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Impact of Increasing the Crude Oil Prices on the Financial Performance of Pharmaceutical Companies Operating in Jordan for the Period (2002-2011)
A Case Study of Jordanian Al-Hikma Pharmaceutical Company

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Abstract:
This study aimed to identify the impact of increase of the crude oil prices on pharmaceutical companies' financial performance. The sample of the study included pharmaceutical companies in Jordan as Al-Hikma pharmaceutical Company was particularly chosen to be the sample of the study. Moreover, the study relied on some variables relevant to Al-Hikma pharmaceutical Company's financial performance, such as (Return on Assets Ratio, Return on Equity Ratio, and Net Profit Margin). Furthermore, the results of the study showed that there was a statistically significance impact of increase of the crude oil price on the Return on Assets, Return on Equity, and Net Profit Margin of Al-Hikma pharmaceutical Company at a significance level ($\alpha = 0.05$).
The study suggested a number of recommendations such as the central state must search for cheap oil alternatives (i.e. natural gas, solar energy and other energy sources).
Keywords: Crude Oil Prices, Financial Performance, Al-Hikma pharmaceutical Company.

1. Introduction

Oil products are believed to be the most important elements in all economic processes and activities due to their important roles in generating productive energy which aims at transferring primary materials into manufactured or semi-manufactured merchandise. Such merchandise tends to fulfill the needs of people. Companies also depend on oil products in delivering outcomes from its origin places to markets to be consumed. Moreover, Oil products have an important role in fulfilling people's physiological needs, such as lighting, thermal energy and a whole lot more.

As a response to globalization, political and economic development as well as interest and expenditures value liberalization, sharp increases in oil products prices, which resulted from inflation and oil mining cost increase, put oil-using companies' business in jeopardy. But since pharmaceutical companies in Jordan use oil in their economic activities directly or indirectly, the increase of oil prices may be directly or indirectly affect such companies and raising the level of the business risk

2. Methodology

2.1 . The study's problem and questions

The study's problem revolves around the impact of oil products price attitudes on Al-Hikma pharmaceutical company's profits, represented by Return on Assets Ratio, Return on Equity Ratio, and Net Profit Margin. So, the problem of the study can be summarized by answering the following questions:

a. How much is the increase in oil price? And what are the reasons behind this?
b. How much is the level of financial performance of pharmaceutical companies in Jordan?
c. Is there any significant impact of the increase the crude oil on financial performance of Al-Hikma pharmaceutical Company's?

2.2 . The study importance

The importance of the study stems from the need for investigating the impact of increase of the crude oil on pharmaceutical companies' profits in Jordan, and how the bad impacts can be avoided. Therefore, this study is considered important because it seeks to do the following tasks:

a. Decrease the bad impacts of increase of the crude oil on the Jordanian Al-Hikma pharmaceutical Company's profits.
b. Provide Jordanian and Arab libraries with specialized research papers on oil and oil oil products s.
c. Provide researchers with new issues relevant to this sector in order to be studied and apply research methodology on different economic sectors in Jordan.

2.3 . The study objectives

The study aims the following objectives:

a. Investigating the reasons behind the sharp increase in crude oil price.
b. Investigating the financial performance of Al-Hikma pharmaceutical Company as well as the most salient financial variables.

c. Measuring the impact of increase of the crude oil on the financial performance of Al-Hikma pharmaceutical Company.

2.4 . The study hypotheses

To achieve the study objectives, the researcher suggested one main hypothesis with a null hypothesis (H_0), with three sub-hypotheses as follows:

H_0: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase of the crude oil on the financial performance of the Jordanian Al-Hikma pharmaceutical Company.

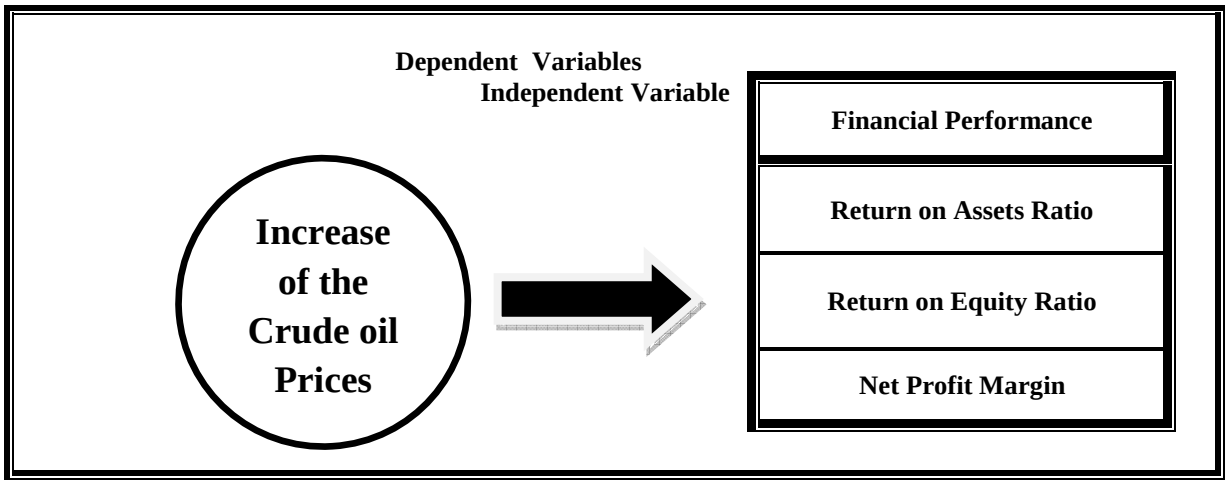
H_{01}: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase of the crude oil on the return on assets.

H_{02}: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase of the crude oil on the return on equity.

H_{03}: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase of the crude oil on the net profit margin.

2.5 . The study model

Figure (1) shows the model study and the impact of the independent variable (the increase of the crude oil prices) on dependent variables represented by return on assets ratio, return on equity ratio and net profit margin.



Source: Prepared by the researcher.

Figure 1. The study's model

2.6 . the theoretical framework of the study and related studies

OPEC is the Organization of petroleum exporting countries, the organization emerged as a result of the presence of some multinational corporations and industrialized States in the form of organization of the cartel that controlled oil prices, so that was the main reason for the lower price, causing a significant damage to the economies of other countries.

According to initiative created by Venezuela, an emergency meeting was held in Baghdad on 10th and 14 December of 1960, the meeting included representatives from Iran, Kuwait, Saudi Arabia and Venezuela. The meeting resulted in establishing OPEC, with the main objective of maintain oil prices that exploited by the international cartel outside their borders at a high level. This would protect the oil producing countries, Also ensure a stable of their income and exporting their products economically to the consumer countries with suitable benefits for the capital of the oil-investing companies, and coordinating the efforts of producer countries to dominate larger shares of profits from the their own oil resources. At present time, OPEC includes 12 countries (Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Nigeria, Qatar, Saudi Arabia, U.A.E., and Venezuela) (SID Ahmed, 1982, p. 75).

In the few last years, oil prices have witnessed unusually sharp increases exceeding 100 USD/ Gallon and fluctuating without any stability. Such fluctuations were attributed, by analysts, to the following reasons (OPEC):

a. International consumption: international oil consumption increases constantly, and now it reaches about 85-million gallons per day. Estimates indicate that China, The United States, Russia and The middle east are heading to consume the whole energy in the world as Energy department of The United States expects that the international oil consumption with go up to nearly 97-million gallons/day by 2015, and 117 gallons/day by 2030.

b. Dollar rate of exchange reduction: the constant reduction in USD rate of exchange made some investing parties change the currency used in their investments including oil earnings to other currencies. Furthermore, the establishment of investment funds led speculators to increase prices without any relation to the increase or reduction in consumption, but to avoid ruination caused by Dollar rate of exchange reduction.

c. Tension and threats: oil-producing parties get directly affected by political instability, such as the conflict between Venezuela central state and oil companies, Iraq and the Lebanon-Israeli War in 2006, the conflict in the Niger River Delta, Nigeria, the Iranian Nuclear Crisis as well as bad weather leading to oil-production termination, reduction from oil supply-side and increase from oil offer-side.

d. Credit Crisis: real-estate mortgage in USA in 2007 made discomfort in real-estate markets and distrust in the American economy which is witnessing a setback without any indication for a recovery. Thus, oil market became an investable target for capitalists instead. As a result, the Federal Reserve intended to decrease interest rates to recover America's economy which will reduce Dollar rate of exchange used in most international oil deals.

In the same context, Financial Analysis is known as the process in which a group of quantitative and qualitative variables are detected and derived from a certain economic project. Such variables help in allocating the importance and properties of project's operative and financial activities through pieces of information drawn from financial manifests as well as other sources. After that these variables get to be used in evaluating the financial performance of the companies in order to make decisions (Matar, 2003. P.3).

On the other side, The Financial Analysis, from the researcher's point of view, is defined as interpretive and evaluative process of the financial statements included in the financial statements in order to convert the numbers to financial indicators help interested people and decision makers. Hence, Financial Analysis, in this study, aims at evaluating the impact of the increase the crude oil prices on the financial performance of the pharmaceutical companies' for the period (2002-2011).

2.7 . Literature Review

- A study (Nafithi, 2009) ***titled: The Impact of Oil Prices Fluctuation on Gross Product.***

This study aimed at measuring the impact of oil prices change on Pakistan's gross domestic product taking into account inflation as well as government's expenditures. The study also indicated a negative relationship between increase the crude oil prices and gross product. Moreover, it pointed out that Inflation affects gross domestic product negatively and that Pakistan expends a lot of hard currency in buying oil and its oil products s. Furthermore, the study recommended that government should provide support for people to increase their purchasing power and production capacity, and find cheap oil alternatives, such as natural gas, Ethanol, solar energy, etc.

- A study (Ali, 2009) ***titled: Measuring the Impact of Oil Prices Change on Gross Product in India.***

This study aimed at measuring the impact of oil price change on India's gross domestic product taking into account inflation as well as government's expenditures. The study also indicated a negative relationship between increase the crude oil prices and gross product. Moreover, it pointed out that Inflation affects gross domestic product negatively and that India expends a lot of hard currency in buying oil and its oil products s. Furthermore, the study recommended that government should provide support for people to increase their purchasing power and production capacity, and find cheap oil alternatives, such as natural gas, Ethanol, solar energy, etc.

- A study (Poghosyan and Heiko, 2009) ***titled: Analysis of the Relationship between Oil Prices and Banks' Profits.***

Having used the data of 145 banks in 11 oil-exporting countries during the period (1994-2008), hypotheses were tested to investigate the direct and indirect impact of oil price fluctuation on Banks' profits. The study came to conclusion that oil prices fluctuation affects banks' profits by which investor banks were the most affected. In short, oil price fluctuation affects banks' financial performance.

What Makes This Study Different from the Other Studies?

This study comes as an integral part of other studies which considered the impact of increase the crude oil prices on banks' profits and worldwide countries' economy. This study is considered the first of a kind to investigate the impact of increase the crude oil prices and reduction on pharmaceutical companies' profits in Jordan by the use of profit variables, such as return on assets ratio, return on equity ratio and net profit margin.

3. Method and Procedures

3.1. Study methodology

The study relied on Financial Data Analysis method relevant to the sample of the study, followed by the Analytic method to investigate the impact of increase the crude oil prices on pharmaceutical companies' financial performance in Jordan.

3.2. Study Sample

The sample of the study included all pharmaceutical companies in Jordan as the Jordanian Al-Hikma pharmaceutical Company was chosen particularly as the sample of the study since it has all data and financial reports needed for the study, and is one of the largest companies in pharmaceutical sector.

3.3. Information Gathering Sources and Data Relevant to Study Variables

To cover the theoretical side of the study, the researcher relied on secondary sources, such as books, periodicals, Internet and previous research papers relevant to the same issue, interviews with financial managers of Al-Hikma pharmaceutical Company, as well as annually financial data and reports revealed and published on the same company's website during 2002 -2011.

3.4. Statistical Analysis Methods

To test study hypotheses, statistical analysis methods available in the SPSS were used as follows:

a. T-Test: to validate homogeneity of study data.

b. One-Sample Kolmogorov–Smirnov Test: to check whether study data belong to Normal Distribution or not.

c- Simple Regression Analysis: to test the impact of an independent variable on dependent variables.

4. Data Statistical Analysis and Hypothesis test

Before validating the study's main hypothesis and its sub-hypotheses, it is necessary to conduct some tests on study's data as follows:

a. T-Test

This test was used to validate homogeneity of study data. Table (1) shows the results of the test:

Table 1. Results of T values for testing homogeneity of data of study variables

No.	Study Variables	T-Value	df.	Sig.
1	Increase the crude oil prices	7.386	10	0.000
2	Return on Assets Ratio	9.025	10	0.000
3	Return on Equity Ratio	8.150	10	0.000
4	Net profit Margin	7.183	10	0.000

Table (1) shows homogeneity of data of study variables, represented by the increase of the oil prices, return on assets, return on equity and net profit margin. This could be proved by T-Test values of (7.386, 9.025, 8.150 and 7.183). All these values are less than the significance level (α =0.05).

b. One-Sample K–S Test

The Test was used to check whether study data distributed as Normal Distribution or not, through the following statistical hypothesis:

H_0: Data of variables distributed as Normal Distribution.

H_1: Data of variables didn't distribute as Normal Distribution.

Table (2) shows the results of the previous hypothesis:

Table 2. Results of One-Sample K–S Test

No.	Study Variables	Number (N)	Z-Value	Sig.
1	Increase the crude oil prices	11	0.354	1.000
2	Return on Assets Ratio	11	0.486	0.972
3	Return on Equity Ratio	11	0.790	0.560
4	Net profit Margin	11	0.361	0.999

Critical value of Z at the significance level (α = 0.05), is (1.96).

According to table (2), results showed that all Z values of study variables were less than Critical value of Z table value of (1.96). The results also showed that all the statistical significance values were more than the significance level (α = 0.05). In the light of previous results, the null hypothesis (H_0) was **accepted**, and this means that data of variables distributed as Normal Distribution.

After validating homogeneity of data and assuring that data of variables distributed as Normal Distribution, the hypothesis relevant to measure the impact would be tested by using simple linear regression method as follows:

4.1. Results of Study Hypothesis Test

H_0: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase the crude oil prices on the financial performance Jordanian Al-Hikma pharmaceutical Company.

To test the main hypothesis' validity, Sub-hypotheses must be validated as follows:

4.1.1. Results of the First Sub-Hypothesis Test

H_{01}: There was no statistically significant impact, at the significance level ($\alpha \leq 0.05$), of increase the crude oil prices on return on assets ratio of the Jordanian Al-Hikma pharmaceutical Company.

Table 3. Results of Simple Linear Regression for testing the First Sub-Hypothesis

Independent Variable	Coefficients (β)	T-Value	Sig.	Standardized Coefficient (Beta)
Constant (β_0)	0.163	12.687	0.000	-
Increase of the crude oil prices	- 0.001	- 5.811	0.000	- 0.889
Correlation Coefficient (r)	- 0.889	Determinant Coefficient (R^2) = 0.790		
F-Value	33.763	Sig. of F = 0.000		

Table (3) showed the following results:

a- Results showed validity of simple linear regression model. This could be proved by F value of (33.763), alongside statistical significance value of (0.000) which was less than ($\alpha = 0.05$). Thus, the null hypothesis (H_{01}) was **rejected**. This means that there was statistically significant impact of increase the crude oil prices on the Jordanian Al-Hikma pharmaceutical Company's return on assets.

b- Results showed validity of regression coefficient (β) of Increase the crude oil prices. Also, there was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the increase the crude oil prices on the Jordanian Al-Hikma pharmaceutical Company's return on assets ratio. This could be proved by T value which was less than the level of significance ($\alpha = 0.05$). Thus, the null hypothesis (H_{01}) was also **rejected**.

c- Determinant coefficient (R^2) value of (0.79) indicated that the Increase the crude oil prices, constituted 79% of changes in return on assets ratio of the Jordanian Al-Hikma pharmaceutical Company while the rest of 21% were referred to other variables which were not included in regression model.

d- Standardized coefficient value (Beta) of (- 0.889) of Increase the crude oil prices , indicated that if crude oil price increased by one degree of standard deviation, return on assets ratio of the Jordanian Al-Hikma pharmaceutical Company would decrease by 88.9%.

4.1.2. Results of the second Sub-Hypothesis Test

H_{02}: There was no statistically significant impact, at the level of significance ($\alpha \leq 0.05$), of increase the crude oil prices on return on equity ratio of the Jordanian Al-Hikma pharmaceutical Company.

Table 4. Results of Simple Linear Regression for testing the Second Sub-Hypothesis

Independent Variable	Coefficients (β)	T-Value	Sig.	Standardized Coefficient (Beta)
Constant (β_0)	0.285	9.985	0.000	-
Increase of the crude oil prices	- 0.002	- 4.705	0.000	- 0.843
Correlation Coefficient (r)	- 0.843	Determinant Coefficient (R^2) = 0.711		
F-Value	22.136	Sig. of F = 0.001		

Table (4) showed the following results:

a- Results showed validity of simple linear regression model. This could be proved by F value of (22.136), alongside statistical significance value of (0.001) which was less than ($\alpha = 0.05$). Thus, the null hypothesis (H_{02}) was **rejected**. This means that there was statistically significant impact of increase the crude oil prices on the Jordanian Al-Hikma pharmaceutical Company's return on equity ratio.

b- Results showed validity of regression coefficient (β) of Increase the crude oil prices. Also there was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the increase the crude oil prices on the Jordanian Al-Hikma pharmaceutical Company's return on equity ratio. This could be proved by T value which was less than the level of significance ($\alpha = 0.05$). Thus, the null hypothesis (H_{02}) was also **rejected**.

c- Determinant coefficient (R^2) value of (0.711) indicated that the Increase the crude oil prices constituted 71.1% of changes in return on equity ratio of the Jordanian Al-Hikma pharmaceutical Company while the rest of 28.9% were referred to other variables which were not included in regression model.

d- Standardized coefficient value (Beta) of (- 0.843) of Increase the crude oil prices , indicated that if crude oil price increased by one unit of standard deviation, return on equity ratio of the Jordanian Al-Hikma pharmaceutical Company would decrease by 84.3%.

4.1.3. Results of the third Sub-Hypothesis Test

H_{03}: There was no statistically significant impact, at the level of significance ($\alpha \leq 0.05$), of increase the crude oil prices on net profit margin of the Jordanian Al-Hikma pharmaceutical Company.

Table 5. Results of Simple Linear Regression for testing the Third Sub-Hypothesis

Independent Variable	Coefficients (β)	T-Value	Sig.	Standardized Coefficient (Beta)
Constant (β_0)	9767741	0.725	0.487	-
Increase of the crude oil prices	770137.3	4.350	0.002	0.823
Correlation Coefficient (r)	0.823	Determinant Coefficient (R^2) = 0.678		
F-Value	18.924	Sig. of F = 0.002		

Table (5) showed the following results:

a- Results showed validity of simple linear regression model. This could be proved by F value of (18.924), alongside statistical significance value of (0.002) which was less than ($\alpha = 0.05$). Thus, the null hypothesis (H_{03}) was **rejected**. This means that there was statistically significant impact of increase the crude oil prices on net profit margin of the Jordanian Al-Hikma pharmaceutical Company.

b- Results showed validity of regression coefficient (β) for the Increase the crude oil prices. Also, there was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the Increase the crude oil prices on the Jordanian Al-Hikma pharmaceutical Company's net profit margin. This could be proved by T value which was less than the level of significance ($\alpha = 0.05$). Thus, the null hypothesis (H_{03}) was also **rejected**.

c- Determinant coefficient (R^2) value of (0.678) indicated that the Increase the crude oil prices constituted 67.8% of changes in net profit margin of the Jordanian Al-Hikma pharmaceutical Company while the rest of 32.2% were referred to other variables which were not included in regression model.

d- Standardized coefficient value (Beta) of (0.823) for the Increase the crude oil prices , indicated that if crude oil price increased by one unit of standard deviation, net profit margin of the Jordanian Al-Hikma pharmaceutical Company would increase by 82.3%.

5. Conclusions and recommendations

The study showed a number of results as follows:

a. There was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the Increase the crude oil prices on Al-Hikma pharmaceutical Company's return on assets ratio.

There was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the Increase the crude oil prices on Al-Hikma pharmaceutical Company's return on equity ratio.

There was a statistically significant impact, at the significance level ($\alpha = 0.05$), for the Increase the crude oil prices on Al-Hikma pharmaceutical Company's net profit margin.

In the light of the study results, the researcher came to a number of recommendations as follows:

a. The higher administration of the company must set up financial policies which come along with the increase in crude oil price, and analyze the futuristic impacts of this increase.

b. The study recommends that the necessary measures should be taken by the Central Government to reduce the import of the Hashemite Kingdom of crude oil.

c. Due to the increase crude oil prices and steadily, the study recommends that the Central Government is searching for cheap alternatives such as natural gas and solar and other sources of energy

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