



## **Oil Prices and Macroeconomic on the Islamic Banking Performance in OPEC Member Countries**

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### **ABSTRACT**

The purpose of this study was to determine the effect of oil price and macroeconomic factors on the Islamic banking performance. The data for this study were collected from secondary data from 2007 to 2016. The results of the analysis obtained are that each country has different characteristics so that it can have a different impact on the performance of Islamic banking. In addition, Islamic banking does not have an influence on oil prices and macroeconomic conditions because the market share of Islamic banking in the country is very small when compared to conventional banking. This means that the industry in the oil business uses funds in conventional banking is greater than Islamic banking. Because Iran, which uses 100% of Islamic banking in its business funding, found that oil prices have a huge influence on the Islamic banking performance.

**Keywords:** Oil Prices, Macroeconomics, Performance, Islamic Banking

**JEL Classifications:** C1, E6, G21, Q41

### **1. INTRODUCTION**

In oil-producing countries in the Middle East, their economic growth depends heavily on the cycle of oil prices. In these countries, oil prices determine government revenue and expenditure, and support the availability of liquidity reserves in the banking system (Kandil and Markovski, 2018). For this reason, an increase in world crude oil prices can have a positive impact on the economy of oil-producing countries and can improve performance growth in its banks. As Said (2015) said, the oil-producing country in the Middle East experienced a huge increase of GDP in the 1980s. However, when oil prices declined in 2009, the economy of the country also declined and the decline in oil prices has affected the Islamic banking performance through oil-related activities.

According to Xu and Xie (2015), macroeconomic and world crude oil prices have a positive effect on the performance of conventional banking in Canada. This indicates that high crude oil prices can improve the performance of conventional banks in

Canada. The performance measurement used is profitability (return on assets and return on equity [ROA and ROE]). Different from that study, Poghosyan and Hesse (2009) found different results in the performance of Islamic banking in MENA. Their study found that both macroeconomic and world crude oil prices did not directly affect the performance of Islamic banks which also used profitability measures (ROA and ROE). Abduh and Baharoon (2016) also obtained the same results that macroeconomic conditions and oil prices did not affect the performance of Islamic banking in Saudi Arabia.

Meanwhile, performance growth in the banking system relies heavily on the macroeconomic environment (Kandil and Markovski, 2018). This is because the growth in banking performance is measured on the asset and liability side of the balance sheet. According to Kandil and Markovski (2018) both Islamic and conventional banking were affected by the decline in oil prices in the UAE. According to him, even Islamic banking has decreased in revenue more than conventional banking.

Because of the inconsistency of the findings in the study above, this study want to investigate more deeply about the performance of Islamic banking in oil-producing countries in Bahrain, Iraq, Iran, Kuwait, Qatar, Saudi Arabia and the UAE. These countries are the largest oil-producing countries in the Middle East and make oil as the main source of income for state revenues. Thus, the purpose of this study was to determine the effect of oil price and macroeconomic factors on the performance of Islamic banking.

## 2. LITERATURE REVIEW

Oil price shocks can directly affect the performance of Islamic banking through the increased oil-related loans, oil-related business activities or liquidity reserves. In oil producing countries that use Islamic banking in running the economy, it will certainly be very influential. Other indirect channels operate through overall business expectations and sentiments in the country. The higher oil prices can lead to the higher domestic demand, which will give back a higher bank trust, loans, and repayment rates.

Conceptually, according to Poghosyan and Hesse, (2009) Islamic banking tends to fund themselves with sukuk and sharia-compliant deposits. Higher oil prices are associated with the higher Islamic banking liquidity as well and therefore the flow of incoming funds can be used as loans. Therefore it is suspected that there is a positive relationship between oil prices and bank performance for Islamic banks.

In addition to oil prices, a country's macroeconomic conditions can also have a positive impact on the performance of Islamic banking. In terms of macroeconomic variables, researchers have found a relationship between inflation, unemployment, and GDP on the performance of Islamic banking (Bashir, 2003; Haron and Azmi, 2004; Rasiah, 2010; Al-Tamimi, 2010; Ali et al., 2011; Abduh et al., 2011; Zeitun, 2012; Al-Qudah and Jaradat, 2013; Kanwal and Nadeem, 2013). However, relations in the gulf states council cooperation may be somewhat different because the benchmark exchange rate to the US dollar implies that inflation is imported from abroad.

## 3. DATA AND METHODS

### 3.1. Data Collection

The data for this study were collected from secondary sources via financial statements of the 48 Islamic banks in 7 countries such as Bahrain, Iraq, Iran, Kuwait, Qatar, Saudi Arabia, and Unit Arab Emirat (UAE). The data used are annual ones from 2007 to 2016. Financial statement data obtained from the bank's website, macroeconomic and oil price data from the world bank.

### 3.2. Measure and Scale of Variables

The return on assets (ROA) variable is calculated using the formula earning after tax/total assets. The return on equity (ROE) variable is calculated using the formula earning after tax/total equity. The oil price variable is calculated using the formula oil price<sub>n</sub> - oil price<sub>0</sub>/oil price<sub>0</sub>. The GDP variable is calculated using the formula  $C + I + G - X - M$ , where C is consumption, I is the investment, G is the

state expenditure, X is the export and M is the Import. Inflation variable is calculated using the formula  $(CPI_n - CPI_0)/CPI_0$  where CPI is the consumer price index. The Unemployment variable is calculated using the formula of the number of unemployed/number of labor force.

### 3.3. Model Specification

The model specified in equation 1 is used to express the relationship among variables:

$$ROA = \beta_0 + \beta_1 OIL + \beta_2 GDP + \beta_3 CPI + \beta_4 UNEM + \varepsilon_1$$

Where,

*ROA*: Return on assets

*OIL*: Oil price

*GDP*: Gross domestic product

*CPI*: Inflation

*UNEMP*: Unemployment.

The model specified in equation 2 is used to express the relationship among variables:

$$ROE = \beta_0 + \beta_1 OIL + \beta_2 GDP + \beta_3 CPI + \beta_4 UNEM + \varepsilon_2$$

Where,

*ROE*: Return on equity

*OIL*: Oil price

*GDP*: Gross domestic product

*CPI*: Inflation

*UNEMP*: Unemployment.

### 3.4. Method of Data Analysis

This study uses an explanatory analysis. The test is a panel data regression testing using Eviews 10. In the panel data regression testing requires 3 steps, namely: Correlation Test, Model Test and Regression. In the correlation test, the value between variables should be <0.8 to be free from multicollinearity. Next is the model test, this is done to determine the best regression model. There are four regression model of panel data namely: Common effect, fixed effect, fixed effect with cross section weight and random effect. There are three test models named chow test, hausman test and lagrange multiplier test. Chow test to choose the common effect or fixed effect model, Hausman test to choose the random effect or fixed effect model and lagrange multiplier test to choose common effect or random effect. The last test used when the result of chow test and hausman test is not aligned. Below is a hypothesis for model test:

- The first model is a chow test that is ho: Common effect and ha: Fixed effect.
- The second model is the test of that ho: Random effect and ha: Fixed effect.
- The third model is lagrange multiplier test that is ho: Common effect and ha: Random effect.
- If  $P > 0.05$  then accept ho and if  $P < 0.05$  then reject ho.

The next step is to read the results of the panel data regression which is the best model, whether it is common effect, fixed effect, fixed effect with cross section weight and random effect.

## 4. RESULTS AND DISCUSSION

### 4.1. Correlation Analysis

The summarizes of the correlation values for all the variables used. This test is performed to identify some variables that have high correlation with correlation value above 0.8. If there is a correlation value above 0.8, then inter variables occur multicollinearity. Test results show that all variables have a correlation value below 0.8. This means that all variables are free from multicollinearity. If all variables are released from multicollinearity, the study can be continued.

### 4.2. Model Testing of Islamic Banks in Islamic Countries

#### 4.2.1. Chow test

Testing the first model is a test using chow test. Test result shows that  $h_0$  is rejected so that the result obtained is a fixed effect model better than the common effect model. Therefore, according to the results of Chow testing, the model used is a fixed effect model.

#### 4.2.2. Hausman test

The next model test uses the Hausman test. The results indicate incompatibility with the previous test, i.e.  $h_0$  accepted then the resulting result is a random effect model is better than the fixed effect model. If in the Chow and Hausman test are not align, then the next required test is Lagrange multiplier test.

#### 4.2.3. Lagrange multiplier test

The third test is the test performed if the first and second model test results are not aligned. In testing Lagrange multiplier obtained result that  $h_0$  is rejected, then the best model is random effect. In conclusion, in the selection of the best models in Chow, Hausman and Lagrange multiplier testing, the random effect model is the best model.

### 4.3. Estimation Results

The estimation results in Table 1 are the results of panel data regression with the best choice model, namely random effect.

The results in Table 1 show that the performance response in Islamic banking to oil prices and macroeconomics is not the same in each country. Even though each country is an oil producer and its biggest main income comes from oil, the response received is quite diverse. Bahrain for example, when viewed from the performance of Islamic banking as measured by ROA and ROE, the variable price of oil, GDP, inflation and unemployment do not give any influence on the performance of its Islamic banking. This is strengthened by a very small  $r^2$  result of 7% for ROA and

only 3% for ROE. This means that the variable oil prices and macroeconomics have no effect on the performance of Islamic banking in Bahrain. The results are in accordance with Poghosyan and Hesse (2009) and Abduh and Baharoon (2016). Similar to Bahrain, the performance of Islamic banking in Iraq and Qatar is not affected by oil price shocks and macroeconomic conditions.

The possible reason for this answer is that although the main income of Bahrain, Iraq and Qatar comes from oil production and processing, the performance of Islamic banking is more influenced by internal factors or often called bank specific factors. Another reason is that the market share of Islamic banking in these three countries has not been as many as others, Bahrain is <20%, meaning 80% is still dominated by conventional banking, Iraq is <5% and Qatar is 30%. This means that the market share in these three countries is still dominated by conventional banking. In addition, Islamic banks tend to fund themselves with *sukuk* and deposits that are in accordance with the Shari'a and provide financing with an even portfolio not only for the oil sector. So even though world oil prices are falling and macroeconomic conditions in Bahrain are weakening, the performance of Islamic banking in Bahrain, Iraq and Qatar will not be affected.

Next is Iran. The country with the most perfect market share for Islamic banking (100%) have an influence on oil prices when viewed from the performance of their Islamic banking ROE. While ROA does not have any influence. The influence on oil prices on positive ROE means that any increase in oil prices can affect ROE of Islamic banking in Iran. This is in line with the study of Kandil and Markovski, (2018) which said that oil prices can have a positive effect on the performance of Islamic banking. Oil prices have a very large effect on the performance (ROE) of Islamic banking in Iran, because the coefficient value is 64.8%. This means that for every 1% increase in world oil prices, the impact on ROE increases by 64.8%.

In addition to oil prices, macroeconomic variables also affect ROE of Islamic banking in Iran. The variables that influence are the unemployment rate, it has a negative effect on ROE. This means that if the unemployment rate rises it will have an impact on performance (ROE) of Islamic banking in Iran, but the coefficient value is very small at 3%. This means that every 1% reduction in the unemployment rate will only have an impact of 3% on Islamic banking performance (ROE) in Iran.

A possible reason to answer this is that Iran, which is the seventh largest oil producer in the world (production of 3.19 million barrels/day) and the source of funds obtained in running this

**Table 1: Estimation results from random effect**

Variables	Bahrain		Iraq		Iran		Kuwait		Qatar		Saudi		UAE	
	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE
OIL	0.21	0.29	0.56	0.63	0.80	0.05	0.52	0.30	0.51	0.33	0.80	0.17	0.69	0.18
GDP	0.46	0.55	0.83	0.37	0.90	0.59	0.00	0.01	0.15	0.13	0.03	0.04	0.95	0.20
CPI	0.78	0.93	0.24	0.26	0.30	0.36	0.63	0.96	0.22	0.17	0.09	0.02	0.60	0.01
UNP	0.34	0.64	0.11	0.14	0.60	0.00	0.27	0.34	0.25	0.68	0.00	0.00	0.39	0.03
C	0.22	0.31	0.31	0.04	0.95	0.11	0.35	0.37	0.29	0.01	0.02	0.02	0.00	0.00
R <sup>2</sup>	0.07	0.03	0.12	0.11	0.03	0.16	0.33	0.30	0.18	0.16	0.15	0.12	0.05	0.06

business 100% comes from only Islamic banking. Therefore it is natural that the performance of Islamic banking can be affected by world oil prices. Then, the biggest employment opportunities are opened for the oil industry, so if the oil price decreases, available employment decreases and the banking performance will be affected even though the percentage is small compared to the price of the oil itself.

Kuwait, which is the 10<sup>th</sup> largest oil producing country (production of 2.81 million barrels/day) is the country that has the fifth largest market share of Islamic banking in the world after Saudi Arabia, that is 40%. Having an influence on the macroeconomic situation (GDP) on the performance of its Islamic banking through ROE, while ROA is not influenced by any oil prices or macroeconomic. This study is in line with Poghosyan and Hesse (2009) but is not in line with Abduh and Baharoon (2016) who found the result that GDP does not affect ROE in Islamic banking in Saudi Arabia.

A possible reason to answer this result is that oil prices affect the performance of Islamic banking in Kuwait but not directly, but through GDP income. If oil prices fall, income through exports will decline, which will result a decline in the GDP level. In addition, oil prices do not have a direct impact because most of the funding still uses funding from conventional banking.

Saudi Arabia has the same result for ROA and ROE. Oil prices do not directly affect ROA or ROE. But the macro economy has a significant effect on ROA and ROE of Islamic banking in Saudi Arabia. GDP has a positive effect on the performance of Islamic banking, both ROA and ROE. Inflation and the unemployment rate negatively affect the performance of Islamic banking both ROA and ROE. This result is contrary to the findings of Abduh and Baharoon (2016) who found no macroeconomic influence on the performance of Islamic banking in Saudi Arabia.

The possible reason is that Saudi Arabia is the first largest exporter in the Middle East and second countries in the world after the United States with a total production of 11.59 million barrels/day requires extensive funding sources that are not enough if handled only by Islamic banking. Although the market share of Islamic banking in Saudi Arabia is more than 50%, conventional banking also contributes more than 40% funding. This makes the performance of Islamic banking in Saudi Arabia not directly affected by changes in oil prices, but indirectly through macroeconomic variables. However, the macroeconomic coefficient value that affects the performance of Islamic banking in Saudi Arabia on ROA and ROE is not more than 1%. That is, even though Saudi Arabia is the second largest oil producer in the world and the fourth largest market share of Islamic banking in the world does not directly affect each other.

The last is the UAE, which has gained oil prices, does not affect the performance of Islamic banking in this country. Besides that GDP also has no influence on its performance both ROA and ROE. However, other macroeconomics such as inflation and unemployment have a negative effect on performance when viewed from ROE. This is in line with the research of Abduh et al., 2011; Zeitun, 2012; and Al-Qudah and Jaradat, 2013. The right

reason is this country because of the influencing inflation coming from changes in the benchmark exchange rate to the US Dollar, this implies that inflation is imported from abroad. In addition, even though the UAE is an Islamic country, the Islamic banking market share is only 30% compared to conventional banking. Therefore the influence of oil prices both directly and indirectly does not affect the performance of Islamic banking in the UAE.

## 5. CONCLUSIONS AND SUGGESTIONS

The conclusion that can be obtained from the analysis above is that each country has different characteristics, so that it can have a different impact on performance in Islamic banking, even though the seven countries are oil producing countries. In addition, Islamic banking does not have an influence on oil prices and macroeconomic conditions because the market share of Islamic banking in the country is very small when compared to conventional banking. This means that the industry in the oil business uses funds in conventional banking is greater than Islamic banking. Because Iran, which uses 100% of Islamic banking in its business funding, found that oil prices have a huge influence on the performance of Islamic banking.

The advice to be conveyed to Iran is that needs a broad and equitable funding portfolio and does not focus solely on the oil business. When viewed from the results above, the advice that can be given is that the profitability variable used to measure the performance of Islamic banking is the best ROE compared to ROA. Then, the next suggestion for the government of the country under study is to increase the portfolio in exports, so that countries' incomes are not just fixated on oil yields.

This study is still limited to Islamic banking. Because of the considerable market share difference between Islamic and conventional banking, it is better that the next study also compares directly with conventional banking to get better results.

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