement of liquidity analysis and supervision a key issue for the coming years. However, liquidity creation is not allowed in Islamic banking as it generates interest, hence Islamic banks keep loads of liquid assets considering the lack of financial instruments. Therefore, Islamic banks gained the reputation of highly safe banks.

Essayem *et al.*, (2020) revealed that indeed, liquidity buffers have varying effects to the stability of banks. First, the position of liquid assets is negatively related to the size of the bank, indicating that even if Islamic banks have religious incentive to keep higher liquidity so they have a minimum risk, Islamic banks behave just like their conventional peers even if they do not enjoy the same option like the lender of last resort and the deposit insurance.

Moreover, this output could be explained by another reason founded in the literature which is the support of the financial authorities and government bailouts (Kim & Sohn, 2017). This indicates the existence of discrete governmental bailouts in the GCC countries to support large Islamic banks in the region.

Second, their research also found out that capitalization is negatively related to liquidity buffers in Islamic banks in the GCC region as their study showed that as capitalization increases liquidity buffer is reduced by 162%. Despite the fact that this result is in line with their prediction, it is controversial from the conventional literature's perspective. However, in the case of Islamic banks the access to financial markets is limited regarding the lack of Sharia compliant liquidity management instruments. This lack is in terms of both quality and quantity. Hence, this result indicates that Islamic banks in the GCC countries are using interest bearing financial instrument to raise funds, which is the case in both Kuwait and Saudi Arabia since they have a weak financial regulation when it comes to Islamic securities issuance comparing to the rest of gulf country.

Lastly, they discovered that there is a positive relationship between the profitability and liquid assets holding in Islamic banks of the GCC region, that is, when profitability increases, liquid assets holding increases by 332%. Therefore better profitability will allow better liquidity levels.

In recent years, the stability of the banking and the entire financial system has gained much attention in building economic systems and determining the

international trade of any country. In the study of Boot and Thakor (2002), they found out that large banks work on keeping their reputation and competitive position in the market and therefore operate on credit with special category of customers which maximizes the market value and increase the return on investment. In other words, some financial institutions rely on maintaining healthy relationships with key customers to keep them afloat.

Fell and Schinasi (2005) found that financial stability must be in harmony with the nature of the economy and that it is determined by the extent of integration and interaction with all economic activities in the market. Financial stability achieves efficiency in the financial system and to the contrary, the lack of banking stability achieves risk in operations, which increases the complexity of the organizational work and threatens the survival of the market (Cetorelli *et al.*, 2007).

In the study of Berger *et al.*, (2009), they explained that the concentration of power in the market and the competition are the key factors in determining the stability of the banking to operate synchronously which is in consonance with Albulescu's (2010) study which indicated that overall economic variables are the key factors in achieving financial stability and increase the survival of banks in the market.

Islamic banks have proven that the low sensitivity of its financial statements in the case of non-financial stability due to the nature of banking operations, reduce the financial risk (Ariss, 2010). Anginer *et al.*, (2012) found that there is a positive relationship between the index and regular competition and stability and that this result depends on the banks' ability to recruit assets optimally.

A bulk of literature also suggests that financial stability is determined by policy-making for the functioning of the financial system, so that the work reflects positively on prices in the market (Cukierman, 2013). While in the study of Gali (2014), they found out that financial stability depends on the nature of the existing demand in the market and on the size of the money supply so that reacts demand and supply in the market is pricing in light of monetary policy in the country and this reflects the extent of financial stability.

In the case of Oman, Central Bank of Oman's policy was observed to stimulate the growth in loans granted to small and medium enterprises, which contributed to the growth of banks' revenues. Furthermore, the Central Bank of Oman continued to strengthen the regulatory and supervisory standards in line with international best practices in this area. The Central Bank of Oman continuously conducts a self-assessment system for supervision and practices because the need to evaluate compliance with the basic

principles recommended by the BASEL Committee I and II and III. These encouraged banks to adjust and refine risk systems, corporate governance, internal control systems and practices of disclosure and transparency.

The Omani banks' strength comes through the flexibility of the central bank's actions in dealing with the banks and at the same time control the progress of work under the specific criteria Central bank of Oman permanently follows a consultative approach to identify and adopt rules and regulations for the banking sector regulators, including the instructions of the BASEL III, which was released in November of 2013. Regarding the development of banks operating in the Sultanate of Oman in terms of capital, all of them meet the minimum imposed by the Central Bank of Oman in this regard. The central bank is continually trying to urge banks to follow a balanced policy in their work in terms of attracting investment and creating a suitable environment for the economy healthy and at the same time maximizing the market value of banks and profitability.

The mentioned studies pinpoint the critical role of policies that influence or are congruent with market and economic forces to ensure the stability of banks. And while there are notable studies that support these findings, there are also several alternative predictors or explanatory variables that contribute to the stability of banks. For one, Albulescu (2010) argues that there are two factors affect bank stability. The first one is the macroeconomic channel, which describes the link between oil prices and the macro- economy, and how a degradation of macroeconomic conditions pass-through the banking sector performances.

However, existing studies have examined this transmission channel without considering the different impact that oil prices may have on oil-exporting economies, as compared to oil-importing ones. For example, Kilian (2008) notes that oil price shocks negatively affect the consumption, and therefore the bank performances, through the uncertainty effect, precautionary savings effect, and the operating cost effect that lead to an increase of NPL. Nevertheless, in the case of an oil-exporting country, if oil prices increase at international level without recording a similar dynamic at national level, companies acting in the oil and gas industry, and the state, register higher revenues, with a positive effect on the banking sector (Al-Khazali & Mirzaei, 2017). Therefore, the increase in international oil prices for oil-exporting countries does not necessary lead to higher production costs, reduction of purchasing power and economic growth contraction. On contrary, for oil-exporting countries a positive dynamic of oil prices might be associated with an increase of economic outcomes. In this case, banking performances improve (Al-Khazali & Mirzaei, 2017).

Another element that should be considered inside the macroeconomic channel is the role of exchange rate. The link between oil prices and exchange rates is theoretically explained by Krugman (1983) and Golub (1983) who discuss the 'wealth effect channel', and by Amano and Van Norden (1998), who describe the 'terms of trade channel'. It is generally accepted that a decrease of international oil prices leads to a depreciation of oil-exporting countries' currencies and vice-versa (Beckmann and Czudaj, 2013). In this line, a recent paper by Fedoseeva (2018) shows that the pass-through between oil prices and the Rubble exchange rate to US dollar substantially increased during the oil price collapse in 2014. Rubble's depreciation generated a sharp increase in import prices with a positive impact on inflation, threatening thus the banking sector stability. Moreover, the Bank of Russia implemented an inflation targeting (IT) strategy (Korhonen and Nuutilainen, 2017) and the oil pass-through inflation is considered to be higher for the IT countries (López-Villavicencio and Pourroy, 2019).

The Oil Industry of Oman and Its Effect on the Banking Sector

One of the important players in the economy is the oil sector. Researchers suggest that the oil sector is considered the lifeblood of oil-producing countries, especially in the Middle East. The Cooperation Council for the Arab States of the Gulf, commonly referred to as Gulf Cooperation Council (GCC), considered to be among the most influential economic and political partnerships in the world which was set up as a regional partnership that aims to enhance integration, interconnection, and coordination among the member states, depend on oil resources to grow their economies and compete with other nations around the world. As a matter of fact, the oil boom that was witnessed between the year 2002 and 2008 was responsible for generating huge revenues for all the six members. It is estimated that the average annual revenue was about \$327 billion between the year 2002 and 2007 (Puig & Al-Khodiry, 2012).

The 2000s saw expanding state budgets and welfare payments, in part linked to a decade of rising global oil prices that peaked at a stable range of around \$100–110 per barrel between 2011 and mid-2014. Oil and gas export revenues are the principal source of export income in the GCC, accounting for over 90% of total export revenues in countries such as Qatar and Kuwait, and well above 85% in Saudi Arabia. With no income or corporate tax in these countries, oil and gas export revenue supply well over 90% of total government revenues (El-Katiri, 2016).

According to Difiglio (2014), the oil revenue has also been very instrumental in enhancing the competitiveness of the nations and promoting economic growth in the region. Oil revenue has positively impacted on various macro and micro-economic

indicators such as investments and growth in the region. Dargay and Gately (2010), however, noted that there are other pertinent indicators like structure of the economy, labor market and governance have remained less positive in the Gulf region.

In the year 2015, drop in oil price in the international market was triggered by the appreciation of the U.S. dollar. In fact, the dollar was at a 12-year high against the euro, leading to appreciation in the U.S. dollar index and a reduction in oil prices. That put the market under a lot of pressure because commodity prices are usually in dollars and fall when the U.S. dollar is strong (Tarver, 2019). Another leading factor in the sharp price drop of crude oil in 2015 is that OPEC was unwilling to stabilize oil markets. Prices of OPEC's benchmark crude oil had fallen a whopping 50% since the organization decided against cutting production at a 2014 meeting in Vienna (Tarver, 2019).

While supply became increasingly abundant in 2015, demand for crude oil was decreasing. The economies of Europe and developing countries were weakening, and at the same time, vehicles were becoming more efficient, which caused the demand for fuel to lag (Tarver, 2019). Despite robust demand for petroleum products, relatively high production and inventory levels provided downward pressure on crude oil prices throughout most of 2016 (EIA, 2017).

In 2018, a sustained increase in oil prices over the past two years has driven an economic recovery in the Gulf Cooperation Council (GCC) countries (The World Bank, 2018). However, this was cut short in 2019, when an unexpected increase in commercial stocks of crude oil in the United States of America (USA), in addition to the outbreak of the new coronavirus in China, put the oil markets in critical conditions, which in turn reduced travel and energy demand. (Oman News Agency, 2020)

In Oman, the hydrocarbon sector is composed of the oil and gas production. Oman is considered the largest producer of oil and gas in the Middle East outside OPEC. In 2017, the country's hydrocarbon sector accounted for 72% of government revenues (Figgins, Lansdell, & Taqi, 2018) where daily average production of crude oil (the primary material used in various petroleum products) averaged 927,000 barrels per day. They export their crude oil to Asia, with China getting more than 70% of these exports, followed by India, Japan and South Korea (Figgins, Lansdell, & Taqi, 2018). Majority of Oman's oil and gas companies are owned by the government.

Al-Mawali *et al.*, (2016) in his study entitled "Modeling the Impact of the Oil Sector on the Economy of Sultanate of Oman" found that the oil sector has significant effects on all sectors including the mining, fisheries, education, health, and real estate sectors. They

discovered that the largest impact of the oil sector is on the natural gas sector and the least influenced sector was the agriculture sector.

Some researchers believe that the effect of hydrocarbon sector depends on the economic situation of the country. Ghalayini (2011) in her study on the effects of oil prices on the economic growth of G7 countries concluded that there is no clear relationship between oil price and economic growth. For countries exporting oil, the author observed that the increase in oil price didn't necessarily lead to increase in economic growth since cash inflows coming from oil exports were spent outside these countries and were not used for economic development.

On the other hand, the financial sector, banks in particular, affects all the industries in the economy, being providers of financial services which are critical to the success of businesses. Recently, drastic developments in the economy have forced bankers to change their strategies in order to cope with these transformations and remain strong and stable. However, the bank business model still remained unchanged overtime. According to Choudhry (2018), the risks that banks are facing can be categorized into two: (1) managing the bank's capital; and (2) managing the bank's liquidity mismatch i.e. loans (assets) having longer tenor than deposits (liabilities). Credit lending is the core business of banks and it is key to profitability. Banks must closely monitor their credit risk exposure so as to have minimum default payments that will lead to high non-performing loans (NPL). Therefore, bank stability and profitability are two ways to gauge the resilience of banks and they can be measured through different financial ratios and stability scores.

Return on Assets (ROA) and Return on Equity (ROE) are the two most commonly used measures of corporate profitability and a key metric for banks (Maverick, 2020). The rate of ROA measures the firm's earnings generated from the use of their assets excluding the financing costs of those assets (Wahlen, Baginski, & Bradshaw, 2011). Return on Equity (ROE), on the other hand, measures the earnings generated for common shareholders including the costs of financing debt and preferred stocks (Wahlen, Baginski, & Bradshaw, 2011). These profitability measures are also used in banks where ROA is computed as net income over total assets and a measure above 1% is considered strong, while the ROE is computed by dividing the net income with the equity where a measure above 10% is considered strong (Choudhry, 2018).

Another popular method of measuring bank performance is the CAMELS rating (i.e. Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and Sensitivity). Capital Adequacy Ratio (CAR) is a measure of stability specific to banks. The Capital Adequacy Ratio (CAR) is the bank's capital

calculated as a percentage of the risk-weighted credit exposures (Hayes, 2020). The minimum CAR required from banks is 10.5% according to Basel Committee, an international regulatory body on bank supervision. The formula used to measure capital adequacy ratio is Tier I + Tier II + Tier III Capital Funds over Risk Weighted Assets (ETMarkets, 2019). It measures the capital of the bank vis-à-vis its credit exposure. Maintaining a sufficient level of CAR will promote financial stability and efficiency in the banking industry and the whole financial system in general (Nickolas, 2020). Bank regulators enforce this ratio to protect depositors and promote stability in the financial system. In Oman, the minimum capital adequacy requirement is 12% with minimum of 7% in common equity and 9% in Tier 1 capital (Central Bank of Oman, 2021).

Earnings, on the other hand, refer to the returns or profits earned by the bank. An appropriate amount of earnings is necessary to maintain growth of the business. Profitability-based measurements are means to measure the extent of operational efficiency of banks while capturing the effects of non-interest income activities and management of costs (PwC, 2011).

Many researchers believe that the oil sector impacts the performance of the banking sector as well. Khandelwal *et al.*, (2017) in their study entitled "The Impact of Oil Prices on the Banking System in the Gulf Cooperation Council" discovered that decrease in oil prices and growth of GDP lead to increase in the nonperforming loans (NPL) ratio of GCC banks. Specifically, the study showed that when oil prices decrease, there will be an increase in NPL to gross loans ratio, and a reduction in the growth rates of bank credit and deposits.

In the study of Poghosyan and Hesse (2009) entitled "Oil Prices and Bank Profitability: Evidence from Major Oil-Exporting Countries in the Middle East and North Africa", they discovered that "oil price shocks have indirect effect on bank profitability, channeled through country-specific macroeconomic and institutional variables highlighting systemic implications of oil price shocks on bank performance" suggesting that the oil sector has indirect relationship with the profitability of banks in oil-dependent countries.

Hasanov *et al.*, (2018) discovered in their study on "Bank-Specific and Macroeconomic Determinants of Bank Profitability of Oil-Dependent Economy" that "bank size, capital, and loans, as well as economic cycle, inflation expectation, and oil prices were positively related to the profitability".

Bennaceur and Bendob (2017), on the other hand, discovered a negative relationship between oil price fluctuation and profitability in the long-term but a

positive relationship between oil price fluctuation and loans.

Mohammad *et al.*, (2019) focused on the effect of oil price change to banking sector's stability. In their study entitled "Assessing the Effect of Change in Oil Prices, Macroeconomics on the Banking Sector Stability in Oil-Producing Countries", they discovered that change in oil price affects the stability of conventional bank positively but Islamic banks appeared to achieve higher stability.

Saif-Alyousfi *et al.*, (2018) discovered in their study that oil price and gas price shocks do not directly affect the NPLs of Qatari banks at the aggregate level. The authors found that sharp increase and decrease in oil and gas prices affect NPLs of Qatari Islamic banks directly through cash flows coming in from oil and gas, while their impact on the NPLs of Qatari commercial banks is indirect.

Shafik (2014) examined the determinants of banks' financial stability in countries of the Gulf Cooperation Council (GCC). In her research, she estimated empirical models using the Generalized Method of Moments (GMM) to test four hypotheses concerning the determinants of financial stability of conventional and Islamic banks. Her study revealed that Bank liquidity has a positive effect on its financial stability; and an increase in bank liquidity causes conventional banks in the GCC region to be more financially stable than their Islamic counterparts. Secondly, she discovered that bank income diversity has a positive effect on its financial stability. She also noted that Islamic banks on average are less financially stable than commercial banks and that the Global Financial Crisis (GFC) had no impact on banks' financial stability in the GCC region.

El-Chaarani (2019) had different results depending on the country under study. Based on the results, oil price change has a direct impact on the financial performance of banks in Bahrain, Oman and Iran and no direct impact on the financial performance of banks in Jordan, Kuwait, Qatar, Saudi Arabia and United Arab Emirates. They attributed the difference on the economic conditions of each country. This means that if the economy is well diversified the impact of oil price on the performance of banking sector is lessened. In contrast, if the economy of the country is not diversified, the impact of oil price on the financial performance of banks becomes significant. In Nigeria, Osuma *et al.*, (2018) found that the current decline in the price of oil has an adverse effect on the financial performance of the banks heavily invested in loans extended to the oil and gas sector.

Kandil and Markovski (2019) found that when oil price is low, government deposits will be reduced and government borrowings are increased to support the

decline in government revenues. The results further indicate that banks can actually prevent this financial vulnerability by strengthening their capacity to withstand these economic stressors, thus, according to them, higher capital adequacy increases the resiliency of the banking system.

Saif-Alyousfi *et al.*, (2018) further supported the discovery of Kandil and Markovski (2019) who said that capitalization of banks in GCC countries remain solid during the global financial crisis. However, certain weaknesses in the banking sector were observed including a notable increase in credit, parallel with the rise in oil prices impairing the liquidity position of banks. The authors suggested that banks should enforce NPL ceilings, provisioning and a stricter requirement in classifying NPLs in GCC countries.

With regard to the continued low oil prices, Moody's Investors Service report (Feb, 2016) cautioned that the slump of oil prices will have a negative impact on all GCC banking sectors, including Oman. The report added that Bahraini and Omani banks are facing pressure on their credit profiles primarily because of their weaker local economies and more limited resources of their domestic governments. According to a report published during mid-2015 by Standard & Poor's (S&P) Rating Services, the weakening economic conditions in the region are expected to affect the banking sector adversely. This will affect the growth rate of income and deposits negatively and the quality of assets will seem to gradually deteriorate.

However, S&P noted that demand for Sharia-compliant products of Islamic banks is expected to grow further due to government support. The Boston Consulting Group (BCG) observed the negative growth of the banking industry in GCC to be at a rate of 7.2 percent in 2015, which is lower than in 2014. BCG based this study on the annual results of 2015 published in the first quarter of 2016. The study covers the leading banks from Bahrain, Qatar, Oman, Saudi Arabia and the UAE. According to predictions by S&P, oil prices will remain relatively weak until 2017. It was anticipated that the oil prices would be at \$55 per barrel in 2015, and will be \$65 in 2016 and about \$75 in 2017.

Results of the studies conducted clearly showed relationship of oil price fluctuations and bank performance, albeit direct or indirect. Results vary depending on the economic situation of the country, its size and economic diversification. This means that if the economy is well diversified the impact of oil price on the performance of banking sector is lessened. In contrast, if the economy of the country is not diversified, the impact of oil price on the financial performance of banks becomes significant. On the other hand, researchers agree that capitalization of GCC banks make them more resilient during financial crisis.

METHODS

Research Design

This study used a quantitative descriptive research which involves the collection and analysis of numerical data including the average prices of crude oil, income and capitalization of banks in the Sultanate of Oman. A correlational research design is used to measure causal relationship between the variables. Analysis of numerical variables such as average annual price of crude oil in Oman as well as return on equity, return on assets and capital adequacy ratios which are measures of profitability and stability of banks was performed.

Data Gathering Procedure

Data were drawn from Oman's National Centre for Statistics and Information (NCSI) for the average prices and production of crude oil in Oman while information used to measure bank profitability and stability were taken from the consolidated financial statements and annual reports of banks which were accessed from their respective websites. This information is publicly available and can generally be utilized by interested parties. Crude oil prices used in the analysis are the average prices of crude oil per barrel per year described by the NCSI as the "average daily settlement price of the contracts for the sale of Oman oil in Dubai Mercantile Exchange Limited (DME)" (NCSI, 2021).

Samples and Data

Out of the 20 licensed banks in Oman as of June 2021 (Central Bank of Oman, 2021), 8 are public joint stock companies, 2 are closely held companies, while 10 are foreign owned. The listed banks represent

the top banks in Oman according to their asset size. Consolidated financial statements of the seven out of the 8 listed banks and their 437 branches or 35% of the total licensed banks in Oman were used in the analysis.

Data Analysis

Ten year data including years 2011 to 2020 were used in the analysis. The independent variable is the price of crude oil as it is considered the primary material for petroleum products. For the dependent variable i.e. bank performance, information of publicly listed banks in Oman were used. Bank performance was measured using return on equity and return on assets profitability ratios and capital adequacy ratio for the measure of stability. Simple linear regression analysis using the Statistical Package for the Social Sciences (SPSS) was used to analyze the relationships and associations between the independent and dependent variables. Interpretation used for correlation coefficient was that of Dancey and Reidy (Akoglu, 2018) (See Appendix 1).

Ethical Considerations

To maintain the quality and integrity of the study, ethical considerations were made top priority throughout the conduct of the research. All information gathered and collected was exclusively used only for research purposes and treated with utmost confidentiality. Privacy and anonymity of the sample banks were observed to ensure the safety and security of information. Moreover, works of other authors used in any part of the research were properly acknowledged.

RESULTS AND DISCUSSIONS

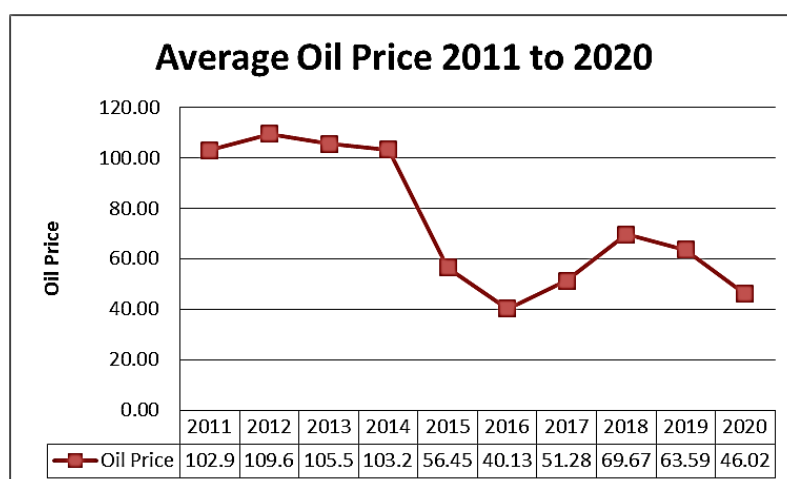


Figure 1: Oman's Yearly Average Price of Crude Oil (Per Barrel)
(National Centre for Statistics and Information, 2021)

Figure-1 presents the trend in Oman's Oil Price for the past ten (10) years. It can be seen here that there is a downward trend of the average crude oil prices from 2011 to 2020. In 2012, there was an increase of 6% compared to 2011, and a continuous

decrease from 2013 to 2016 of 4%, 2%, 45%, and 29%, respectively. In 2017 to 2018, there was notable increase of 28% and 36% and then decrease again in 2019 and 2020 by 9% and 28%, respectively. It can be noted that in 2011, oil price/bbl was averaging at

USD102.9 while in 2020 the average was down to USD46.02 or a decrease of 55% on the average price over the ten year period. Average crude oil price/bbl peaked at USD109.6 in 2012 but reached its lowest in 2016 at USD40.13. It can also be seen how in year 2015, the average oil price sharply dropped by almost half (i.e. 45%) compared to year 2014, but managed to revive in the following years showing an upward trajectory for a short time with an average growth rate of 32% from 2017 to 2018 until it gradually fell downwards again from 2019 to 2020 with an average decline rate of 18.5%.

The increase in oil price from 2011 to 2012 can still be an effect of the booming oil industry from 2002 to 2008, when the economy is still having strong growth economic output and exports as a product of strong coordination efforts among gulf countries (Difiglio, 2014). While the remarkable increase from 2017 to 2018 can be connected to the booming oil market resulting to the country's hydrocarbon sector to account for 72% of government revenues (Figgins,

Lansdell, & Taqi, 2018). This phenomenon is supported by the findings of Difiglio (2014) in his research about oil and economic growth. According to him, the oil revenue has been very instrumental in enhancing the competitiveness of the nations and in promoting economic growth in the Gulf region.

On the other hand, the continuous decrease of the oil price in 2013 until 2016 can be mainly attributed to the drop in oil prices in the international market due to the appreciation of the US dollar and OPEC's "unwillingness to stabilize oil markets" at that time (Tarver, 2019). Moreover, Oman's success in reviving the economy in 2018 was cut short once again due to declining oil prices that was primarily caused by an "unexpected increase in commercial stocks of crude oil in the United States of America (USA), in addition to the outbreak of the new coronavirus in China" (Oman News Agency, 2020). This can't be considered as a good indicator for an economy that is primarily dependent on oil.

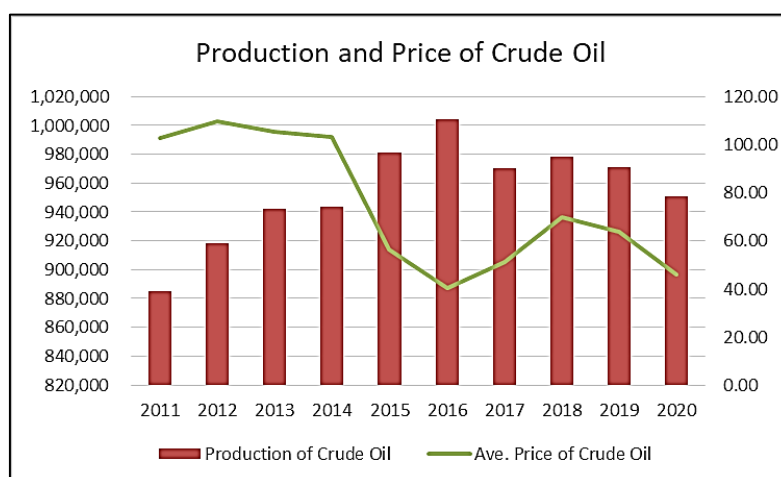


Figure 2: Oman's Yearly Production of Crude Oil in Barrels from 2011 to 2020 (National Centre for Statistics and Information, 2021)

Figure 2 presents the production of crude oil in Oman for the last ten years vis-à-vis oil prices. From 2011, oil production increase every year until 2016 by 4% in 2012, 3% in 2013, 0.2% in 2014, 4% in 2015 and 2% in 2016. It can be seen that despite the decreasing trend in oil price, production of crude oil per barrel increased steadily every year with an average growth rate of 3% from 2011 until 2016 where production peaked at 1 million barrels - the highest production over the course of ten years. However, production started to decline in 2017 with exception in 2018. Yearly average decrease was at 1% until 2020 with the following breakdown: -3% in 2017, -1% in 2019 and -2% in 2020. An average production of +/-970,000 barrels was maintained from 2017 to 2019, and dipped at 950,000 barrels in 2020. Moreover, it can also be noted that the year 2016 marked the lowest price of crude oil at USD40.13 per barrel but with the highest oil production

at 1 million barrels, over the past ten years. It can also be gleaned from the table that there was a stark contrast in the trend of oil production and oil prices from the years 2011 to 2016. While oil price trend was in downward trajectory, oil production was in upward trajectory from 2011 to 2016. Trends of the oil price and oil production became parallel from the year 2017 up to 2020.

Increase in the oil production from 2011 to 2016 can be attributed to the increased adoption of Enhanced Oil Recovery (EOR) techniques by the Oman government and further discoveries of oil (US Energy Information Administration, 2013) as a response to the increase in demand and consumption of oil in the same period (Sonnichsen, 2021). However, high oil production has not managed to save Oman from the adverse effect of the drop in oil price. The World Bank

estimated that about \$10 billion in revenues of Oman were lost due to this occurrence, and Oman's budget for 2016 has projected a deficit of 16.8% of GDP (The World Bank, 2016). Despite a steady increase in demand, high production and inventory levels have caused crude oil prices to drop in 2016 (EIA, 2017). In 2017, Oman participated in production cuts agreed upon by OPEC and non-OPEC countries to reduce the

oversupply of crude oil in the global market (EIA, 2017). Production continued to decrease in the following years to comply with the agreement to stabilize the international oil supply and demand which has been further aggravated by the global economic slowdown and the coronavirus pandemic in 2019 to 2020 (Murthy & Al-Muharrami, 2020).

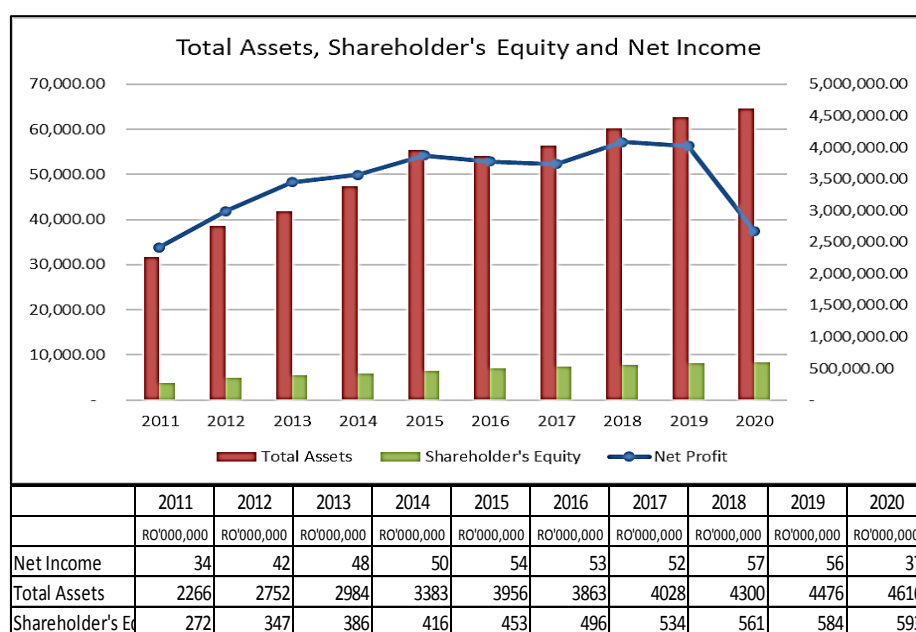


Figure 3: Total Assets, Shareholder's Equity and Net Income of Oman Banks from 2011 to 2020

Figure 3 presents the banks' financial position through the value of the total assets, total equity and net income generated for the past ten years. It can be observed that the total assets and total equity have been increasing in the 10-year period with an average growth rate of 8% and 9%, respectively. Except in 2016, total assets increased yearly by 21% in 2012, 8% in 2013, 13% in 2014, 17% in 2015, 4% in 2017, 7% in 2018, 4% in 2019, and 3% in 2020. Total equity also increased yearly by 28% in 2012, 11% in 2013, 8% in 2014, 9% in 2015, 9% in 2016, 8% in 2017, 5% in 2018, 4% in 2019, and 2% in 2020. The increasing trend for total assets and total equity continued even until the advent of 2020 when the corona virus pandemic hit the Oman economy. However, it can also be noted that growth rates of both the total assets and total equity have been declining over the years. Average total assets of the banks reached over OMR 4.6 billion in 2020 (growth rate was 21% in 2012 down to 3% in 2020) while the average equity reached to almost OMR 600 million in the same year (growth rate was 28% in 2012 and 2% in 2020).

On the other hand, net income also had an upward trajectory from 2011 to 2015 and started fluctuating from 2016 until 2020. Net income increased yearly, by 24% in 2012, 15% in 2013, 4% in 2014, and 9% in 2015. Fluctuations start in 2016 with the

following percentages: -3% in 2016, -1% in 2017, 9% in 2018, -1% in 2019 and -34% in 2020 during the time of pandemic. While there was an upward trajectory from 2011 until 2015 with an average growth rate of 13%, average net income started to fluctuate from 2016 to 2019 until it heavily plunged downward from 2019 to 2020 by 34%.

These figures are in line with the GCC banking industry's figures where total assets increased by 6.3% in 2015 (Oman:17%), 4.5% in 2018 (Oman:7%) and 8% in 2020 (Oman:3%). On the other hand, GCC banks' net income increased by 6.8% in 2015 (Oman:9%); 11.8% in 2018 (Oman:9%), and decline by 30.6% in 2020 (Oman:34%) (KPMG, 2015) (2018) (2020). According to Pinto *et al.*, (2017) financial performance are interlinked with a multitude of variables, and their effects cannot be ascertained to be true and similar across different banks, countries and even generations.

There are many variables that can affect the performance of banks. In the study of Berger *et al.* (2009), they explained that the concentration of power in the market and the competition are the key factors in determining the stability of the banks to operate synchronously which is in consonance with Albulescu's (2010) study which indicated that overall economic

variables are the key factors in achieving financial stability and increase the survival of banks in the market. Thus, the upward trend of total assets, total equity and net income in the first five years could be the result of the booming economy in the Gulf region from 2003 to 2014 (El-Katiri, 2016). This is further supported by the findings of Kandil and Markovski (2019) that capitalization of banks in GCC countries remains solid during the global financial crisis. Hassan and Bashir (2005) also discovered that high capital and loan-to-asset ratios lead to higher profitability and favorable macroeconomic conditions impact

performance measures positively. While Hasanov et.al (2018) discovered in their study that bank size, capital, and loans, as well as economic cycle, inflation expectation, and oil prices were positively related to the profitability. On the other hand, net income fluctuations in the latter part of the decade can be related to the decline in oil prices in 2016 (Tarver, 2019) (EIA, 2017), and further aggravated by the combined effect of the COVID19 pandemic and falling oil prices again in 2020 (Murthy & Al-Muharrami, 2020) (Oman News Agency, 2020). This relationship will be further investigated in the succeeding discussions.

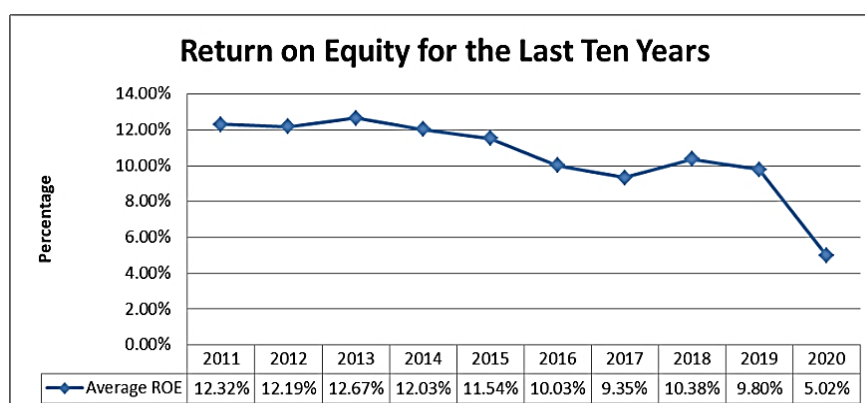


Figure 4: Analysis of Bank Performance as to Profitability Using Return on Equity

Figure 4 presents the analysis of Oman banks' profitability through the use of Return on Equity (ROE) ratios of the banks in the past 10 years. It can be seen here that banks' ROE were on a slightly decreasing trend from the year 2011 to 2019 with an average decrease rate of 0.3%. Year-on-year increase/decrease rate on ROE were -0.1% in 2012, 0.5% in 2013, -0.6% in 2014, -0.5% in 2015, -1.5% in 2016, -0.7% in 2017, 1% in 2018, -0.6% in 2019, -4.8% in 2020. Almost in every year for the last ten years, ROE ratio has gone down except in the years 2013 and 2018. In addition, a sharp decline of 4.8% from 2019 to 2020 can be hard to miss as the ratio was reduced to almost half of the preceding ratio (from 9.8% to 5.02%). Highest ROE reached over the last ten years was in 2013 at 12.67% while the lowest was in 2020 at 5.02%.

The Return on Equity (ROE) is one of the most commonly used profitability measures used by banks (Maverick, 2020). By looking at these ratios, it can be seen how much income the total equity can generate. The decreasing trend of ROE followed the downward trend of net income presented in Figure 3 more particularly in the latter part of the 10-year period. This occurrence can be explained by the formula of computing ROE which is the percentage of net income to total equity. It can be gleaned from the data that the ratio of net income to total equity is diminishing over the years since the increase in net income is lesser compared to the increase in total equity in the first half of the decade.

While total equity continues to increase, albeit at smaller growth rates, in the second half of the decade, net income was already on a decreasing trend. Thus, the sharp decline of 4.8% in ROE in the year 2020 can be mainly attributed to the 34% drop in the banks' average net income at the same period which could be an effect of the decrease in oil price among other variables. On the other hand, the notable increase of the ROE ratio in years 2013 and 2018, could be an effect of the spike of oil prices in 2012 (Difiglio, 2014) (El-Katiri, 2016) (the peak price over the 10-year period before the years of continued decline) and 2017 (the first marked increase after 4 years of continued decline in oil prices) during times of strong economic growth (Figgins, Lansdell, & Taqi, 2018) (The World Bank, 2018).

Therefore, a relationship between ROE and oil price can be established, given that net income and total equity are components of ROE, where an observed similarity in oil price and net income trends were observed. This observation agrees with the findings of Poghosyan and Hesse (2009) and Hasanov *et al.*, (2018) that oil price affects bank profitability as well as El-Chaarani (2019) which found that oil prices significantly affect the performance of banks in a less-diversified economy. Similarly, Al-Khazali and Mirzae (2017) found that in the case of an oil-exporting country, increase in oil prices will have an indirect positive effect on the banking sector.

Compared to GCC banks' performance, Oman's ROE increase/decrease rates were at par, with a decrease of 0.5% in 2015 (GCC:0.2%); increase of 1% in 2018 (GCC:1.1%); and a decrease of 4.8% in 2020 (GCC:5%). ROE levels of Oman were at 11.5% in 2015, 10.4% in 2018, and 5% in 2020 while GCC banks were at 11.7%, 11.3%, and 8.5%, in 2015, 2018, and 2020, respectively (KPMG, 2015) (2018) (2020).

According to Choudhry (2018), a 10% ROE is acceptable among banks. Oman was able to maintain its ROE level above 10% from 2011 until 2016, but remain below 10% in the succeeding years with 2018 as exception (10.38%). Thus, comparing to GCC levels and Choudhry's rule of thumb, ROE ratios of Oman banks in the latter half of the decade are slightly lagging behind.

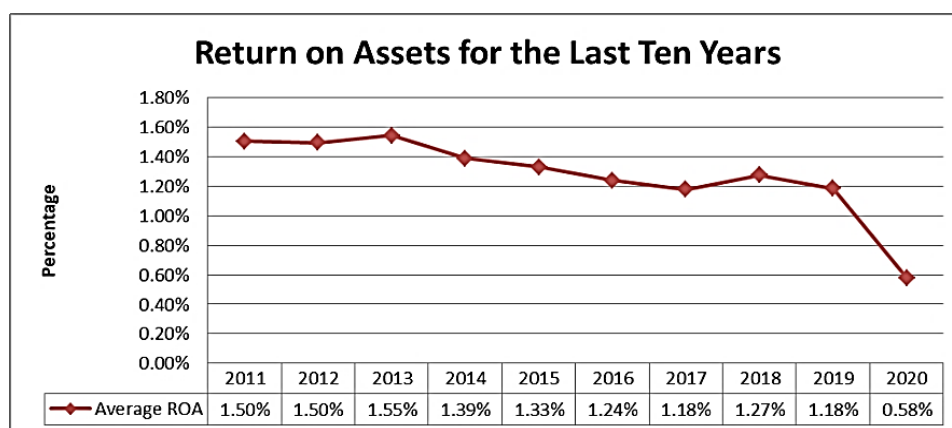


Figure 5: Analysis of Bank Performance as to Profitability Using Return on Assets

Figure 5 presents the analysis of Oman banks' profitability in the past ten years using the Return on Assets (ROA) ratio. It was observed that it also has a downward trajectory over the last ten years similar to ROE ratios. Except in the years 2013 and 2018, there was a continuous decrease in the ratio every year, by 0.01% in 2012, 0.16% in 2014, 0.06% in 2015, 0.09% in 2016, 0.06% in 2017, 0.09% in 2019 and 0.6% in 2020. Average decline rate from 2011 to 2019 was 0.04%, not as much decrease as the ROE. ROA ratio also had a comparatively sharper decline in 2020 by 0.6% (1.18% to 0.58%). Translated to nominal values, this percentage decrease is equal to a OMR19 million decrease in net income against a OMR140 million increase in assets in the year 2020. Highest ROA reached was 1.55% in 2013 while lowest point was at 0.58% in 2020.

ROA is another key profitability measure used in banks. In addition to measuring how banks are able to generate income from the equity (ROE), it is also important to see how banks are able to generate income through their assets which are mainly composed of loans. These ratios tell us how efficiently banks are using their assets (ROA) and equity (ROE) in generating income. Similar to ROE, the ROA trend in Oman followed the downward trajectory of the net income which is more prominent in the latter half of the past decade. This can be explained by the formula of ROA, that is, net income being a percentage of the total assets.

It can be observed in Figure 3 that while both the net income and the total assets have upward trends in the first half, net income started to spiral downwards

in the second half while total assets continue to go up in the period under study. The decreasing ROA means that there was diminishing proportion of net income to total assets over the years. This further means that the assets of the bank were not generating as much income as it does, compared with the preceding years, and continued to decrease over the 10-year period. Moreover, it can also be observed that ROA ratios have smaller values than ROE. This is because total assets are always greater than total equity, the latter being just a component of the former. Therefore, net income will naturally be of smaller proportion of the total assets compared to the total equity, hence ROA ratios tend to be smaller in value than ROE ratios.

Like ROE, the continued decrease of the ROA is due to the diminishing percentage of income to assets over the years, which could be the result of the falling oil prices in the last ten years. The unusual increase of ROA in 2013 and 2018 could also be related to the booming gulf economy from 2003 to 2014 (El-Katiri, 2016) and the economic recovery in the GCC in 2018 (The World Bank, 2018). Hence, the also unusual decrease of 0.6% in ROA in 2020 can be attributed to the sharp decline in average net income by 34%, which could be related to the drop in oil price by 28% in the same year.

In comparison with the GCC banks, ROA of Oman banks still remain at par with a decrease of 0.06% in 2015 (GCC:0%); 0.09% increase in 2018 (GCC:0.1%), and decrease of 0.6% in 2020 (GCC:0.6%). ROA levels of Oman banks were at 1.33% in 2015, 1.27% in 2018, and 0.58% in 2020 while that of GCC banks were at 1.4%, 1.5%, and 1.1%

in 2015, 2018, and 2020, respectively (KPMG, 2015) (2018) (2020). According to Choudhry (2018), a 1% ROA is acceptable among banks. Despite a decreasing trend, Oman was able to maintain their ROA levels at more than 1% in the last decade except in the past year. Thus, comparing with the GCC levels and Choudhry's rule of thumb, Oman banks are still showing good performance in ROA.

This observation is supported by the findings of Hasanov *et al.*, (2018) who found that bank size, capital, and loans, as well as economic cycle, inflation expectation, and oil prices were positively related to the profitability. However, it is contrary to the findings of Kolapo (2012) that an increase in total loan and advances led to increase in profitability.

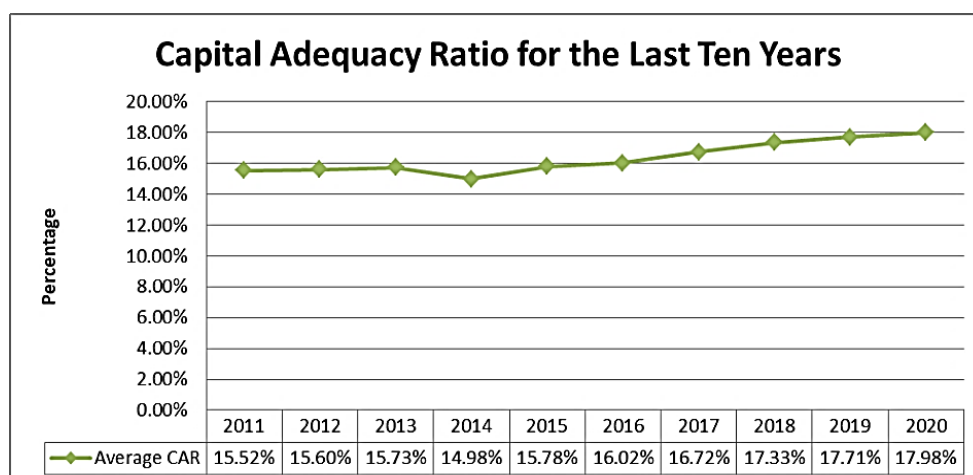


Figure 6: Analysis of Bank Performance as to Stability Using Capital Adequacy Ratio

Figure 6 presents the analysis of Oman banks' stability for the past 10 years through their Capital Adequacy Ratio (CAR). In this figure it can be seen that CAR has an upward trend over the last ten years with an average growth rate of 0.27% from 2011 to 2020. It can be noted that all banks have adequately surpassed the minimum required level of 10.5% imposed by Basel III to all banks globally (ETMarkets, 2019) and the minimum of 12% regulation by the Central Bank Oman over the last ten years (Central Bank of Oman, 2021). Except in the year 2014, CAR levels continued to increase every year, with percentage increases of 0.08% in 2012, 0.12% in 2013, 0.81% in 2015, 0.23% in 2016, 0.7% in 2017, 0.62% in 2018, 0.37% in 2019, and 0.27% in 2020. There was a 0.75% decrease in 2014 (the only time that CAR has gone down in the 10-year period) which could be explained by the introduction of the Basel III global regulatory standards to Omani banks (Curtis, 2014).

The decrease in 2014 could be interpreted as banks lowering their CAR levels since their actual CAR levels at that time were much higher than what has been prescribed by the regulation. Hence, it is better to free up the asset and use it for income-generating purposes. CAR levels over the last ten years were 15.5% in 2011, 15.6% in 2012, 15.7% in 2013, 14.9% in 2014, 15.8% in 2015, 16% in 2016, 16.7% in 2017, 17.3% in 2018, 17.7% in 2019 and 17.98% in 2020. Highest CAR reached was 17.98% in the year 2020 despite decreases in other variables discussed in the previous topics such as oil prices, oil production, ROE and ROA, and also

despite of the economic slowdown caused by declining oil price and corona virus pandemic.

CAR is a ratio designed specifically for banks as it is the bank's capital calculated as a percentage of the risk-weighted credit exposures (Hayes, 2020). It is important to see if banks are maintaining a sufficient level of CAR since it is an indicator of financial stability and efficiency in the banking industry (Nickolas, 2020) and will serve as cushion for banks' losses in the event of financial instability. Bank regulators enforce this ratio to protect depositors and promote stability in the financial system especially during times of financial crisis.

The CAR levels in Oman were observed to be slightly lower compared with the average GCC listed banks levels, but at par compared with the International Finance Corporation (IFC) capital adequacy measure of 17.9% in 2020 (The World Bank, 2020). IFC is the World Bank Group's private sector arm. Capital Adequacy Ratio in Oman were at 15.78% in 2015 (GCC:18.1%), 17.33% in 2018 (GCC:18.5%), and 17.98% in 2020 (GCC:18.7%). However, Oman fared better compared to GCC in terms of increases and decreases as it recorded increases in the mentioned years of 5% (GCC:2% decrease), 4% (GCC:0.2% decrease) and 2% (GCC:0.2% increase) in the years 2015, 2018 and 2020, respectively (KPMG, 2015) (2018) (2020).

Comparing with the CBO's regulatory requirements, Oman banks consistently performed better over the last ten years. This ensures sufficiency of bank capitalization and stability of Oman banks in the midst of the COVID19 pandemic and the effect of declining oil prices. This exemplary performance can primarily be credited to CBO's strong supervision. Singh (2016) observed that the domestic banks of Oman are following proper liquidity management system and are closely monitored by the Central Bank. They have internal policies of liquidity contingency

which are prepared in light of the detailed guidelines issued by the Central Bank of Oman.

This agrees with the findings of Saif-Alyousfi *et al.*, (2018) who discovered that capitalization of banks in GCC countries remain solid during the global financial crisis and Kandil and Markovski (2019) who found that banks can actually prevent financial vulnerability and increase the resiliency of the banking system by strengthening their capacity to withstand economic stressors through raising their capital adequacy.

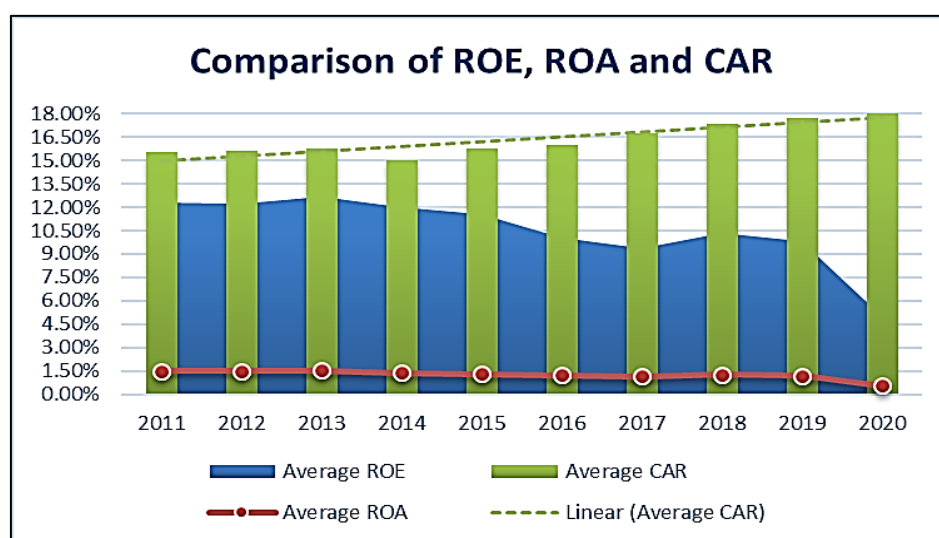


Figure 7: Comparison of the Average ROE, ROA and CAR of Oman Banks from 2011 to 2020

Figure 7 presents the comparison of the trend lines of the average return on equity (ROE), average return on assets (ROA) and average capital adequacy ratios (CAR) of Oman banks for the past 10 years. These trend lines summarize the profitability and stability of Oman banks in the last decade. ROE started at 12.32% in 2011 and end at 5.02% in 2020; ROA started at 1.50% in 2011 and end at 0.58% in 2020; while CAR started at 15.52% in 2011 and end at 17.98% in 2020. It can be observed that both the ROE and ROA were on a downward trajectory while CAR has an upward trend.

It can be clearly seen here that Oman banks remain stable as measured by their capital adequacy ratios and even managed to increase them through the years despite several economic blows the country has gone through in the last decade – mostly caused by oil price fluctuations that happened in the years 2016 (Tarver, 2019) (EIA, 2017) and 2019 (Oman News Agency, 2020) (Murthy & Al-Muharrami, 2020), as discussed previously. Such good performance can

mainly be attributed to the strong regulatory supervision and close monitoring of banks by the Central Bank of Oman (Singh, 2016). On the other hand, it can also be seen from the figure that based on return on equity and return on assets ratios, Oman banks' profitability has suffered in the past ten years, which can be more prominently observed in the latter half of the decade. Year 2020 maybe considered the worst year in terms of profitability since it was affected by two major economic blows – the continued decline in oil price combined with the impact of the Covid19. As discussed in the previous graphs, such fluctuations in these ratios can be related to the oil price decrease of 2016 and the most recent one that happened in 2019 and the adverse effect of the pandemic. This volatility is mainly thought of to be caused by the country still being majorly dependent on oil. Lastly, as compared with the GCC banks, these observed trends are generally aligned with the performance of the GCC banks (KPMG, 2015) (2018) (2020), thus, except for their ROE performance in the latter half of the decade, it can be construed that Oman banks are still doing well.

Analysis of the Relationship of the Oil Price Change to Bank Stability and Profitability**Table 1: Descriptive Statistics for ROE, ROA, CAR and Oil Price**

Descriptive Statistics			
	Mean	Std. Deviation	N
ROE	0.105	0.02321	10
ROA	0.012	0.00422	10
CAR	0.165	0.00972	10
OILPRICE	74.845	27.54443	10

Table 1 shows the mean score and standard deviation of ROE, ROA, CAR and oil price over the 10-year period. Respective mean scores are 0.105, 0.012, 0.165 and 74.8, for ROE, ROA, CAR and oil price while standard deviations are 0.023, 0.004, 0.009 and 27.54, respectively. Average is the sum of the individual results divided by the sum of the values (N). Standard deviation is a measure of how well the individual numbers agree with each other. This shows that the average ROE of the sampled banks in the 10-

year period was 10.5% with standard deviation from the average of +/-2%. Likewise, the average ROA of all the sampled banks in the 10-year period was 1.2% with standard deviation from the average of +/-0.4% and the average CAR of the sampled banks in the period under study was 16.5% with standard deviation from the average of +/-0.97%. Lastly, the average oil price of the sampled banks in the past ten years was USD74 with standard deviation from the average of +/-USD27.

Table 2: Effects of Oil Price to ROE, ROA and CAR

Effects of Oil Price to ROE, ROA, and CAR								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	df	Interpretation
ROE	.705 ^a	0.496	0.433	0.01747	7.883	0.023	1,8	Significant
ROA	.562 ^a	0.316	0.231	0.0037	7.3	0.091	1,8	Not Significant
CAR	.570 ^a	0.325	0.24	0.00847	3.847	0.085	1,8	Not Significant

a. Predictors: (Constant), OILPRICE

Table 2 shows the effects of oil price to ROE, ROA, and CAR. Oil price is the independent variable while ROE, ROA and CAR are the dependent variables. The table shows a correlation coefficient (R) of 0.705 between oil price and ROE, 0.562 between oil price and ROA, and 0.570 between oil price and CAR. This means that there is a strong positive correlation between oil price and ROE and moderate positive correlation between oil price and ROA and oil price and CAR (See Appendix 1 for the interpretation of values). These shows that while the independent variable (oil price) increase, the dependent variables (ROE, ROA, CAR) also increase, or while the former decrease, the latter follows and also decrease. R-square shows the association between the independent and dependent variables. Strong association between the variables indicates a strong simultaneous occurrence between these values, and moderate association indicates a moderate simultaneous occurrence between them. Thus, R-squares of 0.496, 0.316, and 0.325 between oil price and ROE, ROA and CAR, respectively shows their strength of association.

A simple linear regression was calculated to predict the ROE, ROA and CAR values based on oil price. The coefficient of determination was calculated

first to find out how much the independent variable (oil price) cause a change to the dependent variables (ROE, ROA and CAR). Therefore, with an Adjusted R-square of 0.433, 0.231 and 0.24 for ROE, ROA and CAR, respectively, it is noted that 43.3% of the change in ROE, 23.1% of the change in ROA, and 24% of the change in CAR is caused by a change in oil price with standard error of estimates of 0.017, 0.003, and 0.008 for ROE, ROA and CAR, respectively.

Based on the calculations, the significance of the effects of the change in oil price to ROE, ROA and CAR, were also tested. For oil price and ROE, a significant regression equation was found, since $F(1,8)=7.883$, $p<0.023$, with an R^2 of 0.496. The regression model statistically significantly predict the outcome variable, thus, oil price have significant effect on ROE. For oil price and ROA, there was no significant regression equation found, since $F(1,8)=7.3$, $p<0.091$, with an R^2 of 0.316. The regression model does not statistically significantly predict the outcome variable, thus, oil price have no significant effect on ROA.

For oil price and CAR, there was also no significant regression equation found, since

$F(1,8)=3.847$, $p<0.085$, with an R^2 of 0.325. The regression model does not statistically significantly

predict the outcome variable, thus, oil price have no significant effect on CAR.

Table 3: Regression Equation for Oil Price and ROE

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.061	0.017		3.613	0.007
	OILPRICE	0.001	0	0.705	2.808	0.023

a. Dependent Variable: ROE

The regression model statistically significantly predicts the outcome variable through the regression equation for oil price and ROE presented as: $ROE = 0.061 + 0.001(\text{Oil Price})$ as shown in Table 3, therefore proving that indeed, oil price's impact on ROE is statistically significant.

These findings agree with the research outcomes of the studies of Poghosyan and Hesse (2009) who discovered that "oil price shocks have an indirect effect on bank profitability, channeled through country-specific macroeconomic and institutional variables highlighting systemic implications of oil price shocks on bank performance" and further suggesting that the oil sector has an indirect relationship with the profitability of banks in oil-dependent countries. The findings also concurs with Hasanov *et al.*, (2018) findings that "bank size, capital, and loans, as well as economic cycle, inflation expectation, and oil prices

were positively related to the profitability" as well as El-Chaarani (2019) which found that oil price change has a direct impact on the financial performance of banks in Bahrain, Oman and Iran and no direct impact on the financial performance of banks in Jordan, Kuwait, Qatar, Saudi Arabia and United Arab Emirates. They attributed the difference on the economic conditions of each country. This means that if the economy is well diversified the impact of oil price on the performance of banking sector is lessened. In contrast, if the economy of the country is not diversified, the impact of oil price on the financial performance of banks becomes significant. On the other hand, the result contradicts the research findings of Mohammad *et al.*, (2019) who discovered that change in oil price affects the stability of conventional bank positively.

Research Output

Table-4: Policy Recommendation for Banks

POLICY RECOMMENDATION					
Policy Issue	Background/Context	Proposed Policy Alternatives	Objectives and Means of Implementation	Persons Involved	Expected Outcome
Bank Profitability	Decreasing trend in ROE and ROA in the last ten years (2011 to 2020)	Policy to improve profitability through: - efficient banking	Bank efficiency: To help increase net income without using additional resources. Means of Implementation: - decrease operating costs (cost-cutting measures and green banking)	Bank management	Decreased operating costs
		Policy to improve profitability through: - increased revenue streams	Additional revenue streams: To release pressure on mainly depending on interest for bank revenues. Means of Implementation: - increase non-interest revenue streams through fees, commissions and non-interest products and services (e.g. mobile apps, prepaid cards etc.)	Bank management	Additional revenue streams

With the foregoing results and discussions, a policy recommendation was prepared to aid the banking sector of Oman in improving their profitability in this time of financial crisis. Such recommendation include the development of policy with regards to improving bank profitability through increasing efficiency in the operations of the bank and introducing additional non-interest revenue streams. These strategies will help increase net income without using additional resources (bank efficiency) and release some pressure on mainly depending on interest for bank revenues (non-interest revenue stream). Operational efficiency of banks can be done through cost-cutting measures such as limiting administrative costs like electricity, water, supplies, telephones etc. and introducing paperless banking. These methods of saving limited resources are ways of sustainability which are exhibitions of green banking practices. This will not only improve profitability of banks but will also help save the environment from the imminent effects of global warming. On the other hand, identification of additional non-interest revenue streams will help banks improve their profitability. The era of digitalization has also brought many opportunities for banks to earn through other means like online banking, payments through mobile applications, prepaid cards, partnering with other business establishments in handling their payment methods, and many other ways. Since data analytics have also improved tremendously, banks have better way to learn about their customer's needs, not only through fund generation but also through other financial products and services. These policies can ensure that banks maintain their interest levels while at the same time improve their bottom line. In the long run, more customers will be satisfied for they are not overburdened with high loan rates while offering more relevant products and services and practicing business sustainability.

CONCLUSIONS

Based on the specific objectives of the study, the following conclusions are given:

1. There had been a decreasing trend on the price of crude oil for the last ten years with the exception on the years 2012, 2017 and 2018. The second half of the decade experienced reduced oil prices (about 50% reduction) compared to the first half. On the other hand, oil production was increasing in the first half of the decade which peaked in 2016 and had a decreasing trend in the latter half.
2. The financial position of the listed banks in Oman as presented through their total assets and total equity had an increasing trend over the past ten years. Net income, on the other hand, was increasing in the first half of the decade then fluctuated on the second half. In terms of profitability of the banks, both return on equity (ROE) ratios and return on assets (ROA) ratios had a downward trajectory in the last ten years with exception on years 2013 and 2018. While in terms of stability, capital adequacy ratios (CAR) had an upward trend in the past ten years wherein the highest ratio was achieved in the year 2020.
3. Based on the simple linear regression calculation, a strong positive correlation between oil price and ROE was observed, wherein change in oil price can impact ROE by 43%. The effect of oil price to ROE was statistically significant. A regression model for oil price and ROE can be presented as: $ROE = 0.061 + 0.001(\text{Oil Price})$. On the other hand, there was a moderate positive correlation between oil price and ROA and oil price and CAR, where change in oil price can impact ROA by 23% and CAR by 24%. The effect of oil price to ROA and CAR was not statistically significant.
4. A policy recommendation was formulated to improve bank performance.

RECOMMENDATIONS

Based on the conclusions, the following recommendations are given:

1. Economic diversification maybe strengthened and continuously pursued to lessen dependence on oil. Hence, banks and other sectors of the economy may be spared from the adverse effects of the volatile oil market.
2. The proposed policy recommendation may be considered to strengthen bank profitability which continued to decline in the last ten years.
3. While bank stability remains solid over the years, such weakness in profitability may have an effect in stability in the long run. Hence, there may be a need for the Central Bank to extend their regulatory support more particularly to banks severely affected by the crisis, so as to help them survive and revive operations back on track. As public sector deposits remain a stable source of funding, a good balance of deposit concentration may be closely monitored vis-à-vis bank liquidity.
4. Future researchers who will study on this subject may include the utilization of qualitative measures such as management efficiency and sensitivity analysis.

APPENDICES

Appendix 1: Interpretation of Correlation Coefficient

Correlation Coefficient		Interpretation
+1	-1	Perfect
+0.9	-0.9	Strong
+0.8	-0.8	Strong
+0.7	-0.7	Strong
+0.6	-0.6	Moderate
+0.5	-0.5	Moderate
+0.4	-0.4	Moderate
+0.3	-0.3	Weak
+0.2	-0.2	Weak
+0.1	-0.1	Weak
+0	-0	Zero

Dancey C.P., Reidy J. Pearson Education; 2007.

Statistics without Maths for Psychology (Akoglu, 2018)

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