



# MEASURING THE IMPACT AND ANALYSIS OF CRUDE OIL PRICE FLUCTUATIONS ON SOME VARIABLES OF THE IRAQI ECONOMY FOR THE PERIOD (2003-2019)

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<p><b>Received:</b> 17<sup>th</sup> August 2022 <b>Accepted:</b> 17<sup>th</sup> September 2022 <b>Published:</b> 24<sup>th</sup> October 2022</p>	<p>The oil sector is one of the primary sectors of the Iraqi economy As it represents the backbone of life and the primary source in generating income, as well as being the critical source in providing foreign currency for the purpose of financing the import process The reason for all this is due to the size of the significant revenues derived from it, which we notice through the linkage of the general budget in Iraq with oil revenues, as it constitutes the most significant part of the general budget Accordingly, any fluctuations in oil prices, especially its decline, will have a detrimental impact on the economy of Iraq; for this reason, the purpose of the research is to demonstrate the effect that shifts in the price of oil have on several aspects of the Iraqi economy , In order to achieve this goal, the standard and analytical aspect has been relied on, It turns out that the Iraqi economy is still dependent on oil to raise the level of the Iraqi economy, Any fluctuations in oil prices, if they were to rise, would be in the interest of the Iraqi economy, and vice versa, Therefore, there must be an urgent necessity to diversify sources of revenue to get rid of oil dependency.</p>

**Keywords:** Fluctuations in crude oil prices - growth in some economic variables - Iraqi gross domestic product - total oil revenues

## INTRODUCTION:-

Rentier countries are among the countries whose economies are most exposed to collapse and bankruptcy as a result of their dependence on one resource, especially countries with oil economies that depend on oil as the only resource for their general budget, including Iraq, any change in crude oil prices can affect it directly. The overall economic activities, whether The impact was positive or negative, and these changes in oil prices led to the emergence of real crises in Iraq, especially what it is witnessing at present, so it is necessary to work on the optimal exploitation of oil revenues and work to develop quick solutions in order to diversify sources of income and stay away from oil As the only source in financing the general budget in order to advance the economy and push the wheel of economic development forward.

## THE IMPORTANCE OF THE RESEARCH:-

The important of the research is lie in knowledge of the extent of the importance of oil in the economy of any rentier country in general and Iraq in particular, and the extent of the impact of fluctuations in oil prices on some variables of the Iraqi economy with the

development of solutions necessary to get rid of any adverse effects in order to achieve economic development.

## THE PROBLEM OF THE RESEARCH :-

The research problem lies in the Iraqi economy's dependence on a single resource to finance the general budget. The oil sector is the primary sector for financing the budget with public revenues, making the Iraqi economy vulnerable to fluctuations in crude oil prices.

## THE OBJECTIVE OF THE RESEARCH :-

The research aims to know the impact and analysis of fluctuations in crude oil prices on some economic variables (Gross Domestic Product, Total Exports, Exchange Rate) for the period (2003-2019).

## THE HYPOTHESIS OF THE RESEARCH :-

The study is based on the hypothesis that there is a direct correlation between changes in oil prices and the broad range of economic activities that make up the Iraqi economy. As a result, any change in oil prices—up or down—will impact the Iraqi economy, whether favourable or unfavourable.



### **THE LIMITS OF THE RESEARCH:-**

**First / spatial boundaries:** - the Iraqi economy.

**Second/ Time Limits:** Duration (2003-2018)

### **THE STRUCTURE OF THE RESEARCH:-**

The research is divided into three sections as follows:-

**The first topic:** The theoretical framework for crude oil prices.

**The second topic:** - The role of the oil sector in the Iraqi economy.

**The third topic:** - Standard model and analysis of results.

### **CHAPTER 1: - CRUDE OIL PRICES (THEORETICAL INTRODUCTION)**

#### **Firstly: the concept of oil prices :-**

Oil is one of the essential commodities and an important strategy that has a vital role in the economies of rentier countries, as it effectively contributes to increasing the monetary returns of those countries. However, these prices are often exposed to fluctuations as a result of supply and demand and the free market mechanism.

Before addressing the causes of oil price fluctuations, it is necessary to know the concept of oil price, since it may be seen as the worth of a barrel of oil expressed in terms of dollars in the United States; as a direct consequence of the structure of the global oil market, it is marked by volatility, the price of Oil is subject to fluctuations <sup>(1)</sup>, and stability returns. Oil is linked to the environment that consumes and produces Oil (exported and imported). Accordingly, the fluctuations that occur from time to time in oil prices, up and down, are related to the political, economic and security conditions of these countries <sup>(2)</sup>.

The phenomenon of fluctuations in oil prices is a fundamental matter and causes concern at the global level. Oil is also defined as the price of Oil to the monetary value of a barrel of crude Oil in the American measure of a barrel consisting of (42) gallons, expressed in the American monetary unit <sup>(3)</sup>.

#### **Secondly: Types of oil prices:**

There are many oil prices in the international market, including the following:- <sup>(4)</sup>

1- Nominal price: It means the monetary value of a barrel of oil, expressed in US dollars.

2- Spot price: It means the value of a barrel of oil, expressed in monetary units in the free market or the open market.

3- The return price: A barrel of oil is determined based on the prices of its recurring petroleum products, called the composite barrel or the barrel of OPEC.

4- Tax price: It means the price equivalent to the cost of the oil produced, to which the value of income and profit tax is added, and this price shows the actual cost paid by oil companies to obtain a barrel of crude oil. <sup>(5)</sup>

5- Realized price: It means the realized price for various discounts or facilities agreed upon by the two parties, the seller and the buyer, as a percentage as a discount from the declared price or facilities in terms of payment. The realized price is the declared price minus the various discounts and facilities granted by the seller and buyer. <sup>(6)</sup>

#### **Thirdly: The causes of oil price fluctuations**

It is noted that there are many fluctuations in the price of crude oil. It is noted that oil is a commodity, like other commodities, which is determined by the interaction of the forces of supply and demand for this commodity. If there is a balance in demand and supply for this commodity, its price will be stable. It will change with rising and fall, in addition to the fact that the oil price stability will be linked to the environment producing and consuming it. Economic and political conditions play an essential role in influencing oil prices as well, and among the most important influencing factors are:-

#### **1- Economic factors: - These factors are highlighted as follows:**

A. Economic growth and the forces of demand and supply of crude oil: - As we discussed earlier, the factors of supply and demand for crude oil on the international market are among the primary factors in determining the price of crude oil. In addition, other factors connected to the limited production of oil and the low supply of it are critical factors in determining the price of crude oil <sup>(7)</sup>, and the occurrence of the oil boom witnessed by the oil markets is the main factor in the increase in the rate of global economic growth for the oil demand and is also essential in determining the rise and fall of oil prices. And vice versa. <sup>(8)</sup>

B. Speculation: It is known that speculation depends on the expectations of prices in the future. Expect a drop in the price of a particular commodity.

Since oil is a commodity, it is subject to speculation as well. The financial innovations that have recently appeared in the commodity markets have contributed to allowing investors to benefit from the rise in oil prices without the need for actual possession of oil in the form of stockpiles, which is evident in the intensity of speculative activity, namely Buying oil to resell it at a



higher price instead of using it for commercial purposes in the oil futures markets. The trader of oil contracts, known as paper barrels, has become more significant than the supply of real oil shipments, which led to the creation of a fake demand for paper barrels of oil and the intensity of panic in the markets. As a result of the continuous rise in prices prompted the actual oil users, including consumers and refineries, to hedge against the continuous rise in prices by supporting the building of their oil stocks, which caused a simultaneous increase in demand and those who were sad to put pressure on prices upwards. <sup>(9)</sup>

C. Exchange rate: - It is known that the concept of the exchange rate is the number of units of foreign currency that can be obtained for one unit of the national currency.

Since oil prices are linked to the US dollar, any decrease in its value or exchange rate will negatively affect the depreciation of the oil price and thus lead to significant damages, the burden of which falls on the oil-producing and consuming countries. <sup>(10)</sup>

### 2- Climatic phenomena (natural):-

It is one of the main factors that can impede the movement of oil and its supplies and thus affect oil prices. These phenomena are linked to the fluctuations of the year's seasons, including Hurricane Katrina in the United States of America and Hurricane Ivan that swept the Gulf of Mexico; all of these disasters affect the existing oil facility in these Countries that are exposed to these disasters. Consequently, it is reflected in high and low production rates. <sup>(11)</sup>

### 3- Political factors:-

It is one of the factors that have an essential and influential role in influencing the fluctuations in oil prices, especially the turmoil and conflicts that occur in the areas from which oil is extracted, which leads to an increase or decrease in oil prices. For example, the first

and second Gulf Wars and the 2003 war in Iraq and the Iranian nuclear file are among the most important political factors affecting the level of oil prices, given that Iraq is the second oil producer in the Middle East and Iran is a significant producer and exporter of oil.

## CHAPTER 2 :- THE ROLE OF THE OIL SECTOR IN THE IRAQI ECONOMY

Iraq is one of the Arab countries characterized by the presence of material and human resources and substantial natural wealth of oil and natural gas in particular. However, despite that, the Iraqi economy was characterized as a rentier economy with distinction, as the oil sector is one of the principal vital sectors in the formation of the gross domestic product as well as On the role of oil revenues in financing the general budget with the more significant part of its resources, which led to a significant imbalance in the economic and production structure of the rest of the other sectors, due to the large fluctuations that occur in oil prices and this will be clarified through the indicators that were adopted in the research and as follows:

### Firstly: - The oil sector and the structure of the gross domestic product:

The total value of all final products and services produced inside a nation throughout a given period, often one year, is what is referred to as the country's Gross Domestic Product (GDP). The gross domestic product of Iraq has witnessed a significant imbalance as a result of the dominance for the oil sector in it over the rest for the other sectors and as a result of the Iraqi economy's dependence on oil, in particular in financing all needs, so the contribution of the oil sector to the gross domestic product compared to other sectors was substantial, as shown in the table the following:-

**Table (1): - Percentage of contribution of economic activities to Iraq's GDP for the period (2003-2019) million dinars**

year	current prices ((GDP))	Contribution of the oil and mining % sector	Contribution of the agricultural sector %	Contribution of the manufacturing sector %
2003	29585789	51.6	8.4	4.6
2004	53235359	58.0	6.9	1.8
2005	73533599	57.8	6.9	1.3
2006	95587955	55.5	5.8	1.5
2007	111455813	53.2	4.9	1.6
2008	157026062	55.7	3.8	1.7
2009	130643200	43.3	5.2	2.6
2010	162064566	45.4	5.2	2.3



<b>2011</b>	<b>217326907</b>	<b>53.4</b>	<b>4.6</b>	<b>2.8</b>
<b>2012</b>	<b>254225491</b>	<b>50.0</b>	<b>4.1</b>	<b>2.7</b>
<b>2013</b>	<b>271091778</b>	<b>46.6</b>	<b>4.8</b>	<b>2.4</b>
<b>2014</b>	<b>259490461</b>	<b>45.3</b>	<b>5.1</b>	<b>1.9</b>
<b>2015</b>	<b>201929245</b>	<b>30.8</b>	<b>4.8</b>	<b>2.0</b>
<b>2016</b>	<b>203869832</b>	<b>35.5</b>	<b>3.7</b>	<b>2.0</b>
<b>2017</b>	<b>228692989</b>	<b>39.5</b>	<b>2.9</b>	<b>2.1</b>
<b>2018</b>	<b>254366709</b>	<b>45.6</b>	<b>1.9</b>	<b>1.9</b>
<b>2019</b>	<b>266190571</b>	<b>43.0</b>	<b>1.7</b>	<b>1.8</b>

Source: - Prepared by the researcher based on the Ministry of Planning, the Central Bureau of Statistics,

### National Accounts, different years.

Through the data of Table (1), we note the high percentage of the oil sector's contribution to the GDP, as its contribution to the output is the largest compared to the rest of the other economic sectors. During the period (2003-2009), it reached (58.0%-43.3%), respectively. It is noted that there is an apparent decrease in the contribution of the oil sector to the output than in the previous periods. This decrease is not due to reducing dependence on the oil sector and increasing the contribution of other sectors, as a result of the exposure of many oil export pipelines from time to time to sabotage, which affected the contribution rate of this sector. In 2009, the decline in the contribution rate was attributed to the drop in international oil prices due to the global financial crisis. In 2010, the oil sector's contribution to the output began to rise. It reached (45.4%) and continued until 2012, when it reached (50.0%). This rise resulted from the increase in international oil prices, as the price of a barrel of oil in 2012 amounted to (106.3) dollars, and in 2013 the percentage began to decline until 2015, when it reached (30.8%). ) p In 2015, as a result of the drop in the price of a barrel of oil to (102.3) dollars <sup>(12)</sup>, while in 2016, the percentage of contribution to the output amounted to (35.5), and the percentage continued to rise until 2018 when the contribution of the oil sector to the output amounted to about (45.6%). Then in In 2019, the percentage decreased due to the Corona

pandemic, which affected the overall economic activities. About the agricultural sector, we note the low rates of contribution to the gross domestic product in most years of study, as it is noted that it does not meet the needs of the local demand for agricultural products, except in small percentages. The reason is the lack of financial allocations and government support to provide production requirements, water scarcity, high salinity Land and flooding of the market with imported crops.

As for the contribution of the manufacturing sector, we find it also weak, and the reason for this is due to the sabotage that befell the institutions during the war and most of the institutions stopped working, as well as the great openness in the foreign trade sector, which negatively affected local goods as a result of dumping the market with imported manufactured goods and became a bridging demand The local is dependent on the import of these commodities from abroad. The local commodities are now unable to compete with the imported ones. Therefore, this structural imbalance in the output represented by the control of the oil sector will create adverse effects on the overall economic activity.

From the above table, we can demonstrate a direct link between changes in the price of crude oil and changes in the gross domestic product. This correlation can be further elucidated using the table located below.:

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**Table (2):- Change rates in the gross domestic product and crude oil prices in Iraq for the period (2003-2019)**

Year	at GDP current prices (Million dinars)	annual growth rates %	Crude oil prices (dollar)
<b>2003</b>	<b>29585789</b>	<b>—</b>	<b>31.1</b>
<b>2004</b>	<b>53235359</b>	<b>79.9</b>	<b>34.1</b>
<b>2005</b>	<b>73533599</b>	<b>38.1</b>	<b>45.6</b>
<b>2006</b>	<b>95587955</b>	<b>30.0</b>	<b>55.6</b>
<b>2007</b>	<b>111455813</b>	<b>16.6</b>	<b>66.7</b>



2008	157026062	40.9	87.9
2009	130643200	-16.8	59.4
2010	162064566	24.1	75.7
2011	217326907	34.1	105
2012	254225491	17.0	106
2013	271091778	6.6	102
2014	259490461	-4.3	92
2015	201929245	-22.2	44.7
2016	203869832	0.9	36
2017	228692989	12.2	45.7
2018	254366709	11.2	56.8
2019	266190571	4.6	61.8

**Source: - Prepared by the researcher based on: - Central Bank of Iraq data, annual economic report, Department of Statistics and Research, different years.**

In the table (2), we find a positive direct relationship between them (output and crude oil prices). Since international oil prices are witnessing significant fluctuation, this, in turn, leads to a significant fluctuation in the total output as well, and this reflects the severe unilateralism of the Iraqi economy; when following up on the data received in the table, an increase in the value of the gross domestic product (at current prices) is noted, and this was explained by the positive growth of the output, which amounted to (40.9%) for the year 2008, as the output rose from (53235359) million dinars in 2004 to (157026062) million dinars in 2008 as a result of the rise in oil prices from (34.1) dollars to (87.9) dollars for the same period.

In 2009, oil prices recorded a sharp decline as a result of being affected by the global financial crisis, as the average price of a barrel reached (59.4) dollars, which negatively affected the output, recording a decline and a negative growth rate of (16.8%), after which oil prices began to rise, which reflected positively on the output through the positive growth rate of (6.6%) for the year 2013. The years from (2014-2016) witnessed a gradual decline in oil prices, which directly affected the decline in the gross domestic product through the negative growth rate of the output of (22.2%). Oil prices rose, which led to a rise in output, which confirms the extent to which GDP is related to crude oil prices.

### **Secondly : The oil sector and total exports:**

Foreign trade represents a vital role in the Iraqi economy, as Iraq's economy has become an open economy, as well as being a unilateral economy that relies heavily on crude oil, as its crude oil exports constitute a high percentage of total exports and rely heavily on imports to meet all its needs. The increase in the value of oil exports was closely related to the rise in international crude oil prices, as it is noted from the table below that oil exports dominate the total exports. After 2003, oil exports began to rise from 2004, reaching (7525265.4) million dinars, with a contribution rate of (95.78%) in total exports. (until it reached its highest value in 2013 (369456.8) million dinars with a contribution rate of (91.85%) as a result of the improvement in the production and export capacity of oil, except for the year 2009, when oil exports decreased as a result of the global financial crisis, which reduced global oil demand, and since 2014 exports have taken The decline in oil production, which was reflected in the decrease in total exports, and the reason for this is that many production lines were subjected to destructive actions that led to the suspension of some fields of work as a result of a crisis In addition to the crisis of the Corona pandemic, which greatly affected the overall activities and economic sectors, as for non-oil exports, it is noted that over the prescribed period, there was a decrease in the percentages of their contribution to the total exports, and this is evidence of the profitability of the economy with distinction.

**Table (3): - Trade balance and oil participation rate in total total exports for the period (2003-2019) million dinars.**

Year	total exports	Crude Oil Prices (Dollar)	The value of oil exports	The value of non-oil exports	Ratio of non-oil exports to general exports	Ratio of oil exports to total exports





2003	3613515. 3	31.1	3518046.7	95468.6	2.65%	97.35%
2004	7856815. 4	34.1	7525265.4	331550	4.22%	95.78%
2005	2523098. 4	45.6	2333621.9	189476.5	7.51%	92.49%
2006	10493491 .3	55.6	8843811.2	1649680.1	15.73%	84.27%
2007	25440501 .6	66.7	23349327.2	2091174.4	8.22%	91.78%
2008	34449434 .2	87.9	32376213.5	2073220.7	6,02%	93.98%
2009	46330.7	59.4	45719.4	611.3	1.32%	98.68%
2010	60563.4	75.7	58675.2	1888.2	3.12%	96.88%
2011	93226.2	105	92341.6	884.6	0.95%	99.05%
2012	343835.5	106	328765.6	15069.9	4.39%	95.61%
2013	402216.8	102	369456.8	32760	8.15%	91.85%
2014	241548.4	92	221760.4	19788	8.2%	91.80%
2015	43441.5	44.7	41356.7	2084.8	4.8%	95.20%
2016	51002.2	36	50345.8	656.4	1.29%	98.71%
2017	91342.2	45.7	90645.9	696.3	0.77%	99.23%
2018	97148.3	56.8	88588.7	8559.6	8.82%	91.18%
2019	81792.0	61.8	78527.0	3265.0	3.9%	96.0%

**Source: Prepared by the researcher based on:-**

**1- Central Bank of Iraq, Directorate General of Statistics and Research, Statistical Bulletins, Miscellaneous Bulletins.**

**2- The unified Arab economic report for different years.**

### **Thirdly: The oil sector and the general budget**

It is also known that the general budget is a record of public revenues and expenditures during a period, usually a year. During this period, the state sought to finance all the activities that it drew before. That is, it is the administration that the state takes to achieve its priorities <sup>(13)</sup>, and it is noted that the oil sector (revenues Oil) constitutes a large proportion of government revenues on the side of the general budget, and since the Iraqi economy is a rentier economy, it depends heavily on financial returns from

the oil sector in financing public spending (operational and investment) and thus the wheel of economic growth as well as the positive relationship between world oil prices And the balance of the general budget, that is, there is a direct link between changes in oil prices and the general budget, whether it increases or decreases, and thus is reflected on the general revenues of the budget, and this can be shown through the following table: -

**Table (4): - The general budget and the percentage of participation of oil revenues in the general revenues for the period (2003-2019) million dinars.**

Year	general revenue	overhead	Crude oil prices (dollars )	oil revenue	Other revenue	The proportion of the contribution of oil revenues to the general revenue	Contribution of other revenues to the general revenue
2003	5065758	4901960	31.1	4728387	308676	93.34	6.1



2004	32982739.3	32117491.3	34.1	32593011	234801,3	98.81	0.73
2005	40502890.1	26375175.1	45.6	39448514	586538,1	97.39	1.46
2006	49055545.3	38806679.3	55.6	46873201	1592693,3	95.55	3.25
2007	54599451.2	39031232.2	66.7	51949251	1548703,2	95.14	2.85
2008	80252181.7	59403374.7	87.9	76297027	2931404,7	97.07	1.66
2009	58232049	55589721	59.4	50190202	6186243	86.18	10.64
2010	63324963.0	86247118	75.7	62594168	1152285	96.84	0.19
2011	92671371.0	108399347	105	90306176	957195	97.44	1.05
2012	109607148.2	124403180.2	106	106132616	841132,2	96.83	0.77
2013	103377909.8	122505854.8	102	101078990	578080,2	96.77	0.45
2014	99402199.6	100320966.6	92	98145678	1864078,4	96.73	0.14
2015	68176606.8	93590664.8	44.7	65876456	576462,8	96.62	0.86
2016	57797672.4	81992591.4	36	56423236	2033983,6	93.62	0.49
2017	77335955	146280271	45.7	65071900	7763384	84.14	10.05
2018	60177113	109938408	56.8	58756843	778049	97.63	1.31
2019	61938563	574083737	61.8	57093834	484472	92.1	0.7

**Source: - Prepared by the researcher based on: -**

**1- Ministry of Planning, Central Statistical Organization, Directorate of National Accounts, various bulletins.**

**2- Ministry of Finance, General Budget Department, General Budget Law for the years (2003-2018).**

It is noted from the above table that the development that occurs in the value of public revenues and the result of the budget's dependence on oil revenues is primarily based on oil revenues. The table reveals a positive link between the price of crude oil and the growth of oil revenues, reflecting positively on both public revenues and public expenditures, this can be inferred from the fact that the table shows this association.

It is noted that public revenues increased after 2003 and continued to rise until 2008 when public revenues amounted to about (80252181.7) million dinars as a result of the increase in oil revenues, which amounted to (76297027) million. Moreover, the contribution rate of oil revenues amounted to (97.7%), which was positively reflected in the rise in public expenditures for the same year, which amounted to (59403374.7) million dinars.

In 2009, public revenues began to decline as a result of the global financial crisis and the decline in oil prices, as it reached (59.4) for the same period, which

negatively affected oil revenues, as amounted to (50190202) million dinars, with a contribution rate of (86.18%) about public revenues, which also negatively impacted public expenditures. For the same period as well.

After 2009, public revenues returned to rise as a result of the recovery of the global economy and the return of international oil prices to rise, as it reached in 2010 to (75.7) million dollars per barrel, which led to a rise in public revenues and oil revenues (63324963.0) (62594168) million dinars, respectively, and thus reflected on Public expenditures increased, reaching (86247118) million dinars for the same period, and this rise continued until 2013.

As a result of the fall in oil prices, which reached (92) dollars in 2014, as well as the deterioration of the political and security conditions and the military operations launched against ISIS terrorist groups that appeared in several Iraqi cities, which led to the collapse, oil revenues decreased in 2014, and this hurt public revenue and public spending as a result of the drop in oil prices, which harmed public revenue and public spending. ISIS is responsible for most of the oil fields due to its control over those fields.

Oil prices continued to decline after 2015 until they reached (36) dollars per barrel in 2016, which affected public revenues and oil revenues to decrease as well, and amounted, respectively, (57797672.4)



(81992591.4) million dinars, and thus led to a reduction in public spending, as it reached (56423236) million dinars for the same year.

Despite all the high revenues of previous years, they were not adequately utilized in the development of other sectors such as education, health and other productive sectors because they were not taken into consideration that their dependence on the oil sector would cause them a deficit for many years in the public budget and thus their inability to achieve economic development<sup>(14)</sup>. Oil prices continued to decline and

rise until 2019 reached (61.8) dollars, which led to the arrival of public revenues of (61938563) million dinars.

**CHAPTER 3:- STANDARD MODEL AND RESULTS ANALYSIS:**

The standard and statistical methods are one essential means used in confirming the hypotheses of economic theory. It is an essential tool to confirm the extent to which the size and indication of the variables used are consistent with the logic of the economic theory. Entering the data for the research for the period (2004-2019), we arrived at the following equations:-

**Table (5): It represents oil price data and other variables that can be affected by the independent variable, which is crude oil prices.**

Year	Crude oil prices (dollars)	Gross domestic product (GDP)	The value of oil exports	general revenue
2003	31.1	29585789	3518046.7	5065758
2004	34.1	53235359	7525265.4	32982739.3
2005	45.6	73533599	2333621.9	40502890.1
2006	55.6	95587955	8843811.2	49055545.3
2007	66.7	111455813	23349327.2	54599451.2
2008	87.9	157026062	32376213.5	80252181.7
2009	59.4	130643200	45719.4	58232049
2010	75.7	162064566	58675.2	63324963.0
2011	105	217326907	92341.6	92671371.0
2012	106	254225491	328765.6	109607148.2
2013	102	271091778	369456.8	103377909.8
2014	92	259490461	221760.4	99402199.6
2015	44.7	201929245	41356.7	68176606.8
2016	36	203869832	50345.8	57797672.4
2017	45.7	228692989	90645.9	77335955
2018	56.8	254366709	88588.7	60177113
2019	61.8	266190571	78527.0	61938563

**Source: The table is the work of the researcher based on the above tables.**

Through the data of the above table, it is possible to show the extent of the model's ability to interpret the data that can be reached by using the simple linear

regression model in the spss program and to extract and analyze the results and reach the desired results from this research. We will use three models as follows:

**The first model: the impact of crude oil prices on the gross domestic product:**

**Where: Y: - crude oil prices represent barrels per dollar. X1: - represents the gross domestic product (million dinars).**

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	X1 <sup>b</sup>	.	Enter

a. Dependent Variable: Y

b. All requested variables entered.

**Model Summary**





Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566 <sup>a</sup>	.320	.275	21.63075

a. Predictors: (Constant), X1

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3305.537	1	3305.537	7.065	.018 <sup>b</sup>
	Residual	7018.342	15	467.889		
	Total	10323.879	16			

a. Dependent Variable: Y

b. Predictors: (Constant), X1

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.698	12.915		2.609	.020
	X1	1.795E-007	.000	.566	2.658	.018

a. Dependent Variable: Y

Through the data of the model and the test tables, Y represents crude oil prices, and the other variable, X1, represents the gross domestic product during the study period. It was found from the above tables that the strength of the model  $R^2=0.565848$  indicates the model's weakness and the lack of a significant impact on the gross domestic product as a result of the change

in oil prices during the study period  $f = 7.065$ , which exceeds the standard  $f$  value at this level. Therefore, we can say that the changes that occurred during the study period, including declines and rises in oil prices, affected the model and made it unstable. The following equation can express this model:

$$Y=33.698 X1$$

**The second model: the impact of oil prices on the value of oil exports:**

Where: Y = oil prices, X2 = value of oil exports

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.087 <sup>a</sup>	.008	-.059	26.13514

a. Predictors: (Constant), X2

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.193	1	78.193	.114	.740 <sup>b</sup>
	Residual	10245.685	15	683.046		
	Total	10323.879	16			

a. Dependent Variable: Y

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.



		B	Std. Error	Beta		
1	(Constant)	63.951	7.143		8.954	.000
	X2	2.384E-007	.000	.087	.338	.740

a. Dependent Variable: Y

Oil exports depend on two main variables: oil prices and exported quantities. Therefore, the price of oil is significant in calculating oil exports, in addition to the quantities that are considered almost fixed in the environment of the Iraqi economy, so it can be said that

this model is perfect, as the value of  $R^2 = 0.87$  and the tabular f value  $f=0.114$ , and the model equation takes the following form:

$$Y=63.951 X2$$

### The third model: the impact of oil prices on public revenues, as:

**Y = oil prices, X3 = public revenue**

#### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	X3 <sup>b</sup>	.	Enter

a. Dependent Variable: Y

b. All requested variables entered.

#### Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.847 <sup>a</sup>	.718	.699		13.93583

a. Predictors: (Constant), X3

#### ANOVA<sup>a</sup>

Model		Sum Squares	of df	Mean Square	F	Sig.
1	Regression	7410.768	1	7410.768	38.159	.000 <sup>b</sup>
	Residual	2913.111	15	194.207		
	Total	10323.879	16			

a. Dependent Variable: Y

b. Predictors: (Constant), X3

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.470	9.161		1.361	.194
	X3	8.023E-007	.000	.847	6.177	.000

a. Dependent Variable: Y

Since the Iraqi budget depends on oil revenues by 95% of total expenditures, it turns out that the third model above is good and has an excellent moral capacity, as it reached  $R^2 = 0.847$  and f tabular  $f = 38.159$ . This indicates the strength of the model and the dependence of total revenues on a large part of the revenues Oil and the lack and weakness of other revenues, and the model indicates this.

### CONCLUSIONS:

1. Since Iraq possesses natural wealth and enormous material and human resources, it is considered one of the rentier countries par excellence, as the Iraqi economy depends to a large extent on oil revenues for the general budget. Therefore, the oil revenues must be exploited optimally to prevent a collapse in the Iraqi economy.

2. Influential factors lead to fluctuations in oil prices, including economic, natural and political factors. Considering that oil is a cough like other commodities,



any defect in one of these factors will negatively affect the Iraqi economy.

3. With the Iraqi economy relying on the oil sector to finance public spending, any changes in oil prices, whether up or down, will be reflected in the general budget revenues.

4. Using the statistical program spss and using simple linear regression and through the data included in the tables in the body of the research and after analyzing the data, the data indicated the strength of the models and the dependence of the total revenues on a large part of the oil revenues and the lack and weakness of other revenues and this is what the models indicated.

#### **RECOMMENDATIONS:-**

1. Instead of relying on the general budget for one resource, the oil sector, the best solution is to exploit other industrial, commercial and agricultural resources to finance the general budget and improve the Iraqi economy.

2. Since Iraq possesses vast material and human resources and the natural wealth of oil and natural gas, it is better to exploit these resources and establish oil refining plants to increase the financing of the general budget and avoid a collapse in the Iraqi economy.

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