



The Impact Of Crude Oil Price, Inflation And Exchange Rate On Economic Growth In Malaysia

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Abstract. The aim of this paper is to test the relationship between crude oil price, inflation and exchange rate on economic growth in Malaysia. The Data was collected and retrieved from the period of 1999 to 2019 which are gathered from The World Bank and Trading Economics. Throughout, this study uses multivariate regressions and the result shows a statistically significant relationship between crude oil price and exchange rate on economic growth in Malaysia.

Keywords: Crude Oil Price, Inflation, Exchange Rate, GDP

I. INTRODUCTION

Malaysia is a net oil exporter among the non-OPEC countries. Organization of Petroleum Exporting Countries (OPEC) is an intergovernmental organization of 14 nations. Its individuals incorporate Algeria, Angola, Ecuador, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, UAE and Venezuela OPEC was shaped in 1960 in Baghdad and directions the vitality approaches of its part nations, who deliver about 33% of the world's oil.

Malaysia as the net exporter of oil gets welfare benefits from higher crude oil prices in the short term because there are better terms of trade (Backus and Crucini, 2000). Certainly, oil shocks make a major factor driving fluctuations in the international terms of trade. Currently, Malaysia has been encountering all over in drastic costs of petroleum, diesel, and LPG. This news prompted numerous responses among Malaysian market analysts, organizations, and individuals. The constant raising of the cost is stressing everyone. Therefore, Malaysia's trade profits will fall when the price of oil drops. With lower export revenues comes a higher trade deficit and a weaker currency. The net oil exporter country and net oil importer country affects differently with oil price. The output of macroeconomic variables such as inflation and exchange rate depends on oil price. The research project will have several specific objectives.

- i. To examine the impact of crude oil price, inflation and exchange rate on economic growth in Malaysia.
- ii. To study the relationship between crude oil price, inflation and exchange rate on economic growth in Malaysia.

Therefore, from the issue raised by previous study, the hypotheses developed for the current study are as follows:

Correlation Coefficient

- H_0 = There is no significant relationship between crude oil price, inflation and exchange rate with economic growth.
- H_1 = There is a significant relationship between crude oil price, inflation and exchange rate with economic growth.

Multiple Linear Regressions

- H_0 = There is no significant impact between crude oil price, inflation and exchange rate with economic growth.

- H_1 = There is a significant impact of crude oil price, inflation and exchange rate with economic growth.

II. LITERATURE REVIEW

Zeeshan Khan, Shah Khalid, Khurshid Ali, Shahid Ali and AlinaKiran, (2017) found the fluctuation in crude oil prices affects the economic growth of crude oil prices negatively such as the United States, Malaysia and other developed as well as evolving countries. (James, 1983) and (Bekhet and Yusoff (2009) showed the results of the study indicate that there exists a negative relationship between crude oil prices and economic growth in the long run but positively relations in the short run.

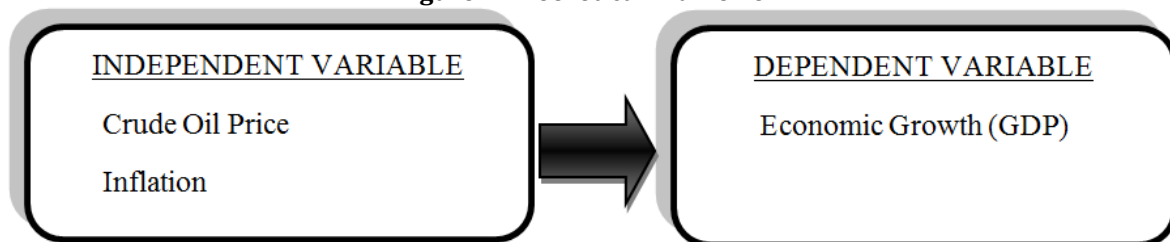
Aziz and Dahalan (2015) mentioned the results that GDP responds negatively to oil price increase in the long term without undergoing significant growth in the short term. According to Maurizio (2016) showed that the real exchange rate has a negative impact with GDP. Next Hock, (2013), the results of the ARDL method shows an increase in the real interest gap, the real oil price or reserve difference will lead to a rise of the real exchange rate in the long run. The results show that an increase in real exchange rate misalignment will lead to a decrease in economic growth. Exchange rate depreciation can stimulate economic growth.

Meanwhile, (Kanchan and Chandan, 2011) The results of the study also show a negative outcome on the relationship between inflation and GDP. Lastly, based on (Ahmad and Siew-Voon, 2014). They found that a negative impact of inflation on economic growth for Malaysia.

III. METHODOLOGY

Types of data are using the secondary data from Trading Economics and The World Bank. The time series that taken is 21 years from 1999 until 2019.

Figure 1 Theoretical Framework



IV. RESULTS AND ANALYSIS

Table 1 Descriptive Statistics

	Mean	Std. Deviation	N
GDP	5.8186	0.12575	21
CRUDEOILPRICE	0.6719	0.08767	21
INFLATION	0.3524	0.23220	21
EXCHANGERATE	2.0005	0.03653	21

The GDP the maximum rate value which is 5.8186 and pursued by exchange rate at 2.0005, crude oil price at 0.6719 and the inflation at 0.3524. The standard deviation is a measure of the scattering of a set data from the mean. The maximum of the standard deviation is the inflation which is 0.23220 followed by GDP has the 0.12575. Standard deviation for the crude oil price is 0.08767 and the lowest of standard deviation is exchange rate at 0.03653.

Table 2 Correlation Coefficients

		GDP	CRUDE OIL PRICE	INFLATION	EXCHANGE RATE
GDP	Pearson Correlation	1			
	Sig. (2-tailed)				
CRUDE OIL PRICE	Pearson Correlation	0.881 **	1		
	Sig. (2-tailed)	0			
INFLATION	Pearson Correlation	-0.144	-0.033	1	
	Sig. (2-tailed)	0.533	0.887		
EXCHANGE RATE	Pearson Correlation	-.468 *	-0.342	0.238	1
	Sig. (2-tailed)	0.032	0.129	0.299	
** . Correlation is significant at the 0.01 level (2-tailed).					
* . Correlation is significant at the 0.05 level (2-tailed).					

According to the table of correlation Co-integration test, the crude oil price is significant at 0.000 and followed by exchange rate is 0.032. Besides that, the inflation is non-significant at 0.533. The overall result shows the crude oil price and the exchange rate have a relationship with the constant which is GDP. Furthermore, the inflation does not has any relationship with the GDP because of its more than 0.05 level.

Table 3 Regression Analysis

	Coefficient	t	p-value
(Constant	6.202	7.483	0
Crude oil	1.178	7.364	0
Inflation	-0.042	-0.711	0.487
Exchange rate	-0.58	-1.469	0.16
R		0.902	
R-square		0.814	
F-value		24.771(0.000)	

R Square is 0.814 which is consequent to 81.4%. According to the result of R Square the dependent variable which GDP can clarify by independent variables which are crude oil price, inflation and exchange rate. Besides that, another 18.6% of the variation was explained by other components not included in this study. The studies have strongly shown a relative correlation between variance since R Square almost 100%.

According to the regression analysis, the alpha value is equivalent to 0.005 which means the significant equal to the p-value. If the result shows rejected, its mean null hypothesis meanwhile if the p-value is accepted, this will be an alternate hypothesis and the result must be less than p-value and vice versa. Based on the analysis, the crude oil price has a significant impact on the GDP at 0.000 which indicates that accepted alternate hypothesis. There is no impact on inflation and exchange rate on the GDP which is more than p-value. This indicates that should be rejected the alternate hypothesis. In short, the crude oil price has a strong impact with the GDP.

$$GDP = 6.202 + 1.178COP - 0.042CPI - 0.580EXR + \epsilon$$

According to the table as presented in the research model, regression shows some information which on factors have an impact on the GDP. When the dependent variable which is GDP increases, the crude oil price has a positive impact on the GDP. However, the inflation and exchange rate have a negative impact on GDP.

Based on the previous chapter, the objective has been achieved which is to examine the relationship and impact of the crude oil price, inflation and exchange rate on the GDP in Malaysia. So, this study examined the positive impact of the crude oil price on the GDP. However, the independent of the study which is crude oil price and the exchange rate has a strong relationship with the dependent variable which is GDP. The study of the result was using the yearly basis during 1995 until 2015 which means in the short term. Besides that, the data analysed using the statistical package for social science (SPSS) and the test used the correlation and regression method.

According to the (Zeeshan Khan et al., 2017), there is a negative relationship with GDP in the long run and positively in the short run. Based on the correlation analysed, there is a positive relationship between crude oil prices with the GDP which means using the short run.

The result becomes stronger because the previous study, (Kanchan and Chandran, 2011) said the inflation has the negative relationship with the GDP because it used the short run. Therefore, the result of this study indicates that inflation has a negative significant relationship with the GDP.

In this study, the exchange rate and inflation do not have any impact on the GDP. This result was supported by (Maurizio., 2016) said there is a negative impact with the GDP. Besides that, the inflation also has a negative impact on the GDP works through several channels for Malaysia (Ahmad and Siew-Voon, 2014)

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