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THE IMPACT OF OIL PRICE ON ECONOMIC GROWTH: AN INVESTIGATION ON IRAQI ECONOMY

Petrol Fiyatının Ekonomik Büyüme Üzerindeki Etkisi: Irak Ekonomisi Üzerine Bir İnceleme

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ÖZ

Irak, önde gelen petrol ihraç eden ülkelerden biridir. Genel olarak ülkenin milli geliri ham petrollere bağlıdır. Irak'taki petrol gelirleri, Irak hükümetinin bütçesinin yüzde 90'ını kapsamaktadır. Artan ham petrol fiyatı Irak'taki ekonomik büyümeyi etkileyebilmektedir. Diğer taraftan, milli gelir elde etmek için yeni bir strateji olarak petrol gelirleri yerine başka bir kaynak kullanılması önemli bir gereklilik olarak ön plana çıkmaya başlamıştır.

Bu çalışmanın temel amacı Irak'ta petrol fiyatının ve petrol üretim değerinin ekonomik büyüme üzerindeki etkilerini incelemektir. Bu amaçla 1995-2017 yılları arası döneme ait yıllık büyüme oranı, bileşik büyüme oranı ve korelasyon katsayısı kullanılmıştır. Analiz sonuçlarına göre Irak ekonomisi için petrol fiyatı ile GSYİH, petrol üretim değeri ve GSYİH arasında istatistiksel olarak anlamlı bir pozitif ilişki olduğu bulgusu elde edilmiştir.

ABSTRACT

Iraq is one of the leading oil exporting countries. In general, the national income of the country depends on crude oil. Oil revenues in Iraq cover 90 percent of the Iraqi government's budget. The rising crude oil price may affect the economic growth in Iraq. On the other hand, it is very important to use another resource instead of oil revenues as a new strategy for national income.

The main purpose of this study is to examine the effects of oil price and oil production value on economic growth in Iraq. For this purpose, annual growth rate, compound growth rate and correlation coefficient for the period between 1995-2017 were used. According to the results of the analysis, it was found that there is a statistically significant positive relationship between oil price and GDP, oil production value and GDP for Iraqi economy.

1. INTRODUCTION

The increasing of the crude oil price recently was seriously taken in consideration/ However oil was seen as a secondary source, it became a crucial resource in the societies later. During the 1970s and 1980s, the Arab countries faced a bad instability in economic growth, but in the mid of 1970s, increasing the oil products and rising of its price helped the oil country producers. Later, most of the Arab countries encountered the falling of oil price and economic growth including Iraq.

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The beginning of discovering oil in the United States was by an American officer called Adrian Drake. He dug the first oil well in 1859. That was a turning point in searching for oil and oil market and competitions appeared. The market was quickly changed to monopoly market. An American company owned by an American person called Rockefeller monopolized the market at that time. That monopolization increased and caused the division of some companies thus led to predefine oil price and taking over oil sites. Later a contract called AKNACRI was signed. It included these basics, predefining oil price and dividing oil sites and loading and unloading oil barrels.

At the end of World War II and after collapsing of the European economy, these companies took over some wide oily area in the Middle East. There were some helpful reasons to make this easy for them including the closeness of the area to Europe and oil drilling. Seven monopoly companies were founded; five of the American and the other two were British and Dutch. They were called the seven sisters and they monopolized the oil market and predefined the price of oil as they wanted (Kilian, 2007).

The importance of this research is revealing the influence of crude oil price on economic growth and collecting data was used to analyze that influence. Iraq in general is the place of the practical part of the research.

In addition, this research consists of three chapters. In the first chapter, the introduction, the significance of the problem and methods were explained. In the second chapter, the literature review is given. The last chapter is analyzing the data and some results and recommendations about the influence of crude oil price on economic growth have been shown.

1.1. Significance of the Study

The recent shock of oil price in the world is brought a controversial debate among academics. As a result, it is affected by global production and economic growth. Iraq represents a good case study to examine the effect of oil price because most of its earning dependence on exporting crude oil. So, the significant of the research is to contributing theoretical sides and focusing on oil prices and economic growth so as to understand the –of oil price and the impact any change in oil price on exporting oil countries such as Iraq. Thus, the findings of this research are beneficial to the government, economic policymakers, the private sector and academics.

1.2. Statement of the Problem

Iraq is one of the major oil exporting countries. Generally, the national income depends on crude oil. Oil revenue in the Iraq covers 90 percent of Iraqi government's budget. As a result, the Iraqi economy could be effect by would economic during economic problems. Thus, increasing oil crude oil price can effect on economic growth in Iraq. So it is crucial to use other resources instead of oil revenue as a new strategy to gain national revenue.

Previous economic researchers do not address this problem in their study, therefore, the researcher has chosen this topic in order to find out the relationship between crude oil price and economic growth.

1.3. Research Questions

The main purpose of the research is to examine the effect of crude oil price on economic growth in Iraq. And the research is intended to answer these specific questions:

1. What is the effect of crude oil price on economic growth in Kirkuk?
2. What are oil price and economic growth?
3. What is the magnitude and direction of crude oil price on economic growth?

1.4. Research Methodology

1.4.1. Material and Method

This study aims to to examine the effects of crude oil price, oil production value on economic growth in Iraq. The data is annual data which were converging a period of 21 years from 1995-2017. The

observation were 21 which might be sufficient enough to apply correlation coefficient and also annual growth rate used order to determine the increasing or decreasing the year comparing to previous year and compound growth rate used to determine the rate of increasing or decreasing of the period of time and also relative used to determine the rate of increasing or decreasing the year comparing to the base year.

1.4.2. Study Design

The relationship between oil price, oil production value and economic growth are analyzed in the design of the present study in Iraq. Moreover, the design analytical study can be established in this study as it followed to establish the relationships between components and the study variables. The design was more relevant as it qualified one type of data (secondary data) were provided data and information from the annual data during 1995-2017.

1.5. Research Hypothesis

- Hypothesis (H0): There is no correlation between oil price and gross domestic production

- Hypothesis (H1): There is a correlation between oil price and gross domestic production.

- Hypothesis (H0): There is no correlation between oil production value and gross domestic production.

- Hypothesis (H1): There is a correlation between oil production value and gross domestic production.

2. LITERATURE REVIEW

The simultaneous occurrence of oil supply shocks and economic stagnation has suggested that there can be a causal relationship between them and studies have been carried out to investigate this. Different methods applied to the same countries and different data ranges selected resulted in different results.

One of the first applied studies on the macro-economic effects of oil price increases was made in 1981 by Lienert. In this study, the short-term results of oil price increases were examined with the simulation study for Denmark, Finland, Norway and Sweden. Following the 1979-80 oil price increases, Finland's output loss was found to be much less than in the other countries examined. The reason for this was shown as the compensation of Finland's trade loss with its exports to the Soviet Union.

A review of the impact of changes in oil prices on GDP is studied by Rotemberg and Woodford (1996). According to the results, a 10% increase in oil prices leads to a 2.5% decrease in GDP (The oil price elasticity of GDP is 0.25).

Masih and Masih (1997) investigated whether energy consumption, energy prices and real income are related to causality relations between two East Asian countries such as Korea and Taiwan, which are highly energy dependent. For Korea, between 1955 and 1991, Taiwan's 1952-1992 annual data was used; cointegration, causality analysis, VECM (Vector Error Verification Model), variance decomposition, effect response function methodologies were used. The three variables examined were also found to be cointegrated in the long term. Variance decomposition results, price shows that the effects of shocks on revenue and energy consumption are stronger in Taiwan than in Korea. The Granger causality test shows multiplecausalities among the three variables in both countries. It has been found that price changes cause changes in energy consumption and economic growth in the countries examined.

Chang and Wong (2003) used three macroeconomic variables such as GDP, unemployment rate and consumer price index to measure the effects of oil prices on the Singapore economy. 1978: 1 and 2000: 3 for years between the three months of their data using the method they follow VECM. The analysis of the relationship between oil price shocks and total economic activity was performed by variance decomposition and effect response function. Although empirical findings indicate that oil price arrows affect Singapore's macroeconomic performance negatively, the effect on the variables examined is marginal. The decrease in oil density and the share of oil consumption in GDP over time is explained as the reason for the negative impact of oil price shocks on Singapore's macroeconomic performance. In

the study, it is emphasized that the effects of oil price shocks on the Singapore economy should not be considered insignificant, though small.

Yoon (2004), in his study found that the exogenous oil price growth ~~has~~ influences on the GDP of the G7, although oil prices shocks have not been an essential determinant of common recessions in the G7 except two major OPEC oil price shocks in 1973-74 and in 1979-80.

Jiménez-Rodríguez and Sanchez (2004) focused on the G7 countries in their study, Norway and the Euro-area. The showed rising oil price generally have a great effect on GDP development than that of oil price fall with the latter being statistically in considerable in all countries ap. In exporting countries such as Norway, product growth replies positively to an increase in the oil price changing and in Britain the product growth is unexpectedly negatively influenced due to sharper real exchange rate appreciation.

Another study examining the long-term relationship between oil prices and GDP was conducted in 2006 by Lardic and Mignon. Asymmetric cointegration method has been used in this study in contrast to studies that generally use linear cointegration methodology to examine the relationship between oil prices and GDP. The article uses quarterly data for the period 1970: 1 and 2003: 4 and 12 European countries were studied. The reason for the selection of European countries is ~~the~~ an important role that Europe plays in the world oil market. It ranks first among the European oil importers and the fifth largest oil producer. In addition, the decrease in Europe's dependence on oil in the aftermath of the 1973 and 1979 crises increased the interest in these countries. According to the results of the study, while the existence of linear cointegration between oil prices and GDP was rejected, asymmetric cointegration relationship between oil prices and GDP was observed in most of the European countries studied. This means that the decline in oil prices caused by the economy is greater than the economic recovery resulting from the decline in oil prices.

Prasad, et al. (2007) investigated the relationship between real GDP and oil prices using the annual data from 1970 to 2005 for the Fiji Islands. Contrary to many studies in the literature, they found that oil prices had a positive effect on real GDP. The econometric estimations in the study were performed using Granger causality, variance decomposition and effect response functions. The results of Granger causality test indicate the two-way causality relationship in the short term and the one-way causality relationship from oil prices to GDP in the long run. According to the results of impact response functions, a shock in oil prices increases real GDP. The results of variance decomposition show that the GDP of Fiji explains most of the change in oil prices.

Kilian (2007), found that in most countries exogenous oil supply disruptions cause at least a temporary dent in real wages, and lowering of the local currency against the dollar and an increase in short- term interest rates. Despite qualitative similarities, there is a strong statistical guide that the restraint to exogenous oil supply disruptions varies across G7 countries.

Salman, et al. (2008), realized changes ~~of~~ in oil prices have an influence on the real GDP on all G7 economies. However, there is ~~a~~ long-term neutrality of the oil impact in some countries while the oil influence is important of the rest ~~of~~ for the G7 economies. Also, they show that various government policies have helped to reduce the impact of oil prices in the business area.

Lardic and Mignon (2008), examined the impact of oil prices in several European countries using data from 1970 to 2003. According to the study results, rising oil prices lead to retard total economic activity by more than dropping oil prices stimulated.

In the economy of Kazakhstan, Gronwald M. et al. (2009) tried to reveal the effects of the increase in oil prices with the VAR model on the significant macroeconomic variables (such as real GDP, inflation and real exchange rate). The study results present that, all macroeconomic variables are adversely affected by the rise in oil prices which shows that the economy of Kazakhstan is very sensitive to oil prices.

He, et al. (2010), analyzed the co-integrating relation between global economic action and crude oil real prices. The paper proved that oil prices are impacting significantly by fluctuations in the Kilian economic index through long-run balance situation and short-run influences. The modification process of crude oil prices due to a constant change in the Kilian economic index takes a huge time than that caused by a permanent change in the US dollar index.

Yardimcioglu and Gulmez (2013), have investigated the long-run relationship between Oil Prices and Economic Growth in the 10 OPEC countries over the period from 1970 to 2011 by utilizing the Pedroni, Kao, Johansen Fisher panel cointegration and Canning-Pedroni causality methods if the Dutch Disease valid for OPEC countries. The study results show that there is a cointegration relationship between Oil Prices and Economic Growth in the long run. The results of Lamda-Pearson statistics indicate the long-run bilateral causality between Oil Prices and Economic Growth. It is also concluded that there is a strong cointegration relationship between Oil Prices and Economic Growth.

In 2016, Demiral, Bal and Akça conducted Oil Revenues and Economic Growth: A Panel Data Analysis on Selected Petroleum Rich Developing Countries, where the wealth of resources related to countries including Mexico and Kazakhstan contributed to the economic growth of the country. this contribution is slow. According to the results of this study, it is determined that there is a negative regression relationship between real gross domestic product per capita and crude oil price, crude oil export and consumer price index and real exchange rate.

As can be seen in the literature, there are many studies conducted for different countries in order to analyze the relationship between energy prices and economic growth by creating different models, using different methods and selecting different data ranges.

3.THE ANALYSIS OF THE DATA

The findings from this study revealed that economic growth is one of the most important sources of economic transformation because it reflects the community's ability to increase productive capacity and optimal investment and also sustainability requirement includes a diversified economy on the face of shocks, dynamically adopts technology and head accumulation human money, competitively can gain relative advantages compared to the other. Thus, It operates within stable, stable economic policies and economic development and there were positively statistically significance between oil price and GDP, oil production value and GDP. This means that increasing one point of oil price and oil production value in Iraq, GDP increases as well. According to Nwanna (2015), Oil price ~~have~~ has a positive impact on the GDP through its contribution to government revenues (export revenues). Globally and locally, the oil prices ~~is~~ are fluctuations among the global factors and it is arising from global events. In his view, if the oil price increased, it encourages oil exporting economic and hurt oil importing economies.

3.1. Oil Price

The oil price is a monetary value or a monetary image which is per barrel of crude oil in the US dollar and it is expressed in cash because it is linked to US dollar and can be exposed to oil price in the oil market within the concepts of many things such as (the price achieved, the price declared, the tax rate and the price of signal) (Shelley T. , 2005) . It can be seen in the table (3.1) and figure (3.1) that the period of (1995-2017) was taken in order to show fluctuation of oil price in those periods witnessed many economic developments, political and military reflected in the whole of the reality of the oil market then as oil price fell from (16.86$) in 1995 and it increased by 0.203 in 1996 (20.29$), the rises continued in 1997 by 0.118 (18.86$) then the price of oil in 1998 decreased by 0.271 (12.44$). Moreover, after 1998, the price of oil increased when 1995 were as a base year. The price of oil increased a lot in 2012 (109.45). Moreover, the rise of oil prices continued until 2013 then it decreased due to many reasons:

- In general, the phenomenon of speculation which is exposed to the oil industry

- The decline in global economic growth rates has led to a reduction in global consumption of crude oil, as well as political factors and others contributed in one way or another to the decline in oil prices.

- The rise in oil prices has contributed significantly to the encouragement of countries.

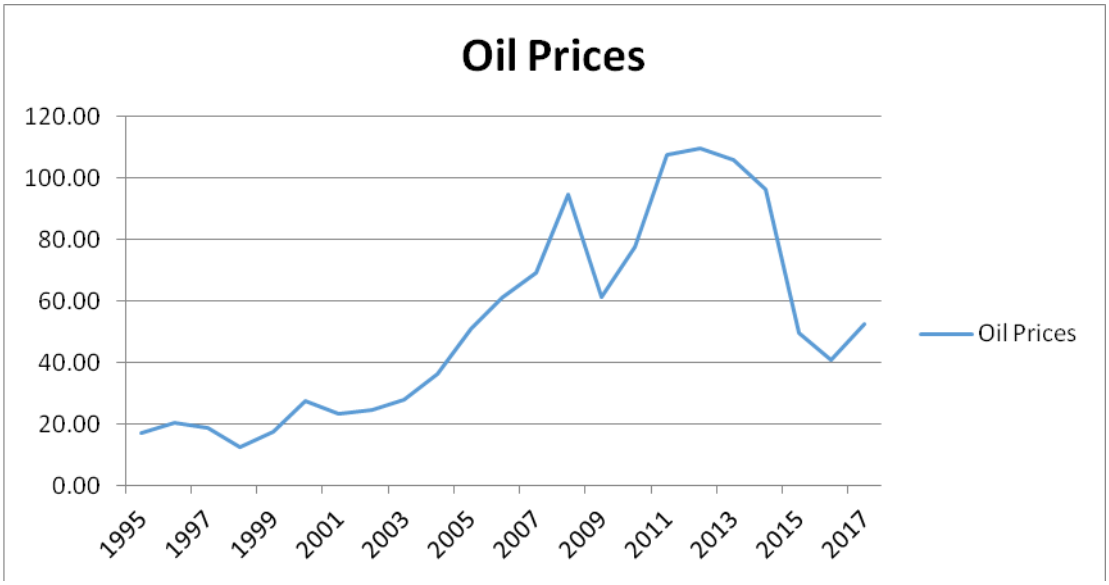
By reviewing historical developments in oil prices it can be concluded that Oil prices have been subject to many fluctuations as a result of factors that overlap Economic, political, military and other.

Table 3.1. The Relative Price of Oil, (Base Year:1995)

Years	Oil price	1995 as a base year
1995	16.86	-
1996	20.29	0.203
1997	18.86	0.118
1998	12.28	-0.271
1999	17.44	0.034
2000	27.6	0.637
2001	23.12	0.371
2002	24.36	0.444
2003	28.1	0.666
2004	36.05	1.138
2005	50.59	2.00
2006	61	2.610
2007	69.04	3.094
2008	94.1	4.58
2009	60.86	2.609
2010	77.38	3.589
2011	107.46	5.373
2012	109.45	5.491
2013	105.87	5.279
2014	96.29	4.711
2015	49.49	1.935
2016	40.68	1.412
2017	52.51	2.114

Source: (OPEC, 2018).

Figure 3.1. Evolution of Oil Prices During the Period 1995 - 2017 (US $)



Source: (OPEC, 2018).

3.2. Annual Growth Rate and Annual Compound Growth Rate for Oil Price

The annual growth rate can be calculated in the following formula:

$$annual\ growth\ rate = \frac{oil\ price\ in\ comparative\ year - oil\ price\ in\ base\ year}{oil\ price\ in\ base\ year} * 100$$

and also annual compound growth rate is calculated in the following formula:

$$R = \left(\sqrt[n]{\frac{X_t}{X_0}} - 1 \right) * 100$$

where

R: compound growth rate, X_t: the value of the variable in the last year , X_0: the value of the variable in the first year, n= number of year.

It can be seen in the table (3.2) that the oil equaled to (20.29) dollar and the annual growth rate was positive increased by (20.34%) in 1996. In (1997, 1998), the oil price was (18.86, 12.28) dollar respectively and the annual growth rate was negatively equaling to (-7.04%, -34.88%) respectively. In (1999, 2000), the oil price was (17.44, 27.6) dollar respectively and the annual growth rate were positively equaling to (42.01%, 58.25%) respectively. In addition, the annual growth rate becomes negative result in 2001 but after 2001 the annual growth rate was positive rate until 2009. The annual growth rate was negative in 2009 which were (-35.32%) then In (2010, 2011, 2012), the oil price was (77.38, 107.46, 109.45) dollar respectively and the annual growth rate was positively equaling to (27.14%, 38.87%, 1.85%) respectively. Finally, the annual growth rate was a positive result in 2017. The annual compound rate for the series years was 0.05%.

Table 3.2. Annual Growth Rate and Annual Compound Growth Rate for Oil Price (Base Year: 1995)

Years	Oil Price	Annual Growth Rate	Annual Compound Growth Rate
1995	16.86	-	0.05%
1996	20.29	20.34%	
1997	18.86	-7.04%	
1998	12.28	-34.88%	
1999	17.44	42.01%	
2000	27.6	58.25%	
2001	23.12	-16.23%	
2002	24.36	5.36%	
2003	28.1	15.35%	
2004	36.05	28.29%	
2005	50.59	40.33%	
2006	61	20.57%	
2007	69.04	13.18%	
2008	94.1	36.29%	
2009	60.86	-35.32%	
2010	77.38	27.14%	
2011	107.46	38.87%	
2012	109.45	1.85%	
2013	105.87	-3.27%	
2014	96.29	-9.04%	
2015	49.49	-48.60%	
2016	40.68	-17.80%	
2017	52.51	29.08%	

Source: (OPEC, 2018).

3.3. Oil Production Data

Historically, the first oil fields in Iraq were discovered in 1923. (Khana Oil) was for local consumption and also Iraq was the second major oil producer after Iran which began commercial production in 1912 but Iraq had ~~a~~ an actual production and big quantities in 1934. The oil production had been increasing to reach (3.7) million barrels per day in 1979 while the oil production became (3.5) million barrels per day in 1989 because of war and Iraq's invasion of Kuwait in 1991, oil production dropped to (282.5) thousand barrels per day. The situation continued until 1996 when the program of changing oil for food happened (Chalabi, 2005). Additionally, the oil production value was found by multiplying the oil production and oil price. As a result, the oil production value equaled to (392.838) million dollar in 1995 which increased to (779.136) million dollar and it increased until 2000 (20780.04) million dollar. It decreased slowly from 2000-2003. but in 2003, the oil production value decreased sharply because of war. From 2003 to 2009, the oil production value increased a lot because in this period the oil price and oil production increased. The best year for oil production value was 2012 (97071.21) because the oil price become maximum price comparing to other years then oil price becomes less and less from 2013 to 2016 and the oil production value becomes less and less from this period. Finally, the oil production value increased gradually in 2017 (53630.24).

Iraqi crude oil production has shown a great change in time as well. Crude oil production in Iraq averaged 4.5 million barrels per day (b/d) through August 2018, up from 4.4 million b/d in 2017. Iraq's crude oil production has been steadily increasing since declines in the late 1990s and early 2000s, and it has nearly doubled over the past decade (EIA,2019). Table (3.3) given below, reveals the data Iraq yearly crude oil production and the change in oil production can be observed from the table.

Table (3.3): Iraq Crude oil production, Total, Thousand toes, 1995 – 2017

1995	37032,63
1996	37209,61
1997	75569,07
1998	109430,4
1999	128237,3
2000	131614,2
2001	130468,4
2002	112364,4
2003	78361,87
2004	102709,3
2005	94832,18
2006	98617,28
2007	102607
2008	114106,5
2009	118062,5
2010	118539,2
2011	133578,3
2012	148234,9
2013	149705,9
2014	156423
2015	175842,6
2016	225407
2017	228213,1

Source: **(**OECD (2019), Crude oil production (indicator).

3.4. Annual Growth Rate and Annual Compound Growth Rate Oil Production Value

It is clear in the table (3.4) that in (1996, 1997, 1998, 1999, 2000), the oil production were (779.136, 4939.43, 7022.93, 13217.78, 20780.04) respectively and the annual growth rate were (98.33%, 533.96%, 42.18%, 88.19%, 57.21%) respectively which had positive annual growth rate. The annual growth rate was negative after the year of 2000 until 2004. In (2004, 2005, 2006, 2007, 2008) the oil production were (20292.55, 25947.61, 33513.4, 41396.38, 63715.11) respectively and the annual growth rate were (262.89%, 27.86%, 29.15%, 23.52%, 53.91%) respectively which had positive annual growth rate.

Table (3.4): The Annual Growth Rate and Annual Compound Growth Rate for Oil Production Value (Base Year:1995)

Years	Oil Production Value (Million)	Annual growth rate	Annual Compound growth rate
1995	392.838	-	0.20%
1996	779.136	98.33%	
1997	4939.43	533.96%	
1998	7022.93	42.18%	
1999	13217.78	88.19%	
2000	20780.04	57.21%	
2001	16972.39	-13.82%	
2002	14412.84	-15.08%	
2003	5591.9	-61.20%	
2004	20292.55	262.89%	
2005	25947.61	27.86%	
2006	33513.4	29.15%	
2007	41396.38	23.52%	
2008	63715.11	53.91%	
2009	42322.04	-33.57%	
2010	53392.97	26.15%	
2011	84893.4	58.99%	
2012	97071.21	14.34%	
2013	92318.64	-4.89%	
2014	88411.55	-4.23%	
2015	54280.63	-38.60%	
2016	49159.34	-9.43%	
2017	53630.24	9.09%	

Sources: (OPEC, 2018) and (World Bank, 2018).

3.5. Gross Domestic Product

It can be seen in the table (3.5) that the Gross Domestic Product equaled to (3999.691) million dollar and the annual growth rate was positively increased by (63.84%) in 1996. In (1997), the Gross Domestic Product was (1027.443) dollar respectively and the annual growth rate was negatively equaling to (-84.32%) respectively. In (2001, 2002, 2003), the Gross Domestic Product was (-18.94%, -0.80%, -36.69) dollar respectively and the annual growth rate was positive. In addition, The compound worth rate of Gross Domestic Production was 15%

Table (3.5): Annual Growth Rate and Annual Compound Growth Rate for Gross Domestic Product (Base Year:1995)

Years	Gross Domestic Product (Million)	Annual Growth Rate	Annual Compound Growth Rate
1995	3999.691	-	0.15%
1996	6553.351	63.84%	
1997	1027.443	-84.32%	
1998	1058.458	3.01%	
1999	1745.897	64.94%	
2000	2603.095	49.09%	
2001	2110.039	-18.94%	
2002	2093.007	-0.80%	
2003	1325.015	-36.69%	
2004	36627.9	266.25%	
2005	49954.89	36.38%	
2006	65140.29	30.40%	
2007	88840.05	36.38%	
2008	131613.7	48.14%	
2009	111660.9	-15.16%	
2010	138516.7	24.05%	
2011	185749.7	34.09%	
2012	218001	17.36%	
2013	234648.4	7.63%	
2014	214648.4	-8.52%	
2015	179640.2	-16.30%	
2016	171489	-4.53%	
2017	172346.4	0.049%	

Source: (World Bank, 2018).

3.6. Comparing GDP and Oil Production Value

It is indicated in–Table (3.6) and Table (3.7) that there was a statistically significant relationship between GDP and Oil price because the p-value was less than the common alpha 0.05. As a result, the relationship between GDP and Oil price were strongly positive because the value of correlation coefficient equals to 0.864 which is greater than the value of correlation coefficient (0.5) this means that if the oil price increases, the GDP will increase as well. Moreover, there was a statistically significant relationship between GDP and Oil production value because the p-value was less than the common alpha 0.05. As a result, the relationship between GDP and Oil production value was strongly positive because the value of correlation coefficient equals to 0.958 which is greater than the value of correlation coefficient (0.5) this means that if the oil production value increases, the GDP will increase as well.

Table (3.6): Correlation Coefficient Between Variables

		GDP	Oil price	Oil Production Value
GDP	Pearson Correlation	1	.864**	.945**
	Sig. (2-tailed)		.000	.000
	N	23	23	23
Oil price	Pearson Correlation	.864**	1	.958**
	Sig. (2-tailed)	.000		.000
	N	23	23	23
Oil Production Value	Pearson Correlation	.945**	.958**	1
	Sig. (2-tailed)	.000	.000	
	N	23	23	23

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

Source: calculated by researchers using SPSS

Table (3.7): Data for GDP, Oil Price and Oil Production Value

Time/Year	GDP Million/Dollar (Dependent Variable)	Oil Price (Dollar) (Independent Variable)	Oil Production Value Million/Dollar (Independent Variable)
1995	3999.691	16.86	392.838
1996	6553.351	20.29	779.136
1997	1027.443	18.86	4939.43
1998	1058.458	12.28	7022.93
1999	1745.897	17.44	13217.78
2000	2603.095	27.6	20780.04
2001	2110.039	23.12	16972.39
2002	20.93007	24.36	14412.84
2003	1325.015	28.1	5591.9
2004	36627.9	36.05	20292.55
2005	49954.89	50.59	25947.61
2006	65140.29	61	33513.4
2007	88840.05	69.04	41396.38
2008	131613.7	94.1	63715.11
2009	111660.9	60.86	42322.04
2010	138516.7	77.38	53392.97
2011	185749.7	107.46	84893.4
2012	218001	109.45	97071.21
2013	234648.4	105.87	92318.64
2014	234648.4	96.29	88411.55
2015	179640.2	49.49	54280.63
2016	171489	40.68	49159.34
2017	172346.4	52.51	53630.24

Sources: OPEC (2018), (Ministry , 2018) and (World Bank, 2018).

4. CONCLUSION AND RECOMMENDATIONS

1. Economic growth is one of the most important sources of economic transformation because it reflects the community's ability to increase productive capacity and optimal investment and also sustainability requirement includes a diversified economy on the face of shocks, dynamically adopts technology and head accumulation human money, competitively can gain relative advantages compared to the other. Thus, it operates within stable, stable economic policies and economic development.

2. Oil prices have been affected by international crises, as oil is a strategic international commodity combining political, economic and geopolitical factors which is influence it.

3. There was a statistically significant relationship between GDP and Oil price because the p-value was less than the common alpha 0.05. As a result, the relationship between real GDP and oil price were strongly positive because the value of correlation coefficient equals to 0.864 which is greater than the value of correlation coefficient (0.5) this means that if the oil price increases, the real GDP will increase as well. Moreover, there were statistically significant relationships between real GDP and oil production value because the p-value was less than the common alpha 0.05. As a result, the relationship between real GDP and Oil production value were strongly positive because the value of correlation coefficient equals to 0.958 which is greater than the value of correlation coefficient (0.5) this means that if the oil production value increases, the real GDP will increase as well.

Recommendations

1. Encourage banks to move to the market in order to support policy directions Cash in providing credit and bank financing which requires by the case of real GDP and work should raise the level of economic growth which requires raising the financial depth of the country.

2. The economic policy-makers should make the oil sector, the growth locomotive through the petrochemical industries, in addition to exploiting financial saving to support other economic sectors in this times oil price rises in the world markets.

3. The government tries to strengthen cooperation and partnership with OPEC to control the supply of crude oil in the OPEC region with the of affecting global crude oil prices.

4. Iraqi government takes advantage of successful experiences in all countries that have similar resources in order to open institutes or specialized colleges or centers in this field.

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