

THE CASE STUDY ON THE IMPACT OF CRUDE OIL PRICE AFFECTING THE INFLATION RATE IN MALAYSIA

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ABSTRACT

The uncertainty in the economic growth had been highly contributed by multiple factors which does not exclude the suggestion on the impact from the crude oil prices. The major impact from the crude oil prices had been strong in influencing the rising prices of the consumer's goods and services which often translate into the rising inflation for the country. With reference to this., the objective for the current study will focus into exploring the investigation on the impact of the crude oil price against the impact on the inflation rate within the economic condition of Malaysia. The quantitative study method had been developed where the results and findings for the study had achieved the outcome identifying the significant positive relationship between the crude oil price in affecting the inflation rate in Malaysia. The outcome for the research had been crucial address towards the achievement in the academic study reducing the gap in literature review as well as developing further reference for the individuals and businesses to plan the financial resources in the future in Malaysia.

Keywords- *inflation rate, economic growth, Malaysia, crude oil price*

INTRODUCTION

The term "crude oil price" refers to the going rate on the market for a barrel of unprocessed petroleum, which is the unfinished product that is excavated from the earth. It basically refers to the price at which this crude oil can be purchased or sold on different commodities markets around the world (Talha, Sohail, Tariq, & Ahmad, 2021). Numerous different factors have contributed to the fluctuating price of crude oil over time. Crude oil price refers to the current market price of a barrel of unrefined petroleum, which is the raw material extracted from the ground (Shaari, Pei, & Rahim, 2013). Demand and supply in the market contributed to the baseline for determining the crude oil price which it basically refers to the price at which this crude oil can be purchased or sold on different commodities markets around the world (Sek, 2023). Additionally, the state of the world economy directly affects the amount of oil demanded. There is typically higher demand for energy, including oil, during times of rapid economic expansion (Talha et al., 2021). On the other hand, demand for oil tends to fall off during economic downturns. Regarding this, it had always been said that the price of crude oil served as a benchmark to determine how the nation's economy would develop.

The complex relationship between crude oil prices and inflation rates can be influenced by a number of variables. The majority of corporate costs that flow directly into consumption and production within the economy now include a relevant contribution from crude oil (Shaari et al., 2013). The production of many goods and services relies heavily on petroleum. When crude oil prices rise, production costs for companies rise. This can increase costs for a variety of goods that rely on petroleum-based inputs, such as plastics, chemicals and transportation fuels. In addition, rising crude oil prices may lead to higher transportation costs (Sek, 2023). Especially for goods that rely heavily on transportation, such as food and other goods, this impacts the cost of shipping goods and can result in higher prices for consumers. As a result of the inflation adjustment of the country's economic situation, it has been shown that the increase in supply chain and logistics costs was the trigger for the growth of rising prices (Basnet & Upadhyaya, 2015).

However, the suggestion from the relevance impact from the rising price in the crude oils in the recent years especially the post pandemic situation had resulting into the increase in the inflation over time (Sek, 2023). Despite the suggestion provided, there is lack of research to address the current study to achieve the evidence to show the significant relevance relationship being exist between the price of the crude oil in affecting the inflation rate within the local economy (Shaari, Hussain, & Abdullah, 2012). With this, the problem statement had been initiated resulting into the motivation in driving the purpose and objective of the research which is mainly to investigate the potential significant in the impact from the crude oil price influencing the inflation growth in the country. For the current research, the study will provide the specific focus into venturing into the local economy in the country of Malaysia.

LITERATURE REVIEW

The concept of signaling theory in economics and related disciplines looks at how people or organizations can share information about themselves with others. It implies that when information is asymmetric when the signals can be used by individuals to close the information gap when, for example, one party has more or better information than the other (Orazalin & Mahmood, 2019). With relevance to the signaling theory, the theory had become significant indicator within the economic condition where the movement of the variable such as the crude oil price had been showing the signal to represent the potential increase in the prices of the goods and services (Yasar, Martin, & Kiessling, 2020). This is because the rising cost of the crude oil had become source of impact into many different costings resulting the increase in the living cost and expenses (NUR DP, 2021). The similar perspective will be perceived through the commitment and burden as demonstrated in the business and individuals where the rising inflation rate will observe the increase in the inflation rate of the economy. Therefore, the signaling theory had been providing the positive impact from the crude oil price affecting the incremental of the economic growth of the growth (Orazalin & Mahmood, 2018).

Based on the previous studies, there are various research showing the significant impact from the crude oil prices playing a major role to influence the rising pricing within the goods and services within the market (Hussin et al., 2013). In addition, the suggestion for the positive correlation being exist between the crude oil prices against the inflation rate for the economy had been prove through the demonstration of the rising cost in many different goods (Sek, 2017). This is supported by the fact where the incremental in the crude oil market had highly affecting the burden of the costing where majority of the costing involving the supply chain and logistics had been triggered and stimulated to become higher cost and expenses to be incurred (Sek, 2023). As a result, the previous studies had strongly suggested the potential impact of the inflation rate for the local economic growth which is triggered by the rising prices of goods and services (Al-hajj, Al-Mulali & Solarin, 2018).

In addition, the previous studies had shown the evidence that the crude oil price had become the source that will become the economy stimulator where the crude oil market had become the major support for the economic growth (Islam et al., 2017). With reference to the fall in the crude oil prices back in Covid-19, the economic growth had recorded to be negative due to the lack of the ability for the economy to further growth in many countries (Sek, 2023). There is no exception in the country of Malaysia where the recession in the economy had resulted in aligned with the fall of the petrol prices in the country (Talha et al., 2021). The achievement in the stability of the crude oil over time had slowly pushing back the economic growth to the normal rate to promote boom in the economic cycle (Mishra, Rani, Pardasani, & Mardani, 2019).

With reference to this, the summary of the literature review had posed strong support from the previous studies to identify the potential positive relationship exist between the movement of the crude oil price affecting the inflation rate in the economy (Nusair & Olson, 2019). The relevance of the crude oil market as mentioned previously is relevance towards many costs factor within the goods and services affecting the economy through the Gross Domestic Product (GDP) which had been the significant measure to show the development of the economic condition for the country (Yousaf & Hassan, 2019). Therefore, the hypothesis will be developed through the research

framework identifying the crude oil price as the independent variable against the inflation rate as the dependent variable for the study.

H0: There is no significant role of crude oil price in impacting the growth of the inflation rate in the country.

H1: There is significant role of crude oil price in impacting the growth of the inflation rate in the country.

METHODOLOGY

The current proposed research will develop the application into the quantitative study method where the quantitative analysis study will observe the data input using the numerical form of data which is fitting the requirement for the development of the current study (O D Apuke, 2017). The upper hand in introducing the quantitative study method into the current research is providing the benefits to analyse the data input through a specific period of time allowing the observation of the pattern and the relationship of the variables included in the research framework (Yeoh, 2022). The longitudinal study will become the benchmark of the research where the data analysis through the quantitative method will observe the analysis through the specific timeline within the period of study (Oberiri Destiny Apuke, 2017).

The data collection for the research had become the source of the data input triggering the existence of the research where the data input will be referring to the quantifiable data reference to the crude oil price and the inflation rate in Malaysia (Blumberg, Cooper, & Schindler, 2014). The source of the data will be exploit using the public available and highly accessible data through the online platform where the data is based on the historical data from the timeline of 2008 to 2023 which had previously been collected through the primary data market. The target study had been referring into the country of Malaysia where the student is targeted with the objective to achieve the significant findings within the understanding on the economic development within the developing country of Malaysia.

Moving on, the data analysis component will be observing the application of the quantitative study approach and method using the generation of the series in statistical output. The descriptive analysis will become the first step on the statistical output where the descriptive analysis will become the first observation to identify the attributes of the data to flag out any abnormality of the data input if there is any (Saunders, Lewis, & Thornhill, 2015). The correlation analysis will become the second part of the analysis for the quantitative study where the research is determined to explore the correlation exist between the crude oil price and inflation rate in the economy of Malaysia (Gogtay & Thatte, 2017). Last but not the least, the quantitative analysis study had proceeded to identify the potential significant impact from the movement of the crude oil price in influencing the inflation rate growth in the Malaysian economy (Sekaran & Bougie, 2016). The outcome through the regression analysis and correlation analysis will serve as the input to test for the hypothesis as developed in the literature review in the research study.

DATA ANALYSIS

Table 1: Descriptive Analysis

	<i>Inflation Rate</i>	<i>Crude Oil</i>
Mean	0.021289903	0.092540308
Standard Error	0.003822311	0.103227705
Median	0.020974782	0.007369782
Standard Deviation	0.015289246	0.412910819
Sample Variance	0.000233761	0.170495344
Kurtosis	1.05131611	-0.778599009
Skewness	0.040416983	0.644920272
Range	0.065794844	1.255942327
Minimum	-0.011387022	-0.432172533
Maximum	0.054407822	0.823769794
Sum	0.340638452	1.480644931
Count	16	16

The Table 1 had showed the information for the descriptive analysis where the descriptive analysis had been targeted to deliver the necessary overview towards the attribute of the quantitative data input for the study. Based on the information in Table 1, the mean and the standard deviation had appeared to be comparable where there is no abnormality observed within the descriptive analysis indication the suitability for the data input to perform the quantitative analysis study.

Table 2: Correlation Analysis

	<i>Inflation Rate</i>	<i>Crude Oil Price</i>
<i>Inflation Rate</i>	1	0.614414194
<i>Crude Oil Price</i>	0.614414194	1

The Table 2 demonstrate findings for the study through the correlation analysis where the correlation analysis will be performed to explore the variables between the inflation rate and the crude oil price in Malaysia. The measurement for the correlation will be highly reference against the Pearson Correlation Coefficient representing the strength of the correlation exist between the two variables tested for the study. With reference to the data output in Table 2, the Pearson Correlation Coefficient had recorded 0.61441 between the inflation rate and crude oil price which fall within the range of 0.6 to 0.8 representing the significant strong positive correlation between the two variables. In other words, the two variables are sharing the movement between the inflation rate and the crude oil price showing the similar growth direction for the economic condition and the price for the crude oil in the market of Malaysia.

Table 3: Regression Analysis

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.019184565	0.00320412	5.987466888	3.32571E-05
Crude Oil Price	0.022750505	0.007807892	2.913783332	0.011329161

The Table 3 had shown the regression analysis through the single regression model developed through the demonstration of crude oil price as the independent variable against the inflation rate as the dependent variable based on the research framework for the current study. With reference to the results in Table 3, the p-value recorded for the independent variable of crude oil price had shown 0.01 which is below the benchmark of the tolerance level of 5%. This translates to the meaning where the crude oil price had been significantly influencing the inflation rate in Malaysia positively based on the past trend of historical data.

With the outcome in the results and findings of the research study, the quantitative analysis had provided the sufficient evidence to identify the significant of the positive relationship between the crude oil price and inflation rate within the setting in Malaysia. This is supported through the correlation analysis demonstrating the strong positive correlation between the two variables where the relationship had been proven to be significant with the evidence in regression analysis in the quantitative study. Therefore, the findings had been in aligned with the previous understanding where the movement of the crude oil price remained crucial to reflect and represent the inflation rate in the economy. In other words, the crude oil price had been very influential where the heavy impact towards the consumer goods and prices including the logistics and supply chain cost had translate into the development of the rising inflation in the country.

Coming back to the hypothesis as developed through the initial study on the literature review, the hypothesis had drawn the research framework identifying the crude oil price as the independent variable and the inflation rate as the dependent variable. The outcome of the study had proved that there is sufficient evidence to suggest the strong positive relationship being exist between the crude oil price in affecting the economic growth through the inflation in the economy. Therefore, the results will direct the rejection of the null hypothesis as shown in H0 and directly accepting the alternate hypothesis in H1 agreeing with the expected outcome through the suggestion from the previous studies.

H0: There is no significant role of crude oil price in impacting the growth of the inflation rate in the country.

H1: There is significant role of crude oil price in impacting the growth of the inflation rate in the country.

DISCUSSION

The results and findings had summed up the relevance outcome for the research study where the research had arrived to the conclusion to identify there is significant positive relationship between the crude oil prices and the inflation rate in Malaysia. With the strong positive correlation suggested through the correlation analysis, it is no doubt that the crude oil price showed significant similarity in the movement towards the movement of the economic growth defined through the inflation rate. Therefore, it is reasonable expectations to be derived from both individuals and businesses to predict the movement of the economic cycle over time through the reference of the crude oil prices. In addition to that, the rising prices of goods and services had been referred as the major impact as a result from the crude oil prices. Therefore, the findings had agreed with the previous research studies where the crude oil prices provide multiple impact to the local economy affecting the rise in the costing and expenses mainly triggered by the increasing burden through the logistics and supply chain operational expenses resulting in majority of the increase in the raw materials goods and delivery cost in business. With this, the simple conclusion had been shown through the proper control of the crude oil prices as the benchmark to allow the country to at the very least control the economic condition and slowing down the growth to avoid further burden into the rising prices of goods and services in the country. In other words, the rising inflation resulting from the rising of the crude oil prices will become a concerning highlight to be addressed for the people in the country admitting the rising living cost for the individuals especially in Malaysia.

CONCLUSION

The outcome of the study remained as significant where the objective of the research had been achieved to serve the initial purpose and aim that was identified in the initial stage of the study. The results of the current study had identified that the research had contributed to fresh and new knowledge for the current academic study where the exploration of the academic study had created significant reference for the field of study directing the reduction in the gap towards the previous literature review. The additional scope coverage for the study had added into the insight to further understanding the economy market in Malaysia. Besides, the outcome of the study had been importance to address the understanding for the individuals in Malaysia to further improve the readiness to prepare for the rising inflation rate in Malaysia. This is a crucial address especially for the business and investors to identify the next step in strategic planning for the future to facing the uncertainty in the economic growth in the country.

With reference to the current outcome of the study, the results had provided the crucial contribution to develop new suggestion to venture in the future scope of research. The current study is motivated to further explore the field of economy study where the research can consider into extending the research to further understand the impact of the crude oil pricing against the investment value in Malaysia. The investment value can be derived from different source and alternative investment opportunity that will include the investment in the stock market, property market as well as the interest rate within the central bank to identify the direct significant impact from the movement in the crude oil pricing in Malaysia.

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