Impact of Oil Price Changes On GDP Per Capita-A Comparative Analysis of Saudi Arabia and Kuwait

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Abstract

Oil is an important factor especially, in Gulf countries adding to the National revenue and having an impact on the GDP. Saudi Arabia and Kuwait are major oil producing countries. The research aims to analyze the impact of the global oil price on the per capita GDP and overall development in Saudi Arabia and Kuwait during the period 2000 to 2019. The research is based on data obtained from statistical reports and bulletins issued by OPEC and the World Bank data. The research uses the descriptive approach and the analytical standard approach through statistical and standard methods to analyze the research data by using E-views program. The study reached a set of conclusions that if oil price increased by 1%, then GDP per capita in KSA increases by 164.9 %, and in Kuwait 1% increase in oil price led to 377.1% GDP per capita/ The effect of Oil Price on the GDP in the Kuwait is greater than the effect of Oil Price on the GDP in KSA, and the effect was positive in the both the countries

Keywords: Oil producing countries, global oil price, OPEC, standard approach, GDP per capita

Introduction

The importance of oil increased in the aftermath of the Second World War, as coal until that time represented 85% of the energy needs of Europe and Japan, and its domestic production was no longer sufficient to cover these needs, and the international oil companies, owned by advanced industrial countries, had absolute control over production Crude oil, as well as controlling its marketing and pricing, worked to maintain low oil prices. However, the oil-exporting countries established OPEC in 1960 as a means of unifying their positions and demands towards oil companies. (Abdullah, 2000: 17). The rise of the October 1973 war was a turning point in the history of the oil industry. The global oil markets turned into markets in which producers play the primary role in controlling the oil decision, but the United States of America and the policies followed by the industrial oil-consuming countries were able to restore their control over oil production and marketing, thus it was able to preserve its interests and influence. (Al-

Hamish, 2010: 257). The issues related to the impact of oil prices on the gross domestic product and the national income of the Arab Gulf states are among the most important topics that have been studied due to the importance of oil prices in the economies of these countries and their primary dependence on it as a source of income. Despite this, the impact of oil price changes on per capita output has not been studied.

The Arab Gulf states are among the largest oil producing countries, especially Saudi Arabia and Kuwait. At the present time, the global price of oil fluctuates due to many economic, health and political problems that occur in the world. The problem of the study is that it seeks to identify the impact of the global oil price on per capita GDP in both the Kingdom of Saudi Arabia and Kuwait, and it is one of the subjects that has not been studied to the required degree despite its strong economic importance to society.

Literature review

The study (Sadir, 2019) entitled the impact of high oil prices on the increase in inflation in the Kingdom of Saudi Arabia, which aimed to study the effect of the high global oil price on the inflation rate in the Kingdom of Saudi Arabia during the study period (2000-2017). The study found a significant effect of the high price Global oil on the inflation rate in the Kingdom of Saudi Arabia during the study period, and that there is no common complementarity between the two series of global oil price and the rate of inflation in the Kingdom of Saudi Arabia at a significant level of 0.05. There is a correction from the short term to the long term at a speed of 1.3567, that there is an effect of the correction in the long term at a significant level of 0.01.

A study (Ali, 2018) entitled Macroeconomic Effects of Oil Price Change on Gulf Countries, which aimed to identify the impact of these fluctuations and changes in oil prices on economic growth in the Arab Gulf states (Qatar - Saudi Arabia - United Arab Emirates - Kuwait - Kingdom of Bahrain - The Sultanate of Oman) represented in the gross domestic product during the period (2010-2017) as it is one of the most important macroeconomic indicators through which it is possible to identify the state's economic situation. The study reached a set of results, including that the rate of change in global oil prices during the period (2010 - 2017) has decreased by 24.12% despite the increasing increase in the global oil price that occurred during the period (2010-2014), which was followed by a decrease in the global oil price during the period (2015-2017). This increase in global oil prices helped to increase growth rates. The economy in the Arab Gulf states represented in the gross domestic product as a result of the increase in the rates of the economies of the Arab Gulf states on oil as a main source of national income for the state, where the GDP of the Kingdom of Bahrain was The largest increase in the rate of increase of 37.34%, followed by the GDP of the State of Qatar by 33.96%, then the GDP of the State of the United Arab Emirates by 32.02%, followed by the GDP of the Kingdom of Saudi Arabia by 29.46%, then the GDP of the Sultanate of Oman by 23.87% and finally the GDP of the State of Kuwait by 4.08% .

The study (Al-Adly, 2017) entitled the impact of the decline in the price of oil on oil revenues in Iraq, which aimed to identify the most important factors affecting fluctuations in global oil prices and their implications for that. The research reached a set of results, including that the rise in global economic growth has led to an increase in the volume of demand. The total impact on oil and its derivatives, which reflected positively on the rise in global oil prices, that oil prices are subject to many factors, and supply and demand is not the only factor in determining global oil prices. Rather, there are other factors influencing the global price of oil, including climatic factors, psychological factors, and factors. Technical, monetary factors, and scarcity factor, as all these factors combined played a major role in determining the global oil price. Political instability and the emergence of the phenomenon of terrorism in oilexporting countries, including Iraq, led to fluctuations in world oil prices. Consequently, the general budget was affected, and the economic repercussions that oil revenues have contributed to the increase in spending on urban and development projects and infrastructure in Iraq and the oil-exporting countries, and that there are social repercussions that have emerged on a wide range of societies for this oil exporting countries, especially developing countries, especially Iraq, such as those with

limited incomes. And low prices and increased their suffering from high global oil prices.

In the study (Banafa, 2016) entitled the asymmetric effect of oil price shocks on macroeconomic variables in the Kingdom of Saudi Arabia, which aimed to estimate the magnitude of the relationship between high and low oil price shocks and both economic growth, inflation and the effective real exchange rate during the period from the first quarter of 1980 In the fourth quarter of 2014 in the Kingdom of Saudi Arabia, the results indicated that there is a positive and moral relationship between economic growth and high oil price shocks, but the size of the impact remains relatively weak compared to the size of the inverse relationship between the shocks of low oil prices and economic growth. On the other hand, the results of the response function showed that the impact of the shocks of the rise in oil prices is greater according to the length of time compared to the shocks of the decline in economic growth. The results also indicated that there is a positive, statistically significant relationship between the shocks of high and low oil prices and inflation, but the size of the relationship and its impact in terms of length of time varies between shocks of high and low oil prices. The results show that the impact of high oil price shocks is relatively greater, whether in terms of the size of the relationship or the length of time, compared to the impact of low oil price shocks on inflation. The results confirmed the existence of a positive relationship between the shocks of lower oil prices and the effective real exchange rate, but the size of the relationship remains weak despite the fact that its impact is large according to the length of time.

In a study (Mehran, 2012) entitled Inflation in the Gulf Cooperation Council Countries and the Role of Oil Funds in Economic Stability, which aimed to identify the factors that could affect inflation rates in the Gulf Cooperation Council countries, by estimating the relationship between inflation rates and those factors. The results indicate that Domestic inflation is greatly affected by global inflation, due to the high degree of dependence of these countries on imports of consumer and capital goods alike, on the other hand, although economic growth leads to a reduction in inflation rates, its impact in this regard is not significant in terms of Statistical, the reason behind this result is due to the distortions in the structural composition of the economies of these countries, which illustrate the dependence of these countries on oil to a high degree. As for the growth in money supply, it was the largest significant in its impact on the domestic gig, followed by government revenues, which constitute oil The largest part of it. The study concluded that achieving more economic stability in the countries of the Gulf Cooperation Council requires diversifying the economy by expanding non-oil activities with the aim of reducing the heavy dependence on oil, which caused fluctuations in global prices and its revenues potential sources of economic instability, as well as with the aim of reducing the heavy dependence on imports Consumer goods in particular, and hence the effects of imported inflation on headline inflation. Likewise, economic policy that aims to achieve economic stability must pay attention to controlling the money supply so that its real growth rates are consistent with the GDP growth rates, in addition to adopting a more flexible exchange rate policy. Oil revenues have continued to increase with the aim of reducing inflationary pressures and achieving more economic stability. The results indicate the effectiveness of funds picked up as tools to achieve economic stability, especially regarding fluctuations in prices, inflation rates and money supply.

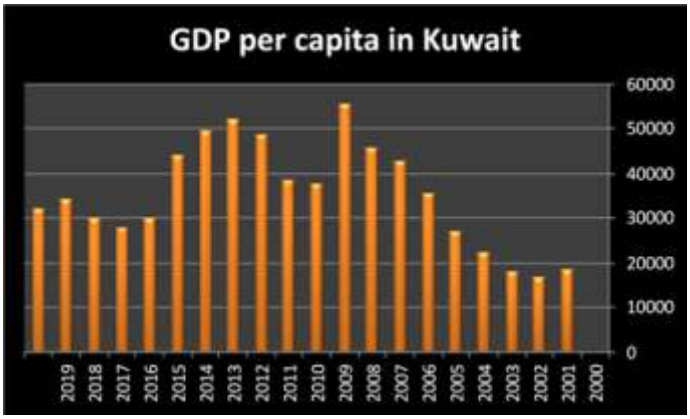
Data and Methodology

The research is based on data obtained from statistical reports and bulletins issued by OPEC and the World Bank during the study period (2000-2019).The research uses the descriptive approach and the analytical standard approach through statistical and standard methods to analyze the research data by using a program E-views.

Results and Discussion

Figure (1) shows that the GDP per capita in Kuwait during the period (2000-2019)ranged from a minimum of 16587.18 $ in 2001 to a maximum of $55494.95 in 2008, and the annual average during the study period is $35260.

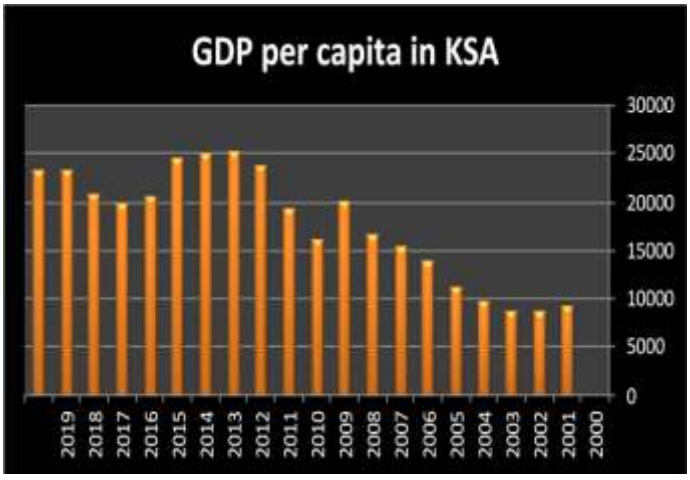
Figure (1) GDP per capita in Kuwait 2000-2019



Source: https://data.albankaldawli.orgOPEC, Annual Statistical Report, 2000-2019

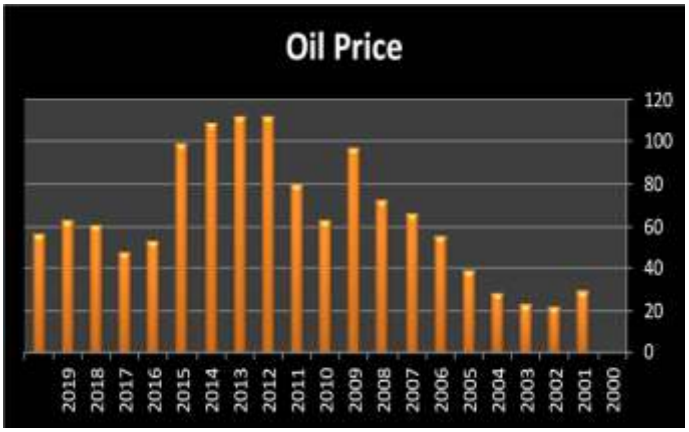
Figure (2) shows that the GDP per capita in Saudi Arabia during the period (2000 – 2019)ranged from a minimum of $ 8648.65 in 2001 to a maximum of $25243.36 in 2012, and the annual average during the study period is $17729

Figure (2) GDP per capita in Saudi Arabia



Source: https://data.albankaldawli.orgOPEC, Annual Statistical Report, 2000-2019

Figure (3) Oil price in KSA and Kuwait and oil price during the period (2000 – 2019)



Source: https://data.albankaldawli.orgOPEC, Annual Statistical Report, 2000-2019

Table (1) shows that the national income per capita in Saudi Arabia during the period (2000 – 2019) ranged from a minimum of $21.30 in 2001 to a maximum of $111.60 in 2012, and the annual average during the study period is $63.89

Years	GDP per capita in Kuwait ($)	GDP per capita in KSA ($)	Oil price ($)
2000	18440.38	9171.33	28.5
2001	16587.18	8684.65	21.3
2002	17846.33	8695.40	22.8
2003	22148.38	9609.97	27.7
2004	27011.73	11185.13	38.30
2005	35591.01	13791.45	54.60
2006	42781.37	15384.74	65.20
2007	45782.28	16516.62	72.40
2008	55494.95	20078.26	96.90
2009	37561.67	16113.14	61.70
2010	38577.5	19262.55	79.60
2011	48631.69	23745.80	111.30
2012	51979.11	25243.36	111.60
2013	49388.14	24844.74	108.70
2014	44062.32	24463.90	99.00
2015	29869.53	20627.93	52.40
2016	27653.07	19879.30	47.30
2017	29759.44	20803.74	60.40
2018	33994.38	23338.96	62.33
2019	32031.98	23139.80	55.79

Source: https://data.albankaldawli.orgOPEC, Annual Statistical Report, 2000-2019

Table 2 shows the relationship between GDPs per capita in KSA and oil price during the period (2000 – 2019) Bounds Test. There is a joint complementarity between the variable GDPs per capita in KSA (Y1) and the Oil Price (X) at a level significance of 0.01

Table 2 Relationship between GDPs per capita in KSA and oil price during the period (2000 – 2019) Bounds Test

Null Hypothesis: No levels relationship F-Bounds Test

1 (1)	1 (O)	Signif.	Value	Test Statistic
Asymptotic:				**n=1000**
3.51	**3.02**	**10%**	**7.453988**	**F-statistic**
4.16	**3.62**	**5%**	**1**	**k**
4.79	**4.18**	**2.50%**		
5.58	**4.94**	**1%**		

Source: Author's calculation through E-views program.

Table 3 test the number of time lags. The four periods of time for the variable GDP per capita in KSA (Y1) and the Oil Price (X)

Table 3 -Test the number of time lag periods

Prob.*	t-Statostic	Std. Error	Coefficient	Variable
0.7604	0.319219	0.267853	0.085504	Y1(-1)
0.1595	-1.605682	0.245615	-0.394379	Y1(-2)
0.0378	2.655136	0.292303	0.776105	Y1(-3)
0.196	1.45474	0.371112	0.539872	Y1(-4)
0	19.2581	6.757668	130.1398	X
0.8759	-0.162991	34.04335	-5.548765	X(-1)
0.0971	1.964431	29.72026	58.3834	X(-2)
0.0261	-2.935558	35.52646	-104.29	X(-3)
0.349	-1.015702	44.93143	-45.63693	X(-4)
0.5709	-0.59935	562.1417	-336.9199	C

19901.21 Mean dependent var	0.996482 R-squared
4259.638 S.D. dependent var	0.991204 Adjusted R-squared
15.08741 Akaike info criterion	399.4877 S.E. of regression
15.57028 Schwarz criterion	957542.6 Sum squared resid
15.11214 Hannan-Quinn criter.	-110.6993 Log likelihood
1.345794 Durbin-Watson stat	188.8237 F-statistic
	0.000001 Prob(F-statistic)

Source: Author's calculation through E-views program.

Relationship between GDPs per capita in Kuwait and oil price during the period (2000 – 2019) Bounds Test

There is a joint complementarity between the variable GDPs per capita in Kuwait (Y2) and the Oil Price (X) at a level significance of 0.01

Table (4)Relationship between GDPs per capita in Kuwait and oil price during the period (2000 – 2019) Bounds Test

Null Hypothesis: No levels relationship F-Bounds Test

1 (1)	1 (O)	Signif.	Value	Test Statistic
Asymptotic:				**n=1000**
3.51	**3.02**	**10%**	**3.634767**	**F-statistic**
4.16	**3.62**	**5%**	**1**	**k**
4.79	**4.18**	**2.5%**		
5.58	**4.94**	**1%**		

Source: Author's calculation through E-views program.

The error term correction factor reached its value of 0.714763, which is significant at a significant level of 0.01, meaning that there is a correction from the short term to the long term at a speed of 0.714763 while the equation indicates. In the long term, there is effect of the correction in the long term because (X) is significant at 0.01

Table (5) The error-correcting vector model for the long-term and short-term relationship:

Prob.*	t-Statostic	Std. Error	Coefficient	Variable
0.0097	3.729939	0.228171	0.851063	D(Y2(-1))
0.6477	0.48072	0.210312	0.101101	D(Y2(-2))
0.0114	3.601201	0.282551	1.017524	D(Y2(-3))
0	14.17716	33.18143	470.4185	D(X)
0.0171	-3.264834	90.40304	-295.151	D(X(-1))
0.9996	-0.000547	78.28741	-0.04284	D(X(-2))
0.0062	-4.116818	103.1634	-424.705	D(X(-3))
0.0088	-3.813013	0.187454	-0.71476	CointEq(1)*

617.7250	Mean dependent var	0.973936 R-squared
7953.062	S.D. dependent var	0.951131 Adjusted R-squared
18.08875	Akaike info criterion	1758.139 S.E. of regression
18.47505	Schwarz criterion	24728417 Sum squared resid
18.10853	Hannan-Quinn criter.	-136.7100 Log likelihood 1.537183 Durbin-Watson stat

Levels Equation Case 2:
Restricted Constant and No Trend

Prob.*	t-Statostic	Std. Error	Coefficient	Variable
0.0097	6.133911	74.36060	456.1213	X
0.3659	0.977772	5410.159	5289.902	C

Source: Author's calculation through E-views program.

The impact of oil price changes on GDP per capita in KSA:

The simple regression between Oil Price (X) and GDP per capita in KSA (Y1) and the results were as follows:

$$Y1 = 7196.2 + 164.9\ X$$
$$(3.93)^{**} \qquad (6.31)^{**}$$
$$F = 39.79^{**} \qquad R^2 = 0.689$$

Source: Author's calculation through E-views program.

The previous equation shows the significance of the model at the level of 0.01 it also became clear that the variable included in the model explain 68.9 % of the changes that GDP per capita in KSA during the period (2000-2019). The significance of the impact of oil price changes on GDP per capita in KSA during the study period at the level of 0.01, and that whenever Oil Price increases by 1%, the GDP per capita in KSA increases by 164.9 %

The impact of oil price changes on GDP per capita in Kuwait:

The simple regression between Oil Price (X) and GDP per capita in Kuwait (Y2) and the results were as follows:

$$Y2 = 11165.6 + 377.1\ X$$
$$(5.09)^{**} \qquad (12.06)^{**}$$
$$F = 145.49^{**} \qquad R^2 = 0.890$$

Source: Author's calculation through E-views program.

The previous equation shows the significance of the model as a whole at the level of 0.01 it also became clear that the variable included in the model explain 89 % of the changes that GDP per capita in Kuwait during the period (2000-2019). The significance of the impact of oil price changes on GDP per capita in Kuwait during the study period at the level of 0.01, and that whenever Oil Price increases by 1%, the GDP per capita in Kuwait increases by 377.1 %

Conclusion and recommendations

The study reached a set of conclusions, namelyThe significance of the impact of oil price changes on GDP per capita in KSA during the study period (2000 -2019), The whenever Oil Price increases by 1%, the GDP per capita in KSA increases by 164.9 %, The significance of the impact of oil price changes on GDP per capita in Kuwait during the study period (2000 -2019), The whenever Oil Price increases by 1%, the GDP per capita in Kuwait increases by 377.1 %,and The effect of Oil Price on the GDP in the Kuwait is greater than the effect of Oil Price on the GDP in KSA, and the effect was positive in the two countries. The study recommends the following: there is a need to take advantage of the high oil prices in bringing about changes to the fiscal and monetary policy of both the Kingdom of Saudi Arabia and Kuwait to make it more effective, which would help achieve real economic development and help in achieving the economic policy goals in accordance with the national vision of both countries. Also, increasing government spending rates on sectors that help in bringing about economic development quickly while ensuring the continuity of the achieved development rates. There is a need to focus on diversifying sources of income for both the Saudi and Kuwaiti economies, with the aim of reducing dependence on oil. It also suggestsincreasing the contribution of non-oil sectors to the gross domestic product, and to reduce foreign labor, especially in the non-oil sectors thereby increasing national employment in both the Kingdom of Saudi Arabia and Kuwait.

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