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Determinants of bank profitability during oil price decline: Evidence from selected banks in Oman

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ABSTRACT

This study examines the influence of macroeconomic factors, namely Inflation, Gross Domestic Production (G.D.P.) and changes in oil price and Bank-Specific Factors such as capital, asset size, liquidity risk, loan and deposit on bank profitability as measured by return on equity (R.O.E.) and net profit ratio (NPR) during the period of oil price decline, 2013-2017. The top 7 commercial banks were chosen as a sample of the study based on the availability of the data and the possible influence it can contribute to representing Oman's banking industry. The quantitative approach utilized appropriate statistical tools to analyze and interpret the secondary data gathered, including descriptive statistics, panel regression, Pearson correlation, and correlation matrix. Key findings of the study revealed no significant relationship between macroeconomic factors and the return on equity. There is also no significant relationship between macroeconomic factors and the net profit ratio. On the other hand, bank-specific factors significantly correlate return on equity and the net profit ratio. The study's findings contribute to the bank's management, economic policymakers, a research body, and academia in distinguishing the best indicator for a bank's profitability influenced by macroeconomic and bank-specific factors.

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Introduction

Despite all economic sectors in a country have been differently influenced by the change in economic activities, the banking industry is the most vulnerable. The critical observation regarding that description measures the banking sector's performance via its profitability within financial deficiency (Peersman and Van Robays 2012; Shetty and Ibrahim, 2017). Since banks' performance is expressed by different terms such as a competition, concentration, efficiency, productivity, and profitability, the last term is the most accurate representation of banks' performance and stability (Kawshala and Panditharathna, 2017). Therefore, examining banking performance focusing on profitability, concentrating on returns on equity (hereafter R.O.E.) and net profit ratio (hereafter NPR), and how to be influenced by bank-specific factors such as capital, size, liquidity risk, loans, deposits, and macroeconomic factors namely inflation, Gross Domestic Product (G.D.P.) and change in oil price within oil price decline as the primary trend of the present study.

The banking industry has been selected for the study for many reasons. It is known that the financial sector in most countries and Oman fills the large size of the value of equity markets. Based on the annual reports (2013 – 2017) of Muscat Securities Market (M.S.M.) and compared with industrial and service sectors, this sector forms 44.3%, 41.7%, 78.6%, 84.2%, 61.2%, 58%, 35.3%, 43.2%, 81.7%, 67.5% and 41.5 of M.S.M. values in total income, net profit, total assets, liabilities, share capital, net worth, dividends, market capitalization, trade value, trade volume, and trades respectively compared with industrial and services sectors (M.S.M.

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Annual reports, 2013-2017; Omani commercial banks, 2013-2017). Because of the investigation in the mentioned M.S.M. annual reports, the banks in this sector form a more considerable value than other financial institutions. For instance, assets of the commercial banks to the financial sector assets are 84.25%, 85.27%, 85.73%, 85.47, and 84.44 for 2013, 2014, 2015, 2016, and 2017 respectively (M.S.M. Annual reports, 2013-2017; Omani commercial banks, 2013-2017). Consequently, bank performance is the mirror for the activities of other sectors reflecting the economic efficiency and deficiency. Accordingly, the banking industry can represent the financial sector best for the current study. The inconstancy in oil price within (research) period 2013 – 2017 appeared starting from 2014 (began with \$95.14 at the onset and closed with \$53.05 at the end of that year). Thus, the prices of oil recorded low values in 2015. Subsequently, in the following years, the oil prices will be higher than in 2014 and 2015. However, they are still less than 2013 values.

Globally, there are many reasons for the inconstant prices in the period above. Based on OPEC reports, some of the most important reasons are the rising oil production from a few oil countries, the opposite of falling production of other oil countries, and imbalanced oil demand from China, India, and other oil international consumers (OPEC, 2018). The decline in oil prices affects oil countries' economic activities, including the Sultanate of Oman. Therefore, other non-oil sectors will be influenced by macroeconomic factors such as inflation, G.D.P., and oil price change selected in this study.

Since oil revenue is the primary source of the Omani Budget, activities of non-oil sectors will be influenced indirectly if the oil price, inflation, and G.D.P. are changed. The unstable oil price will then affect the Omani economic performance (Pandow, 2018). According to this influence occurred by the oil price decline, the debts of the Omani government have been recorded at a high level (achieving 40% of G.D.P.), growth of G.D.P. decreased, and deficit in the budget is increased (Moody's Investors Service, 2017). Consequently, it is a fact that all economic sectors, including the banking sector, are influenced differently by the decline in oil prices in a country depending on the oil revenues as the leading resource on its economy. Examining the influence of the inflation, G.D.P. and oil price change as a macroeconomic factor on the banking sector's profitability during the decline in oil price is essential to measure how bank's performance is represented by profitability influenced by the change in macroeconomic factors and with the difference in oil price. Consequently, aside from the macroeconomic factors are also bank-specific factors, thereby considering the different indicators used to measure bank profitability. Indicators such as R.O.E. and NPR are significant indicators to effectively present the banks' profitability.

The economic situation can influence bank performance; financial deficiency such as oil price decline in Oman starting from 2013 may generally affect the whole economic activities and the banking performance rather than its profits. Since the research period covers the oil price decline years, the study is motivated to examine to which extent the banking sector profitability is influenced by bank-specific factors and macroeconomic factors, specifically during the oil price decline from 2013 to 2017. This leads to understanding how and which of the bank-specific and macroeconomic factors influence the banking sector's profitability during the oil price decline. According to researchers' knowledge, limited empirical studies were found to measure which economic factors influence banks' profitability during the oil price decline in Oman. Therefore, the current research tends to specify the mentioned gap to determine the influence of economic changes on a bank's profitability.

This paper aims to (i) determine the different factors that impact profitability in selected banking institutions in Oman, (ii) determine the significant impact of macroeconomic factors on R.O.E., (iii) determine the significant impact of macroeconomic factors on NPR, (iv) investigate the significant influence of bank-specific factors on R.O.E., (v) investigate the significant influence of bank-specific factors on NPR.

Literature Review

Theoretical and Conceptual Background

As mentioned in the previous section, the current study examines the influence of bank-specific factors and macroeconomic factors on Bank profitability within oil price decline for 2013-2017. Continuously, this section reveals the prior related research that examines the mentioned variables. The paper also highlights the relationship between bank profitability with bank-specific factors and the selected macroeconomic factors of the study. Finally, the above presentations are beneficial for building the study's theoretical framework in the last section.

The trend of how finance influences economic growth has been widely examined. Significantly, research of the finance influence on economic growth can impact the priority of monetary policymakers and advisors. Thus, this influence creates a need to reform the used policies of the financial sector. For long periods, the financial system affects the growth of the economy. Accordingly, this leads to more research on different related areas such as political, legal, regulatory, and economic development (Levine, 2005).

Capital is one of the vital indicators in determining the financial position of banks is the capital structure. It also served as a significant variable in assessing financial institutions' profit potentials. Hence, it affects profitability and promotes financial stability. Studies have revealed the positive impact of bank's capital structure on profitability that includes the transition economies (Petria et al. 2015; Nuriyeva 2014; Djalilov and Piesse 2016). Capital also served as the bank's ability to purchase additional shares and expand its business activities through branching or diversification of services as the profitability of the business increases.

Asset size term refers to how big the banking institution is according to its assets or total asset components. In most banking institutions, determining the size of the bank is measured by total assets based on various studies (Demirguc-Kunt and Huizinga, 1998; Athanasoglou et al., 2008). Based on the analysis of Athanasoglou et al. (2008), as the bank's asset size increases, its positive impact on profitability is attained. Accordingly, financially leveraged banks experienced growth in profitability in line with the increase in their asset size even if they are more exposed in debt markets. However, findings on the impact of asset size on profitability are not consistent with previous empirical evidence, especially to transition economies (Nuriyeva, 2014; Djalilov and Piesse, 2016; Petria et al., 2015).

Liquidity risk is a risk attributed to the banks and other financial institutions' inability to meet their short-term financial obligations and demands. The theory explained that if companies are exposed to growing liquidity or credit risks, its outcome negatively affects profitability and will decrease profits (Athanasoglou et al., 2008). Liquidity risks commonly arise when assets, mainly loans, are hard to collect because of the incapacity of the debtors to settle their obligations resulting in defaults in payments and increasing outstanding balances of debt. In many studies, especially in transition economies, there is strong evidence of the negative impacts of liquidity or credit risks on banks profitability (Djalilov and Piesse 2016; Petria et al. 2015; Capraru and Ihnatov 2014; Roman and Sargu 2015). Moreover, a company's increased exposure to debt decreases profitability.

Loans refer to the company's assets that are extended to the borrowers through lending. It is also the primary source of income through interest income for every loan extended to borrowers. Theoretically, the empirical research focused on determining net interest margins in the banking sector. A suggestion for interest margin as compensation in managing the risk faced by the banks when they receive the deposits and give the loans (Al-Muharrami and Murthy, 2017). Some economic situations are related to the quality of loans. Poor economic conditions mean loan portfolio quality is low. This is because of credit losses and provisions expenses will be maximized and minimize profitability. On the other hand, the high demand for loans is related to good economic conditions. Hence, better borrower solvency is positively affecting bank profitability. Many factors significantly influence the bank's performance, especially profitability. One of these factors is the loan portfolio. Therefore, getting high income from loan interest means high loans lead to high performance or profitability (Duraj and Moci, 2015).

Deposits from customers are liabilities to the bank. The deposits are considered the primary source of banking funding. This account is presented as the current liability of banks and serves as the bank's primary source of funds in which these funds can be invested to generate income. More banks' deposits mean more opportunities for customers' loans and generating future profits. Indeed, when the market demand for loan opportunities is satisfied, customer deposits are positively associated with banks' profitability. It was found that more deposits create more profits, and low deposits negatively affect profitability. However, additional deposits generate more loans opportunities and then develop more profits. Therefore, customer deposit is positively associated with the bank's profitability (Lee & Hsieh, 2013).

Empirical Review and Hypotheses Development

Macroeconomic Factors and Bank Profitability

Bank's performance in general and its profitability can be influenced by internal (bank-specific factors) and external (macroeconomic) factors (Al-Muharrami and Murthy, 2017; Duraj and Moci, 2015). It is known that Banks can control microeconomic factors while macroeconomic factors are not under the direct control of banks (Sayilgan and Yildirim, 2009). Internal factors such as bank size, equity, credit risk, non-earning assets, and liquidity risk, and other variables have been widely examined in the literature (Nassar et al., 2014). Indeed, the study focuses and examines the influence of inflation, G.D.P. and oil price change as the macroeconomic (or external) factors on the Omani banks' profitability. Macroeconomic factors can be employed to measure the differences in economic activities between two countries or among many nations (Al-Muharrami and Murthy, 2017). Also, in a country, the differences of the financial situations in two periods and the current study can be investigated. Accordingly, the study aims to indicate the influence of selected macroeconomic factors on the bank's profitability pre and during an oil price decline. This investigation will be processed before and during the oil price decline from 2013 – 2017. To indicate the role of these macroeconomic factors in the economic environment, they used as control variables in previous studies (Mlachila and Sanya, 2016; Ahokpossi, 2013), while in the current research, their influence as independent variables will be examined as employed in other studies (Mensi et al., 2017).

In terms of macroeconomic variables, researchers have found a link between inflation, interest rates, and profitability (Molyneux and Thornton, 1992) as well as the business cycle and bank performance (Flamini et. al., 2009). Banks can adjust interest rates if inflation (expectation) increases, which might feed back into higher revenues and profits. A previous study pointed out that banks' profitability in Greece is affected by macroeconomic factors (Athanasoglou et al., 2008). Based on the abovementioned studies and others, the Inflation, G.D.P. and changes in oil prices are the most important macroeconomic factors in literature, playing a vast role in indicating economic evolution. Thus, the influence of these factors on banks' performance represented by their profitability in prior research is discussed in the following sub-sections.

Inflation and Bank Profitability

Inflation is a sustained or continuous; (1) rise in the general price level of goods and services, not assets, or (2) fall in the value of money over a period longer than a day, week, or month (Labonte, 2011). Inflation is the important macroeconomic factor used to

indicate macroeconomic instability and informational asymmetries (Al-Muharrami and Murthy, 2017). Higher inflation leads to change in economic conditions. High inflation mainly influences bank performance in term of profitability. Since the banking industry is considered a profit-economic sector, a bank's performance through its profits is usually classified as the main objective to measure the bank's health in different economic circumstances. The banks' profits play a vital role in resisting the economic slowdown. Bank with high profitability is more confident to face and alleviate the adverse effects of the economic shocks (Hasanov et al., 2018). Since the economic situation influences the financial sector, Duraj and Moci (2015) examined the influence of inflation as an economic factor on the profitability of Albanian banks. The relationships of inflation with the banks' profitability have different signs. It is found that the costs of banks operation are increased with interest rates lower than with inflation minimizing banks profitability. The relationship of the banks' profitability with inflation is significant and negative. Banks' profitability can be strongly affected. The effect of stable inflation can be fundamental to demolish the financial system stabilization and the regulator's ability to manage and control financial instruments' solvency (Duraj and Moci, 2015). The influence of inflation as a macroeconomic factor on the banking sector performance has been examined by Seferli (2010) for 29 Azerbaijani commercial banks within the period 2003–2008. It is found that this factor has a significantly negative influence on the Azerbaijani banks' performance. Demircuc-Kunt and Huizinga (1998) argued that macroeconomic factors including G.D.P. per capita, inflation rate, and others (such as real interest rate and foreign ownership) positively influenced the bank profitability regarding data from 80 countries for the period 1988-1995.

Based on data from European countries, namely Portugal, Germany, Spain, France, and 1986-1999, inflation and unemployment rates negatively influence R.O.E. (Abreu and Mendes, 2002). Besides actual and real interest rates, inflation positively influenced bank profitability in the banking sector of Hong Kong within the period 1992-2002 (Jiang et al., 2003). This study will measure inflation as an annual rate announced by the Ministry of Finance in the Sultanate of Oman. For the current research and consistent with previous studies (Duraj and Moci, 2015; Seferli, 2010; Abreu and Mendes, 2002), it is expected that inflation has a significant and negative influence on the bank's performance and profitability.

G.D.P. and Bank Profitability

The G.D.P. growth in the literature is used a represented for economic development, and it has been expected by Dietrich et al. (2015) to be negative when linked with bank performance than its spread. The annual G.D.P. is the most common indicator of resources of a country or a wealth of economic Duraj and Moci (2015) examined the influence of the G.D.P. on the profitability of Albanian banks. It was found that the relationship of the banks' profitability with the G.D.P. has a significant and positive sign. Rates of real G.D.P. growth positively influenced bank profitability in the banking sector of Hong Kong within the period 1992-2002 (Jiang et al., 2003). Seferli (2010) examined the influence of the G.D.P. as a macroeconomic factor on the banking sector performance in Azerbaijan. Inconsistently with the prior research, the author found a negative and insignificant impact of G.D.P. on the bank's performance in Azerbaijan. It is concluded that the G.D.P. factor is not a vital sign in explaining the performance of the banking sector in the U.K. and Germany (Hoggarth et al., 1998). However, the absence of the influence of this factor on the banks' profits has not been proven yet in addition to the weakness of use this factor as a determinant for bank profitability in literature (Duraj and Moci, 2015).

Employing non-oil G.D.P. instead of the total G.D.P. in bank-related research is a comparative case between oil and non-oil sectors (Hasanov and Huseynov, 2013). Consequently, Hasanov et al. (2018) suggested that this method is better to indicate how economic activities can influence the banking sector's profitability. For the current study, a cross-examination of oil and non-oil sectors performance is employed to determine the influence of economic factors (non-oil sector) on the bank profitability (non-oil sector) within oil price decline (oil sector). The G.D.P. will be measured in this study as an annual rate announced by the Ministry of Finance in the Sultanate of Oman. For the current research and consistent with previous studies (Seferli, 2010), it is expected that G.D.P. has a significant and negative influence on the bank's performance and profitability.

Change in Oil Price and Bank Profitability

Since international factors could significantly impact the oil prices, the non-oil sectors can be superior in representing the economic activities compared with the oil sector (Hasanov et al., 2018). The high and different movement in oil prices affects various economic activities based on the uncertainty degree of oil price instability (Ebrahim et al., 2014; Junior and Goodness, 2018). Besides oil price decrease, it is assumed that the oil crisis appears via macroeconomic factors such as inflation, G.D.P. and economic growth, interest rate, exchange rate, and other economic factors (Ratti and Vespignani, 2016).

The monetary authority behavior can economically explain the effects of unusual oil prices. Accordingly, these effects can be differently shown in the real economy and inflation, and therefore, the central bank has limited choices to manage this situation. Particularly, when the central bank tends to set the growth of outputs, the interest rate must be minimized, leading to losing in the G.D.B. and increasing inflationary compression. On the opposite side, using a targeted inflation policy could maximize the interest rates and negatively affect the growth of outputs. The unusual changes in oil prices lead to variations in the business's life. Hence, the high oil price may lead to low growth in economic performance in many developed countries (Cologni and Manera, 2005).

Prior research has widely examined the relationship between oil price changes and business cycles after the first oil crisis in 1973, and mixed results have been found (Darby, 1982; Hamilton, 1983; Burbidge and Harrison, 1984). Hamilton (1983) found a significant association of oil price changes with real G.N.P. growth regarding the U.S. economy for periods 1948-1972 and 1973-1980. On the

other hand, the negative correlation of oil price arrangements and economic growth reflected an underlying link from oil prices to collective economic activity (Cologni and Manera, 2005) and a causal relationship with the oil price crisis. Businesses can be highly affected by the changes in oil prices. The squeaky increase in those prices possibly leads to slowing downs in the industry and results in weakness in the economic performance of the most developed countries (Cologni and Manera, 2005). Performance improvement of the commercial banks may increase the efficiency of other sectors' activities. In different economic situations, measuring the bank profitability within economic efficiency and deficiency indicates the banking sector's ability to reflect the occurred economic changes.

The banking sector has been significantly impacted following the decline in oil prices starting from the second half of 2014, revealing the assured effects of oil prices on the banking sector (Hasanov et al., 2018). The oil price change will be measured in this study as the annual closing price announced by the Ministry of Finance in the Sultanate of Oman. For the current study and consistent with previous studies (Hasanov et al., 2018), it is expected that oil price change has a significant and positive influence on the bank's performance and profitability.

Bank-Specific Factors and Bank Profitability

Capitalization and Bank Profitability

Studies have already been conducted testing the relationship between capitalization measured by the ratio of equity to total assets and bank's profitability as determined by the return on assets (ROA). The results indicate a positive relationship of capitalization into bank profitability as evidenced by the increased investment by shareholders for better current and future bank performance, thereby signaling the potential high market share and presence. Most experiences in the banking sector revealed that the increasing profitability directly relates to increased capitalization as banks set aside part of their income to enlarge the capitalization base (Athanasoglou et al., 2008). Furthermore, vast studies have affirmed the positive relationship between bank profits and capitalization (Molyneux & Wilson, 2004b; Pervan, Pelivan & Arnerić, 2015). These studies proposed two hypothetical statements: the expected bankruptcy cost hypothesis and the signaling hypothesis. The expected bankruptcy cost hypothesis dictates that banking institutions increase their capitalization if caused by higher expected bankruptcy costs from exogenous factors. This is related to the banks' possible disclosure of information relative to their capacity to generate profits and their prospects and potentials. Sauna (2016) stressed an equilibrium effect between capitalization and profitability which means that the increase in capitalization produced an almost similar effect in banks' profitability and are positively correlated. However, many studies also cautioned the banking and financial sector not to maintain an excessive high capital ratio as it may result to undermining the opportunities for profitable growth because the banks are overcautious with its operation and are not willing to take risks in return for higher profitability, hence; will result into increased opportunity costs of capital (Berger 1995b; Sharma, Gounder & Xiang 2013). A positive effect of capital on Sri Lankan commercial bank's profitability has been found by Kawshala and Panditharathna (2017) for the period 2011-2015. It is expected for the present study that bank capital positively influences its profitability.

Liquidity Risk and Profitability

Holding low amounts of liquidity assets because of low deposits of customers leads to minimizing the loans, decreasing bank profitability. Also, low liquidities result in large deposit withdrawals that eventually create higher risks for banks (Kawshala and Panditharathna, 2017). Banks and other financial institutions aim to maximize profits and minimize risks to earn these. This aim depends on the acceptable link between risk and returns, indicating that the higher risk level is related to potentially higher returns. Although, this statement lacks credibility because of the high level of risk that also results in higher prospective losses.

The liquidity ratio is measured by the percentage of loan loss reserves to total loans. Credit risk can be calculated effectively by dividing non-performing loans into total loans. Using the model introduced by Athanasoglou et al. (2008), the use of liquidity risk variable in determining the profitability of financial institutions produced a significant relationship as evidenced by compliance by bank managers to meet daily banking operations based on the specific standards set for loan loss provision. A negative relationship between liquidity risk and bank profitability has been found (Pasiouras and Kosmidou, 2007; Kawshala and Panditharathna, 2017). For the current study, it is expected that the liquidity risk negatively influences bank profitability.

Bank Size and Profitability

Determining the bank's asset size will be measured by the logarithm of total assets that are expected to generate a non-linear effect on bank profitability (Miller and Noulas, 1997). Consequently, banks and financial institutions that have more significant assets have the freedom to maximize economies of scale that will lead to higher profitability. Banks elevated to large or mega-large banks have proven to use their asset size to achieve higher profitability; hence, the nonlinearity of asset size and bank profitability is positively supported (Maudos & Solís 2009).

Examining the bank's effectiveness in Greek depends on the size of assets by employing different methods. This is based on Spathis and Doumpos (2002), who categorized the size of selected banks per profits and other factors showing their differences in terms of profitability and efficiency. Managing assets and liabilities in the banking sector has been widely researched before (Richard and James, 2003). The prior research altogether proposed that this sector can manage and concentrate the risk management issues and their implications. Similarly, banks and financial institutions that have ventured into higher and risky operations on a large scale will eventually charge higher margin, thus increasing the bank's performance and profitability (Maudos & Solís, 2009).

Furthermore, asset size is positively correlated to bank profitability, although its impact resulted in diseconomies of scale, contrary to previous findings that size and profitability promote economies of scale (Athanasoglou et al., 2008; Goddard, Molyneux & Wilson 2004a). The effect of bank size on profitability applies to medium and large-scale banks and small-scale banking institutions (Dietrich and Wanzenried, 2014). However, this finding contradicts as evident in the context of Vietnam, where Le (2017) stressed that more lending extended to banks potentially leads to higher credit risks, thus lowering banks' profitability. Kawshala and Panditharathna (2017) examined the effect of Sri Lankan commercial bank size on profitability for 2011-2015 and found a positive impact. There is no expectation for the relationship between bank size and its profitability for the present study.

Loans and Profitability

According to researchers, an increase in the ratio of loans to total assets positively impacted financial institutions' profitability unless they tolerate an unacceptable level of risk or intolerable portfolio at risk. Since the primary source of a bank's profitability is through interest income from loans, the loan portfolio increases profitability (Athanasoglou et al., 2008; Davydenko, 2010). Negatively, the loan is considered a significant factor to determine the profitability proxied by R.O.E. The result depends on the bad quality of the loan portfolio, which is a decaying matter in this market with high provision expenses. It is found that bank profitability is increased when the loan portfolio is increased related to other more secure assets (Duraj and Moci, 2015). Adverse outcomes on credit risk exist when a higher amount of write-off of loans are experienced, which means that banks and financial institutions are exposed to the dangers of non-collectivity of loans (Athanasoglou et al., 2008). Since there are mixed results for the relationships between a bank loan and its profitability, there is no expectation for the current study.

Deposit and Profitability

Banks are monitoring their loan portfolio and the portfolio at risk such that any loans granted to the clients are safeguarded and ensure its collectivity. Indeed, the vital source of bank funds is the customers' deposits which maximize the loans then profitability rate. Furthermore, the bank creates high profits through more loans with more promises. Thus, deposits of customers are positively associated with the profitability of banks (Lee and Hsieh, 2013). It is found that deposits can positively influence commercial banks' profitability in the banking sector in Sri Lanka for the period 2011-2015 (Kawshala and Panditharathna, 2017). According to a study, deposits are positively related to bank profitability and negatively correlated. Considering that deposits are liabilities of banking institutions, increasing deposits from depositors would mean that banks must pay the depositors higher, including the interest expenses; hence, it decreases the bank's profits (Alper and Anbar (2011). The same findings were found in the study of Davydenko (2010) in Ukraine wherein bank profitability is negatively correlated with deposits. However, this finding is contrasted where it is found that deposits positively correlate with the bank's profitability (Sun et al., 2017). For the current study, it is expected that deposits will positively influence bank profitability.

Theoretical framework

Most financial institutions and other organizations always tend to increase their profits and decrease the operations costs and risks to get net earn. Indeed, it is an actuality that collecting more profits is the main objective for the banks (Hempel et al., 1986). Sometimes there are different views to report how much the banks should earn. Regarding minimizing the fund's costs, rewards of management, the performance of external rating, and stability of share price, reporting a less income of a bank may be seen as a better sign for its implementation (Bikker and Metzmakers, 2005) but not for its profitability. Factors influencing the bank's profitability are different. Many theories are employed to explain the relationships of a bank's profitability with internal and external factors such as capital by signaling theory, expected bankruptcy cost hypothesis, risk-return hypothesis, bank's size by theories of market Power and Efficiency Structure (Obamuyi, 2013).

The influence of macroeconomic factors on the bank's profitability has been theoretically examined. For policymakers and economic planners, Sharma, and Mani (2012) found that the bank's performance is a primary interest because the profit of the real economy sector depends on the banks' performance effectiveness as financial intermediation function. By employing the hypothesis of traditional Structure-Conduct-Performance, it is found that macroeconomic factors in addition to bank-specific determinants affect the bank's profitability (Athanasoglou et al., 2008) Firstly, the bank-specific factors are examined to determine their significant influence on bank profitability measured by R.O.E. and NPR. Secondly, the relationship/influence is also tested for macroeconomic factors such as inflation, G.D.P., and change in oil prices as independent variables on R.O.E. and NPR as bank profitability indicators/dependent variables as described in Figure 2.5.

Figure 1: Conceptual Framework of the Study

Research Hypotheses

Based on the objectives of the study, the following research hypotheses are formulated:

H1. There is a significant impact of macroeconomic factors on R.O.E.

H2. There is a significant impact of macroeconomic factors on NPR.

H3. There is a significant influence of bank-specific factors on R.O.E.

H4. There is a significant influence of bank-specific factors on NPR.

Research and Methodology

The present study tests the impact of the macroeconomic factors represented by bank-specific factors and macroeconomic factors selected as independent variables (hereafter I.V.s) which Inflation, G.D.P., Oil Price, Capital, Asset Size, Liquidity Risk, Loans and Deposits on bank's profitability indicated by two dependent variables (hereafter D.V.s) which are the R.O.E. and NPR. This section presents: how to design the study and which methods will be employed to examine the mentioned relationships. This section's main contents include research design and strategy, population and sampling, research setting, research instruments, data gathering procedure, data analysis, and research ethics.

Research Design

According to Pride and Ferrell (2010), there are four types of research: exploratory research, conclusive research, descriptive research, and experimental research. Accordingly, two major types of analysis include qualitative and quantitative research methods. The quantitative method deals with statistics and mathematical models, while the qualitative method emphasizes non-mathematical models that gather respondents' opinions and expertise. They have different data types, approaches, or perspectives (Lancaster, 2005). Each has to be indicated based on the research question and the nature of data collected (Matthews and Ross, 2010). The four major types of research design will be applied based on the research's nature, purpose, and objectives.

The current study employs a descriptive research design that focuses on a cross-sectional study of selected banks in Oman for the period specified from 2013 to 2017. This includes that data for commercial banks and their profitability indicators, bank-specific factors, and selected macroeconomic factors in the context of Oman.

Research Strategy

Determining the flow of the whole research is essential for designing the study. According to Gray et al. (2007), the research design is defined as the action steps that direct the efforts and thoughts that will enable researchers to develop the overall plan of gathering information to address the research problem. These contents are research questions, available time and resources, and the research purpose, including descriptive, explanatory, exploratory, and primary. The types of research strategy are experiments, surveys, case studies, ethnography, grounded theory, action research, and archival research (Sarantakos, 2012). As applied in this study, since archival data is collected, the inductive approach is suitable. This data is gathered from the M.S.M., Omani Central Bank, Omani Ministry of Finance, and annual financial reports of Omani commercial banks.

Population and Sampling

Two sampling designs are used in research studies: probability and non-probability sampling. Under the theory of statistics, the first sampling refers to a sample reflecting the whole population based on relevant criteria. On another side hand, following the theoretical model, few cases (in usual) as a sample are applicable in-depth exploration for study's questions and to analyze the gathered data to find the theoretical ideas (Matthews and Ross, 2010).

The present study chooses the financial sector focusing on banks to be the population then selects the commercial banks in Oman to be the sample. These banks include Bank Muscat, Bank Dhofar, National Bank of Oman, Oman Arab Bank, Ahli Bank, HSBC, Bank Dhofar, and Bank Sohar. It is assumed that the mentioned sample can represent all banks particularly and for the financial sector generally. The basis of selecting the targeted sample of the study as mentioned above commercial banks as representative for all banks in Sultanate of Oman is based on the researchers' understanding that these banks represented the banking sector in terms of asset size, liquidity risk, loans, deposits, and capitalization.

Research Instruments

Mainly, secondary data were used in this study that considers specifically the financial statements of the seven banks based on the economic indicators of this study. The data gathered include in its scope the years 2013 to 2017 that covers as study scope the period of oil price decline. The independent variables are divided into two types: Bank-Specific Factors and Macroeconomic Factors. In contrast, the dependent variables are represented by two profitability measure indicators: the Net Profit Ratio (NPR) and the Return on Equity (R.O.E.).

Analysis and Findings

Correlation analysis and Descriptive Statistics

As an essential analysis step, correlation analysis presents the possible relationship of each variable with another in the study. Indicating the strength and direction of the mentioned relationship will be measured by the correlation coefficient. A correlation matrix was utilized to determine the relationship among the independent and dependent variables used in this study. To assess the relationship of the main variables (Macroeconomic factors, Bank-specific factors, R.O.E., NPR), univariate correlation analysis was used with S.P.S.S. version 21 based on the hypotheses formulated, which will be the basis on whether the hypotheses are rejected or supported. To calculate the univariate correlation, aggregate values were determined for both the macroeconomic and bank-specific factors. It also includes the mean and standard deviation to assess the normality of the data spread around the mean.

Panel Regression Analysis

This statistical method is employed to investigate the relationships among more than two variables, including the dependent (DV), independent (IVs), and other types of variables. This analysis technique presents the results as values for the relationships between one DV and two or more I.V.s. It shows significantly how the changes in IVs may explain the positive or negative changes in DV.

In this study, the relationships among profitability indicators, R.O.E. and NPR as D.V.s and the inflation, G.D.P., oil price change, capitalization, asset size, liquidity risk, loans, and deposits will be examined done through the Panel Regression. To test the study's hypotheses and address its question, the random effects G.L.S. panel regression model presents to which extent are the incremental effects of independent variables (I.V.s) on each of the R.O.E. and NPR (D.V.s) based on the developed hypotheses during the oil price decline period from 2013 to 2017. The Stata Model version 14 was used with the Random Effects Generalized Least Squares (G.L.S.) regression appropriate for panel data. In the literature, a usual model is used to measure the influence of different factors on bank profitability. Based on the theoretical framework, the relationship between the profitability indicators, R.O.E. and NPR (D.V.s), and macroeconomic factors inflation and G.D.P. (I.V.s) are linked below. To examine the influence of bank-specific and macroeconomic factors on bank profitability, the present study follows previous studies (Hasanov et al., 2018) to employ the regression model with panel data. Collecting data over time for the same variables is a process for common panel data. Employing regression for this type of data is widely used in literature. This model is used where y is the dependent variable, x is the independent variable, a and b are coefficients, i and t are indices for individuals and time. As a result, spatial panel data models are widely employed in empirical economic research (Baltagi and Li, 2004). Indeed, and ignoring the spatial correlation, examination hypotheses by panel data regression have also been extensively studied (Baltagi and Li, 2004).

Accordingly, the study's models are as follows:

$$ROE_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 PRICE_{it} + u_{it}$$

where;

i = number of banks

t = time/period (2013-2017)

ROE = return on equity;

GDP = Gross domestic product; and

INF = inflation rate;

PRICE = oil price;

u_{it} = error

$$NPR_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 PRICE_{it} + u_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 Cap_{it} + \beta_2 Size_{it} + \beta_3 LRisk_{it} + \beta_4 Loan_{it} + \beta_5 Dep_{it} + u_{it}$$

Where;

CAP = Capitalization

SIZE = Bank Size

LIQ = Liquidity Risk

LOAN = Loans

DEP = Deposits

u_{it} = error

$$NPR_{it} = \beta_0 + \beta_1 Cap_{it} + \beta_2 Size_{it} + \beta_3 LRisk_{it} + \beta_4 Loan_{it} + \beta_5 Dep_{it} + u_{it}$$

This study primarily examines the impact and or influence of macroeconomic factors such as inflation, G.D.P., and oil price change (I.V.s) as well as bank-specific factors, namely: Capital, Bank Size, Liquidity Risk, Loans and Deposits (I.V.s) on Return on Equity and Net Profit Ratio (D.V.s). As hypothesized in the study, the macroeconomic and bank-specific factors evaluated if these two main factors significantly influenced R.O.E. and NPR as two indicators for commercial banks profitability during the study period, 2013-2017. Furthermore, it provides detailed results on which of the following macroeconomic and bank-specific factors significantly influenced R.O.E. and NPR utilizing appropriate statistical tools and techniques. The results of the analyzed data using descriptive statistics, correlation, and panel regression are presented in the succeeding paragraphs.

Descriptive Statistics and Correlation Matrix

The mean and standard deviation were used as descriptive statistics to determine the data spread around the mean in this study. A correlation matrix was also performed to assess the relationship of independent variables and dependent variables used, as shown in Table 1. The main variables utilized in this study include Return on Equity (R.O.E.), Net Profit Ratio (NPR), Macroeconomic factors (M.A.C.F.), and Bank-Specific Factors (B.K.S.F.).

Table 1: Result of Correlation Analysis of Main Variables Used

Variables/Description		ROE	NPR	MACF	BKSF
ROE	Pearson Correlation	1	.440**	.190	.351*
	Sig. (2-tailed)		.008	.274	.038
	N	35	35	35	35
NPR	Pearson Correlation	.440**	1	-.251	.450**
	Sig. (2-tailed)	.008		.145	.007
	N	35	35	35	35
MACF	Pearson Correlation	.190	-.251	1	.011
	Sig. (2-tailed)	.274	.145		.950
	N	35	35	35	35
BKSF	Pearson Correlation	.351*	.450**	.011	1
	Sig. (2-tailed)	.038	.007	.950	
	N	35	35	35	35

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

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

Results from the above table revealed no significant relationship between M.A.C.F. and R.O.E. ($P = .274$; $r = .190$). There is also no significant relationship between MACF and NPR ($P = -.2251$; $r = .145$). On the other hand, BKSF both significantly correlates ROE ($P = .038$; $r = .351$) and NPR ($P = .007$; $r = .450$) respectively. These findings imply that H1 and H2 are rejected while H3 and H4 are supported as B.K.S.F. significantly influenced both R.O.E. and NPR. It also indicates that M.A.C.F. has practically no bearing on determining the commercial banks' profitability contrary to the bank-specific factors.

Table 2: Means, Standard Deviation and Correlation Matrix of the Study Constructs

Constructs	Mean	S.D	Correlation									
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ROE	.11	.04	1									
(2) NPR	.44	.16	.440**	1								
(3) INF	.01	.01	-.133	-.360*	1							
(4) GDP	1.55	2.72	-.386*	-.253	.603**	1						
(5) PRICE	60.56	20.62	.242	-.220	.588**	-.017	1					
(6) CAP	.01	.00	-.272	.087	.284	.229	.111	1				
(7) SIZE	.13	.02	.057	.237	.026	.095	-.088	.112	1			
(8) LIQ	.97	.19	.290	.459*	.156	.238	.014	.085	-.182	1		
(9) LOANS	.71	.09	.382*	.433*	.107	.218	-.054	.064	-.113	.938**	1	
(10) DEP	.75	.05	-.025	-.372*	-.184	-.209	-.079	-.017	.216	-.840**	-.625**	1

** The correlation coefficient is significant at 0.01 level (2-tailed)

*The correlation coefficient is significant at 0.05 level (2-tailed)

The mean and standard deviations among the variables are normally distributed except for oil prices from the data above. However, the results of correlation analysis reflect the following results. In analyzing the influence of macroeconomic factors on R.O.E., the results showed that only G.D.P. ($r = -0.386$) significantly influenced R.O.E. where there is a negative correlation at 0.05 level of significance. Other variables such as Inflation ($r = -.133$) and Price ($r = .242$) do not significantly influenced ROE. This may mean that the macroeconomic factors mentioned in this study have not posed real threat on the performances of commercial banks during the decline of oil prices except for the G.D.P. The negative relationship indicates that the decrease in G.D.P. may increase the R.O.E. of the seven banks identified in this study. This finding contradicts the study of Duraj and Moci (2015), where G.D.P. positively influenced the profitability in the case of Albanian banks.

On the other hand, many studies claim the insignificant negative relationship between G.D.P. and R.O.E. stressing that G.D.P. is not a significant predictor of bank performance that includes studies in the U.K. and German banking sector (Seferli, 2010; and Duraj and Moci, 2015). Hence, the negative relationship of G.D.P. and R.O.E. is relatively entailing the outcome difference compared to other previous studies. Regarding inflation, the result shows an insignificant relationship on R.O.E. but negatively correlated to NPR with a 0.05 level of significance. This means that inflation does not predict R.O.E. This has contradicting results when determining NPR wherein; increases in inflation rates significantly decrease NPR or bank profitability. According to Al-Muharammi and Murthy (2017), high inflation rates cause decreases in bank performance and profitability. The same findings were suggested by various authors confirming that the relationship of inflation on the bank performance (NPR) is negatively correlated (Duraj and Moci, 2015; Seferli, 2010; Abreu and Mendes, 2002).

When examining the influence of changes in the oil price to R.O.E. and NPR, there is no significant influence on both R.O.E. and NPR with R-values 0.242 and -.220, respectively, which imply that the recent changes in oil prices during 2013-2017 have not affected the bank performance of the selected commercial banks chosen in this study. This can further be interpreted that banks' stability in terms of profitability and performance enables them to sustain operations in the long run. This finding contradicts many study findings that changes in oil prices significantly affect bank profitability in oil denominated sectors, especially the R.O.E. (Ebrahim et al., 2014; Junior and Goodness, 2018; Hasanov et al., 2018; Ratti and Vespignani, 2016).

The second part of the analysis based on the correlation matrix determines the significant influences of bank-specific factors on both R.O.E. and NPR. From the results, it can be inferred that among all other factors, liquidity positively influenced NPR ($r = .459$) at a 0.05 level of significance. Moreover, loans significantly influenced R.O.E. and NPR with R-values of 0.382 and 0.433, respectively. And deposits significantly correlate NPR with negative relationship ($r = -0.372$) at 0.05 significance level. These findings imply that increased banks' liquidity helps increase the profitability measured in NPR while it does not significantly affect the R.O.E. However, increases in loans and lending portfolios signal an increase in R.O.E. and NPR on commercial banks, emphasizing a positive relationship. As loan portfolio increases, it provides banks like the commercial banks chosen in this study favorable outcomes in terms of profitability. The result revealed that increases in deposit generation for banks decrease NPR, although this result does not significantly affect R.O.E. Further implication shows that higher interest expenses decrease banks' net profit considering all other accounts are constant.

Panel Regression Analysis

Further analysis was conducted to address the research hypotheses established in this study. The panel regression was utilized with random effects G.L.S. model to analyze macroeconomic variables (I.V.s); bank-specific variables (I.V.s); and R.O.E. and NPR (D.V.s) from 35 observations. Based on the hypothetical assumptions, the analysis shall be presented hereunder.

Relationship of Macroeconomic Factors on R.O.E. (H1)

The random-effects G.L.S. regression model was utilized to determine the relationship between macroeconomic factors on R.O.E. Results revealed no significant relationship between these two variables, which rejects the alternative hypothesis that macroeconomic factors substantially impact R.O.E. in the context of the chosen commercial banks in Oman. Individual analysis of the macroeconomic variables indicates that all the macroeconomic variables used have not significantly influenced R.O.E. The R^2 result shows that 21.04% of the variation of the dependent variable (R.O.E.) can be explained by the independent variables (Inflation, G.D.P., and Change in Oil Price). The probability of the F-test ($F = .0010$) is less than 0.01 level of significance which entails that the model used is appropriate for the analysis. Moreover, results from Table 3 imply that the banking sector remains stable during the period of oil price decline in 2013-2017 and are significantly affected by inflation, G.D.P., and changes in oil prices. This can be attributed to the strong bank policies and measures to counter the possible negative effects of unfavorable macroeconomic conditions during the period. This result contradicts the study of Hasanov and Huseynov (2013) study that stressed the significant impact of macroeconomic factors such as G.D.P. and inflation rate on bank profitability measured by R.O.E. on oil-based economies oil-dependent generator countries.

Table 3: Analysis on the Impact of Macroeconomic Factors on R.O.E

panel variable: Bank (strongly balanced)						
time variable: Year, 2013 to 2017						
delta: 1 unit						
xtreg ROE GDP OILPC, re						
Random-effects GLS regression						
Group variable: Bank			Number of obs	=		35
			Number of groups	=		7
R-sq:						
			Obs per group:			
	within	=	0.0000	min	=	5
	between	=	0.0000	avg	=	5
	overall	=	0.2104	max	=	5
			Wald chi2 (3)	=		16.4
corr (u_i, x) = 0 (assumed)			Prob > chi2	=		0.001
ROE	Coef	Std. Err.	z	p> z	(95% conf. Interval)	
INF	-1.120587	1.6107800	-0.60	0.489	-4.293921	2.052747
GDP	-0.004156	0.0024885	-1.67	0.095	-0.0090337	0.000721
OILPC	0.0006129	0.0003238	1.89	0.058	-0.0000218	0.001248
_cons	0.0899068	0.0170989	5.26	0.00	0.0563937	0.123342

Further implications from the result can be stated that other factors may significantly impact bank performance. The variables mentioned above have not contributed the influence as applied to the chosen commercial banks.

Relationship of Macroeconomic Factors on NPR (H2)

The relationship between macroeconomic factors (I.V.s) and NPR (DV) was explored to prove if there is an influence of I.V.s on DV. The result of $R^2 = 13.38\%$ reflects the variation of independent variables on dependent variables, which means that 86.62% of the variation cannot be explained by inflation, G.D.P., and changes in oil prices. The F value also declares that the random effects G.L.S. regression model is appropriate for the analysis with the probability of 0.0488. The result is consistent with hypothesis number one that there is no significant impact of macroeconomic factors used in this study on NPR; hence, the second hypothesis is rejected, which means that the bank performance of the selected commercial banks in terms of NPR is not affected by inflation, G.D.P. and changes in oil prices (Table 4).

Table 4: Analysis on the Impact of Macroeconomic Factors on NPR

panel variable: Bank (strongly balanced)						
time variable: Year, 2013 to 2017						
delta: 1 unit						
xtreg NPR GDP OILPC, re						
Random-effects GLS regression			Number of obs		=	35
Group variable: Bank			Number of groups		=	7
R-sq:			Obs per group:			
	within	=	0.0000	min	=	5
	between	=	0.0000	avg	=	5
	overall	=	0.1338	max	=	5
			Wald chi2 (3)		=	7.87
corr (u_i, x) = 0 (assumed)			Prob > chi2		=	0.049
NPR	Coef	Std. Err.	z	p> z	(95% conf. Interval)	
INF	-8.23297	7.701847	-1.07	0.285	-23.32831	6.862372
GDP	-0.0056332	0.0118375	-0.48	0.634	-0.0288344	0.017568
OILPC	0.0005132	0.0015404	-0.33	0.739	-0.0035324	0.002506
_cons	0.5580248	0.0765861	7.29	0.000	0.4079188	0.7081307

Furthermore, the abovementioned findings explained that macroeconomic variables do not predict the performance of the selected commercial banks chosen in this study.

Relationship of Bank-Specific Factors on R.O.E. (H3)

The identified bank-specific factors (I.V.s) were also used to determine its influence on R.O.E. (DV), namely: capital, bank size, liquidity risk, loans, and deposits as adopted in the study of Hasanov, Bayramli and Al-Musehel (2018) titled, "Bank-Specific and Macroeconomic Determinants of Bank Profitability: Evidence from an Oil-Dependent Economy." The coefficient of determination (R^2) shows that the independent variables explain 40.42% of the dependent variable (R.O.E.) variation. The probability of the F-test also revealed the value 0.0014, which means that again the random-effects model is appropriate for statistical analysis. It further depicts that bank-specific factors significantly influenced bank performance (R.O.E.) that supports the alternative hypothesis that there is significant influence of bank-specific factors on R.O.E. as identified in this study (Refer to Table 5).

Table 5: Analysis on the Influence of Bank-Specific Factors on R.O.E.

panel variable: Bank (strongly balanced)						
time variable: Year, 2013 to 2017						
delta: 1 unit						
xtreg ROE CAP SIZE LRISK LOAN DEP, re						
Random-effects GLS regression			Number of obs		=	35
Group variable: Bank			Number of groups		=	7
R-sq:			Obs per group:			
	within	=	0.1230	min	=	5
	between	=	0.7777	avg	=	5
	overall	=	0.4042	max	=	5
			Wald chi2 (3)		=	19.67
corr (u_i, x) = 0 (assumed)			Prob > chi2		=	0.001
ROE	Coef	Std. Err.	z	p> z	(95% conf. Interval)	
CAP	-.9029103	.3346545	-2.70	0.007	-1.558821	-.2469996
SIZE	1.96e-09	2.06e-09	0.96	0.339	-2.07e-09	5.99e-09
LRISK	0.5359962	.2663638	2.01	0.044	.0139327	1.05806
LOAN	-.4327681	.3449557	-1.25	0.210	-1.108869	.2433327
DEP	1.001701	.3994286	2.51	0.012	.2188357	1.784567
_cons	-.7443972	.3201808	-2.32	0.020	-1.37194	-.1168543

Specifically, and from the results in Table 5, it can be inferred that the following variables significantly influence ROE: Capital ($P = 0.007$; $r = -.903$); Liquidity Risk ($P = 0.044$; $r = .536$); and Deposits ($P = 0.012$; $r = 1.00$). All other variables such as bank size and

loan have no significant influence on R.O.E. The negative correlation between capital and R.O.E. indicates that as the capital increases, the R.O.E. decreases or vice versa. According to various studies, many reasons have affirmed the significant relationship noting the positive relationship between capital and bank profitability (Athanasoglou et al., 2008; and Berger, 1995b). Berger (1995b) developed a bankruptcy costs hypothesis to provide evidence on the positive relationship of capital on bank profitability. He found out that banks with capitalization below the equilibrium ratio are expected to contribute to the increase in profitability. The positive impact is also supported by Athanasoglou et al. (2008), who postulated that capital is considered a safety net for banks to counter critical situations and the financial crisis that the banking institutions face. Signaling hypothesis theory also developed by Berger (1995b), dictates that the relationship between capital and profitability of banks may result in a negative correlation in times of financial crisis, bankruptcy, and severe financial stress, which he has proven with the extreme financial stress experienced by U.S. banking system in 1990-92. Following this pattern, the study affirmed a negative correlation of banks' capital of the chosen commercial banks on their R.O.E.s during periods of oil price decline in 2013-2017 in the Sultanate. Secondly, liquidity risk positively influenced R.O.E. According to Sharma, Gounder & Xiang (2013), holding more liquid assets by banks will result in lower profit. However, many authors stressed contrasting results considering the increase in liquid asset holdings by banks as reduction of defaults in payments by borrowers; hence, it increases profitability and bank performance (Le, 2019). Surprisingly, the positive relationship between liquidity risk and R.O.E. contradicts the results of Iqbal et al.'s (2016) study confirming a negative relationship between liquidity risk and R.O.E. As liquidity risks increase due to poor asset quality, the profitability, on the other hand, decreases.

Furthermore, a perfect positive correlation exists between deposits and R.O.E., as seen in the table. This finding is consistent with the results of Demircuc-Kunt and Huizinga (1999), claiming that an increase in deposits or more deposit generation would enable banks to increase their loan portfolio in turn, increase its interest income and profitability, hence increased R.O.E.

Relationship of Bank-Specific Factors on NPR (H4)

The random-effects model is also run to determine the influence of bank-specific factors on NPR in the case of the chosen commercial banks in this study. The independent variables (Capital, Size, Liquidity Risk, Loan, and Deposits) comprised 32.23% variation on the dependent variable (NPR), which would mean that the D.V.s cannot explain 67.77% of the variation. The F-value of 0.0170 remains appropriate as a statistical model. Results depict that only size positively correlates with NPR ($P = .031$) while the other variables have no significant relationship with the dependent variable. Generally, the hypothesis that there is a substantial relationship between bank-specific factors and NPR is supported; however, individual accounts of the relationship on independent variables show that only one variable (Bank Size) significantly influenced NPR. Many studies affirmed this result, indicating that large banks charge higher margins provided those banks institute economies of scale in their operations, which increased profitability and net profit margins (Maudos & Solís, 2009; Goddard, Molyneux & Wilson 2004a). In other words, bank size is a significant predictor of NPR. Still, no considerable predictor in determining the R.O.E. Garcia-Herrero et. al. (2009) that if banks are operating in increasing returns based on asset size, the results will be an increasing trend in profitability that positively affects the net profit margin/ratio. However, the study of Dietrich and Wanzenried (2014) proved that even smaller banks could increase their NPR to reduce asymmetric information problems. This would only indicate that the size of banks significantly influences bank profitability, whether small or large asset sizes of banks (See Table 6).

Table 6: Analysis of the Influence of Bank-Specific Factors on NPR

panel variable: Bank (strongly balanced)					
time variable: Year, 2013 to 2017					
delta: 1 unit					
xtreg	NPR	CAP	SIZE	LRISK	LOAN
DEP, re					
Random-effects GLS regression			Number of obs = 35		
Group variable: Bank			Number of groups = 7		
R-sq:			Obs per group:		
	within	=	0.0004	min	= 5
	between	=	0.9454	avg	= 5
	overall	=	0.3223	max	= 5
			Wald chi2 (3)	=	13.79
corr (u_i, x) = 0 (assumed)			Prob > chi2	=	0.017
NPR	Coef	Std. Err.	z	p> z 	(95% conf. Interval)
CAP	-.130118	1.47581	-0.09	0.930	-3.022652 2.762416
SIZE	1.96e-08	9.07e-09	2.16	0.031	-1.80e-09 3.73e-08
LRISK	0.9639576	1.174652	0.82	0.412	-1.338317 3.266232
LOAN	-.7062847	1.521238	-0.46	0.642	-3.687856 2.275287
DEP	0.6366449	1.761461	0.36	0.718	-2.815755 4.089045
_cons	-.5216951	1.411982	-0.37	0.712	-3.289128 2.245738

While many studies consider the R.O.E. as a measure of bank profitability, limited studies, on the other hand, measure NPR as a measure of bank profitability wherein in this study was fully utilized. Proper management and disposition of earning assets are expected to generate higher returns, which increases NPR.

Table 7: Summary Table of Hypothesis, P-Values, and Decisions

Main Variables	Probability (P) (@ 0.05)		Significance		Decision
	ROE	NPR	ROE	NPR	
Macroeconomic Factors (MACF)	.274	-.225	NS	NS	H1, Rejected H2, Rejected
Bank-Specific Factors (BKSF)	.038	.007	S	S	H3, Supported H4, Supported

Legend: S = Significant @ 0.05; NS = Not Significant @ 0.05 level.

Summary from the results in Table 7 shows that macroeconomic factors have no significant impact on R.O.E. and NPR of the selected commercial banks chosen in this study as evidenced by the calculated probability and the significance level. In contrast, the bank-specific factors significantly influenced both the R.O.E. and NPR.

Conclusion

This paper provides detailed information on analyzing and interpreting the data collected using appropriate statistical tools and techniques to arrive at valuable findings. Different tools were used to analyze the relationship among I.V.s and D.V.s, namely correlation matrix, descriptive statistics, and random effects G.L.S. panel regression model. Specifically, the univariate correlation was used to determine the significant relationship among the four main variables: macroeconomic, bank-specific, R.O.E. and NPR. The correlation matrix was performed to determine the individual effects of I.V.s to D.V.s. The random-effects G.L.S. regression model was also undertaken to examine of the I.V.s (Macroeconomic and Bank-Specific variables) significantly impact/influence R.O.E. and NPR. The results were then confirmed with previous literature that produced similar and contrasting results using similar scales and variables. Key findings show that macroeconomic variables have no significant impact on R.O.E. and NPR, thereby rejecting the formulated Hypotheses 1 and 2. There is a substantial influence of bank-specific factors on both R.O.E. and NPR; hence, supporting Hypotheses 3 and 4.

Based on the findings, it can be gleaned that macroeconomic factors do not significantly impact R.O.E. and NPR as hypothesized. The variables such as inflation, G.D.P., and changes in oil price practically have no bearing on how commercial banks perform in the context of the chosen banks selected in this study. These findings contradict previous studies which claimed that macroeconomic factors significantly impact bank performance, specifically R.O.E. (Demirguc-Kunt and Huizinga, 1999; Kunt and Huizinga, 1998; Al-Muharrami and Murthy, 2017; Duraj and Moci, 2015; Sayilgan and Yildirim, 2009). It is also contrary to Hasanov and Huseynov's (2013) result in their study that stressed the significant impact of macroeconomic factors such as G.D.P. and inflation rate on bank profitability measured by R.O.E. on oil-based economies oil-dependent generator countries.

Conversely, bank-specific factors significantly influenced R.O.E. and NPR, respectively, affirming the 3rd and 4th hypotheses indicating a significant relationship to R.O.E. and NPR. However, individual evaluation of individual bank-specific variables depicts the relationship of capital, liquidity risks, and deposits on R.O.E. while variables size and loan are insignificant. Notably, only size significantly influenced NPR while variables capital, liquidity risks, loan, and deposits have a significant influence on NPR (Refer to Table 4.8). These complexities of findings have contributed to either affirmations or contradictions in previous studies. It is interesting to note that the significant influence of size on NPR supported the various claims that its relationship is positive, although not many studies used NPR as a measure of bank performance (Maudos & Solís, 2009; Goddard, Molyneux & Wilson 2004a). In other words, bank size is a significant predictor of NPR but not a significant predictor in determining the R.O.E. Although not hypothesized in this study, significant relationships of variables were generated using the correlation matrix that shows significant relationships on the following: inflation, G.D.P., liquidity, loans and deposits, and NPR. Specifically, NPR has strong positive correlation on ROE ($r = .440$); GDP strongly correlates with inflation ($r = .603$); price positively correlates inflation ($r = .588$); a very strong positive correlation between loans and liquidity ($r = .938$); negative correlation between deposits and liquidity ($r = -.840$); and negative strong correlation between deposits and loans ($r = -.625$). These results give the researcher the idea to explore future studies that specifically investigate these relationships or widen the studies that deal with these results.

The study conducted with the seven commercial banks in Oman has relevant implications on the current situations that the Sultanate of Oman is facing considering more on bank-specific factors that impact bank profitability. However, the influence of macroeconomic factors cannot be underestimated. While many researches proved the relationship on macroeconomic factors on bank profitability measured by R.O.E. and NPR, results from the study produced contradicting implications. The oil price decline experienced in 2013-2017 has not significantly affected banks' stability and specifically the chosen commercial banks, even though other sectors have felt the effects of oil price decline. These findings may contribute to many implications and suggestions. Firstly, Oman's banking sector

is considered one of the stable sectors in the Sultanate with stringent regulations from the Central Bank of Oman (C.B.O.). This further may imply that C.B.O. has taken financial and operational measures to ensure that banking institutions will not be heavily affected by the oil price decline.

Moreover, considering that these commercial banks are classified with large asset sizes, the ability to diversify and extend more loans to customers/depositors will potentially increase banks' profitability as evidenced by the significant relationship of asset size on NPR. Customers' need for financial resources during the oil price decline may help the banks utilize their assets for more lending and investing operations. They maximized the disposition on earning assets to counter the possible negative impacts of oil price decline. Finally, it strongly claimed that banks could sustain their operations even when the country's negative economic conditions are continuously experienced. Managing the banks' operation of its bank-specific measures will allow them to prosper in the long run without necessarily being affected by macroeconomic conditions. Capital, minimizing liquidity risk, generating more deposits and size significantly affects the bank performance that these commercial banks take closer state as it potentially adds value to their performance in the light of this study.

Recommendations

The present study provides many practical contributions to banks' management, economic policy makers, research body and academia in Oman, G.G.C. countries, and others. As the study's findings are significant for R.O.E., the bank's management may use them to distinguish the best indicator for its profitability. The results are essential for economic policymakers to evaluate how the performance of the banking industry can be linked with macroeconomic factors. Also, following what was found in the previous section it is helpful to associate changes in oil price with banks' performance in general and its profitability. This might generate more interest in the body of knowledge. Academically, profitability indicators and to be related to macroeconomic factors may enrich the courses of financial analysis. On the other hand, the following recommendations can be emphasized based on specific findings. The study had established a solid basis to develop the relationship of bank-specific factors on bank performance in terms of R.O.E. and NPR. Therefore, it can be recommended that the management focus their attention on examining the factors that significantly impact their performance, specifically the capital, liquidity risks, deposits and size. This means that the bank should prioritize dealing with these factors by managing its capital and capital structure, ensuring that the bank has acceptable liquidity levels and sustainable measures for maintaining asset quality and generating more deposits to be utilized in lending operations to improve working capital. The management should continue to maximize its asset size and ensure that earning assets are disposed effectively and efficiently so that profitability and returns will be assured. Holding non-earnings would also affect bank performance, so utilizing its assets would be favorable for banks to ensure earnings and positive influence on R.O.E. Lastly, it is also recommended that the management should view its operation holistically, which means that dealing with those factors that have not significantly influenced bank performance should not be undermined. Still, only priorities should be set first, and others will follow. Considering the impact of macroeconomic factors on bank profitability on many studies, the bank management of these banks should take adequate measures to counter or minimize the risk and likelihood of the negative impacts of oil price decline and other external events that may negatively affect the banks in the long run.

Limitations of the Study

Many limitations have been faced by the study. The findings of oil price changes during the oil price decline may not be significant because of the small sample size and conducted in a short period. The unexpected results for the NPR indicator might be; because this ratio is not much important in measuring a bank's profitability like R.O.E. Therefore, the bank's management, investors, and financial analysts pay more attention to R.O.E. NPR. However, as long as this study used accurate methods to examine the relationships among variables to achieve the objectives, the constraints above do not underrate the value importance and usefulness of the study.

Future research

Since the present study examined the influence of inflation, G.D.P. and oil price change as macroeconomic factors and bank-specific factors on the banks' profitability indicators R.O.E. and NPR for the period 2013 – 2017, subsequent research is invited to expand the study by adding the influence of other macroeconomic factors and banks-specific factors on the more profitability indicators. For instance, these factors may add value to the findings, such as ROA, interest rate, exchange rate, Rate on Capital Employed (R.O.C.E.), Return on Investment (R.O.I.), and other variables. This may present a new scene of the possible factors influencing the bank's profitability. Since the study sample size is small, future studies are encouraged to use a larger sample size to examine whether the large sample may enhance the selected macroeconomic factors' influence on the bank's profitability. Future research is encouraged to explore this influence across G.C.C. or Middle East countries or to be compared with other regions. It is assumed that wider studies are needed to generalize the results of this study.

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