
The Crisis Of Low Oil Prices And Its Impact On Energy Consumption Globally During The Corona Pandemic - An Analytical Study Of Oil Market Indicators In 2019 And 2020

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Abstract: The present study aims to analyze the impact of the coronavirus pandemic on oil prices and energy consumption in the world by studying and analyzing global oil and gas market indicators from the last quarter of 2019 to the end of 2020. In pursuance of this aim, the researchers relied on the descriptive and analytical approach of using global data and statistics, through which it was concluded that the impact of the pandemic on oil prices appears through the low levels of global demand and consumption of oil and gas due to the lockdown policy and the precautionary measures taken in an attempt to prevent the spread of the virus.

Keywords : Corona pandemic, oil prices, energy consumption, global markets, economic growth.

1. Introduction :

Following the global economic crisis in September 2008, global markets noticed an upward trend in oil prices until the end of 2010 and the beginning of 2011, when the price of a barrel of oil reached 150 dollars at the peak of the crisis, new data in the international level in 2014 exceeded all expectations, as prices saw a sharp and continuous decline until the price of a barrel of oil reached less than 58 dollars at the end of December of that year.

As soon as experts confirmed the possibility of a global economic recovery and gradual stabilization of oil prices by 2020, within the range of 60 dollars a barrel, due to the possibility of eroding supply quantities in global markets. However, at the beginning of the last

quarter of 2019, the world—witnessed the spread of a virus called Corona or “Covid 19” which confused all countries, as it affected all aspects of human life, paralyzed it and made each country look like an independent world as a result of the lockdown policies adopted and the limitation of movement, whether in institutions, travel and trade to confine and contain the virus to preserve the lives of citizens.

Without notice, countries around the world were forced to choose between two challenges : sustaining economic activity while putting many people's health in danger, or establishing a set of restrictions to control the virus while accepting the negative consequences. Preventing the transmission of their nationals is one of the most important limitations imposed by many governments. Whether at home or abroad, paralyzing economic mobility resulted in a sharp decrease in energy consumption, which in turn resulted in a sharp drop in energy consumption, which in turn resulted in a sharp drop in global demand for energy as a result of general closure policies and a decrease in the global economic growth rate, negatively impacted oil prices in global markets. The latter witnessed a sharp decline in its levels not seen in more than 18 years, as it fell to 17.7 dollars a barrel in April 2020.

Based on the aforementioned, we can pose the following main problem :

What is the impact of the Corona pandemic on oil prices and energy consumption Globally ?

1.2. Hypotheses :

In order to come up with a clear and comprehensive answer to the research problem, it was necessary for us to develop a set of hypotheses, which we present as follows :

- The Corona pandemic affects oil prices through its direct impact on the global energy market indicators, which are mainly based on global demand and supply of oil.
- The Corona pandemic affects the levels of energy consumption in the world, which has witnessed a significant decline, through its direct impact on the level of global economic growth in this period known as stagnation.
- The quarantine and general closure policies adopted by most countries of the world to limit the outbreak of the Coronavirus are

not the only reason for the decline in energy consumption levels in the world and the collapse in oil prices, but there are other reasons and variables that the global energy markets witnessed during the same period.

1.3. Research Rationale :

Due to the sheer complexity of energy's uses in many and various fields, and because energy markets are greatly influenced by oil prices, which are characterized by fluctuations and instability due to the circumstances and events that occur on a regular basis on the international scene, we believe that the research is important. The necessity of a study of the current oil price situation During the Corona pandemic, which is widely regarded as the most significant occurrence in the form of a powerful shock that swept the globe at the end of the fourth quarter of 2019. The latter increases the research importance which focuses on the impact of the pandemic on the levels of global energy consumption, which was marked by a significant decline due to the repercussions of the epidemiological crisis, mainly represented in precautionary measures and public closure policies The air, sea and land fields that most countries of the world hastened to implement, to limit and limit the infection of this virus, which in turn led to the cessation of economic activities and trade exchanges, which negatively affected the levels of global growth.

1.4. The research aims :

This study aims to clarify a number of points that can be summarized as follows :

- Determine the extent to which oil prices at the level of global markets are affected by developments on the international scene at various stages of time, and shed light on the current very sensitive stage due to the general closure policies adopted by most countries of the world due to the outbreak of the Coronavirus, Covid19.
- Determining the extent to which oil prices are affected by the levels of energy consumption on the international scene, and highlighting the relationship between these two variables.
- Determining the effects of the Corona pandemic on the most important global economic indicators, especially on the consumption of energy that feeds economic activities.

1.5. Research Methodology :

Provided the topic of this study thus in order to achieve our objectives, researchers used a descriptive and analytical approach in our research and extrapolated the data, statistics, and data related to the topic by compiling, tabulating, and then analyzing them, with the goal of linking the causes with the outcomes and allowing us to compare the situation of the global energy market and oil prices before and after the Corona pandemic.

1.6. Research Structure :

In order to understand the topic, we divided the research into three main axes, which we present as follows :

The first axis : the economic effects of the oil price crises on the world.

The second axis : the reasons for the fluctuation of oil prices in the world before and after the Corona pandemic.

The third axis : the impact of the Corona pandemic on the economic indicators of energy consumption in the world for the years 2019 and 2020.

2. The economic effects of the oil price crises in the world.

2.1. The concept of oil price crises and their causes :

2.1.1. The concept of oil price crises: In the field of the energy economy, the concept of oil price crises is that sudden imbalance in the global oil market, which causes a state of imbalance for a certain period of time, through either a sharp rise in prices or a sharp decline in them, as it occurs as a result of the influence of supply determinants or Demand or both at the same time by internal factors such as structural changes in the oil industry or external factors such as the movement of capital and geopolitical changes. (سعد الله، 2012، ص19)

2.1.2. Causes of price crises : The causes of the crises vary according to global data and developments. Oftentimes we determine that the cause is economic, as in the case of the global economic crisis of 2008, which resulted in a massive upheaval in the oil market, with prices plummeting to record lows. When oil facilities were targeted in

international conflicts such as the Iran-Iraq war in the 1980s, the two countries' production fell by about 4 million barrels per day, which is equivalent to 15% of OPEC production and about 8% of global production, negatively impacting the global oil market, which saw a significant increase in oil prices. (اليوسف، 2015، ص286)

The two most important economic indicators influencing the pricing of oil directly are the global supply and the oil demand. In the global oil market, this affected prices by declining, as is the case with the market today, which was saturated with US reserves after the exploitation of shale gas on a large scale. Crude prices are affected by supply, demand and inventory conditions. As for the prices of products emerging from refineries, they are affected by crude oil prices according to the geographical region, by refining costs and the quality of products. (إبراهيم، 2010، ص135)

2.2. Global economic effects of high oil prices :

By studying past events in the oil market, we may learn about the effects of high oil prices on global economies. The first energy crisis, which saw a surge in oil prices and its extension for a period of time, is perhaps the most important station from where we may seek these impacts.

The first energy crisis, 1970-1979, was caused by the lack of supply in the global oil market and the collapse of the major global monopolistic gatherings, which formed turmoil in the global economy that exceeded the risks arising from the deficit in the supply of oil in the markets in that period, and the crisis has affected all of the Western countries. Non-oil-exporting countries are both and represented the most important effects of the crisis as follows:

- Achieving high financial surpluses : During the first energy crisis, when oil prices skyrocketed, oil-exporting countries accumulated significant cash surpluses. These surpluses increased to 65 billion dollars in 1974, up from 12 billion dollars prior to the spike in oil prices. In contrast, the deficit in industrialized countries was around 35 billion dollars in the same year, while the deficit in non-oil exporting developing countries was around 20 billion dollars. (داود،

2013، ص35)

- **Global inflation:** Inflation and stagnation are two of the negative effects of high oil prices on industrial countries, which leads to an increase in direct government spending in the form of aid and direct purchasing power support due to high unemployment rates, so the majority of payments are directed to importing energy sources to drive the wheel of production.

- **Balance of payments deficit:** The payments of non-oil-producing developed or emerging countries climb in tandem with the rise in oil prices, resulting in an imbalance and deficit in their balance of payments, as well as an increase in their foreign debt. The rise in the value of goods and services that pay for oil is one of the most significant negative effects of rising oil prices. Due to the high cost of importing commodities from industrialized countries, this has a negative impact on the balance of payments of oil-producing countries. The impact of rising oil prices on producing countries may also be seen in the fact that industrial countries are recouping cash payments from these countries by investing directly in them.

As for the balance of payments of the capitalist countries, it is affected by the rise in oil prices because of the reserves that are held in the oil-producing countries. Most of the oil balances of the OPEC countries have been kept in the industrial countries through banks and short-term investments. (داود، 2013، ص40)

- **External indebtedness:** The negative impact of developing countries' balance of payments deficits due to the high value of their oil imports forces them to rely on external borrowing to cover the deficit, as conditions allowed to meet these countries' needs through balances acquired by banks and financial institutions And cash in capitalist countries in exchange for growth and inflation, the money market, also known as the euro-dollar market, and the currency market.

One of the effects of high oil prices is the severity of the external debt crisis for many countries. However, the industrialized countries can face the increasing payments for oil and maintain their financial positions as a market for the purchases of the OPEC countries from investments, and they can maintain important cash balances in international banks.

2.3. Effects of low oil prices on the global economy : The influence of lower oil prices on the global economy is visible on various fronts, and this effect varies by country based on the structure of each

consuming country's economy, whether industrial or industrial. Oftentimes, global consumption quickly exceeds global production, which in turn leads to a gradual or direct return to price hikes. The global economy cannot cope with the state of low oil prices for a long time, because the main components that make up the global economy such as global investments and the oil industry And the economies of the oil-producing countries will be undermined. (سلامة، 2015، ص18)

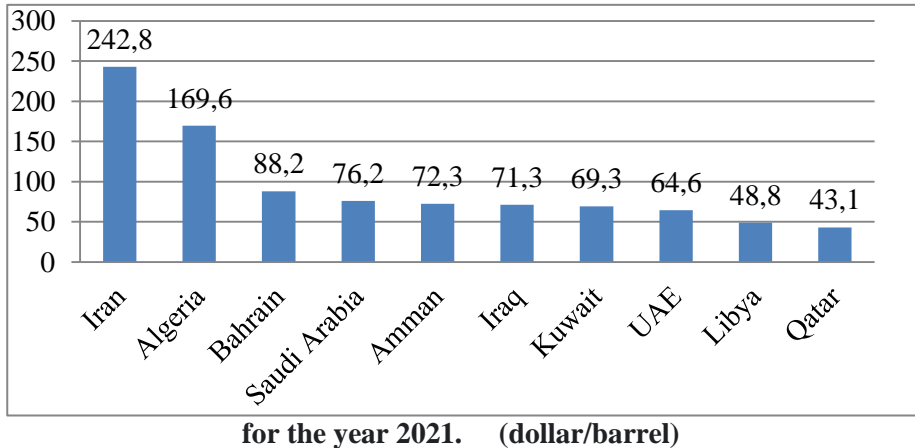
One of the important challenges is the shrinking of global investments in many sectors of the global economy, especially the oil and energy sectors, in addition to the continuous damage to the global oil industry due to the high costs of exploration and production every year in return for the decrease in the amount of oil produced globally, which does not adequately cover the value of the costs paid.

The major international oil companies suffer in the event of a sharp decline in oil prices in two main ways. In terms of their purchase contracts, they need a certain price ceiling in order to be in a state of equilibrium, which may often be achieved at a price ranging between 125 to 135 dollars per barrel, according to experts. On the other hand, major companies need to draw an investment map in the field of exploration and production based on certainty about the future direction of oil prices, as we find that many of these companies sold part of their production assets and reduced their future investments as a result of the drop in oil prices and for the oil-exporting countries, Any drop in oil prices leads to betting on speculations about the financial situation of the economy, the general budget, and the coverage of accumulated government expenditures, with the weak productivity of the non-oil sectors in these countries and the absence of economic diversification. The government imposed on some sectors that were in turn financed through the revenues of the oil sector, in order to avoid the aggravation of the budget deficit and the deterioration of the gross domestic product.

When the oil market has seen a deterioration in prices, the oil-exporting countries represented in OPEC and the Gulf Cooperation Council have resorted to reducing their oil production in order to affect the supply market and raise prices, as they require a certain ceiling of oil prices in order to achieve parity in their budgets. And allowing it to pay its government expenditures. The acceptable price cap for the general budget differs from country to country, and the

following graph illustrates the average budget break-even price for OPEC countries in 2021 :

Figure 01 : Break-even price in the budgets of oil-producing countries



Source : IMF report for April 2021

Through the above figure, we can note that Iran is the country that needs the highest ceiling for oil prices in order to achieve the budget at a price of 242.8 dollars per barrel. Experts suggest the impact of international sanctions on its economy and the depreciation of its national currency negatively affected the value of its oil exports. Experts confirm that Iran's oil exports constitute a third of its budget, accounting for 60% of its total exports in 2015. Therefore, Iran was classified as one of the countries most affected by the imbalance of global oil markets. (سلامة، 2015، ص 29)

We also note that most OPEC countries need a ceiling of more than 70dollars per barrel to achieve economic balance, while Qatar needs the lowest price ceiling of 43.1\$ per barrel to reach its economic budget.

3. The reasons for the fluctuation of oil prices in the world before and after the Corona pandemic.

3.1. The global crisis of the collapse of oil prices for the year 2014 :

With the beginning of the year 2014, signs of a crisis in oil prices began to appear on the horizon, and their collapse was largely in June of the same year when it knew its lowest level at 30\$ a barrel, which

during this period lost about 75% of its value after its price at the beginning of the year was 105,6 \$ which posed severe and shocking difficulties for oil-producing countries through negative repercussions on their economic budgets. (مصطفى، 2015، ص61)

The 2014 oil price crisis is due to a significant factor, which is that oil supplies on global markets reach a state of surplus, and there are other secondary reasons, most of which are related to the fundamentals of the global oil market, among which we include the following : (مصطفى، 2015، ص62)

- The increase in shale gas production in the United States of America and the increase in its oil reserves, as oil imports decreased and the demand for it from global markets in this country decreased from 60% in 2005 to 15% in 2015.

Increasing oil production in Iraq, as it approached a ceiling of 3.3 million barrels per day in 2015.

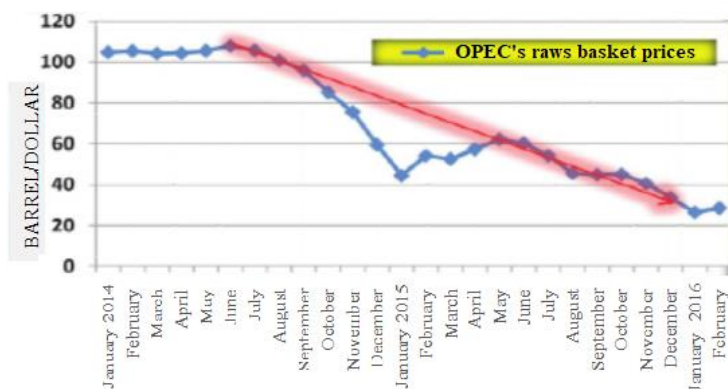
- Conflicts and political conflicts in both Libya and Syria, where oil production has become in the hands of gangs that are not subject to a government authority, which helped to continue the flow of oil to the urgent markets “Spot”.

- China's strategic plan to reduce demand for oil in favour of shale oil.

- Reaching a political solution to the Iranian crisis at this stage makes Iran a state free of restrictions, and this is what prompts it to search for revitalizing its economy by exploiting all its energy sources and restarting its oil stations that were suspended due to the previous crisis, as it was expected that it would jump Iranian production increased from 3.6 million barrels/day in June 2016 to 4.3 million barrels/day by the end of the following year.

3.2. Oil prices after the global crisis of 2014 :

Oil prices continued to tumble after 2014 until they reached low levels during 2015 and 2016 respectively. We note through the following figure the sharp fluctuation in prices from June 2014 to February 2016 :

Figure 02 : Oil prices between 2014 and 2016.

Source : Organization of Arab Petroleum Exporting Countries, (2016), p 16.

Figure 02 shows that the price of oil fell sharply between 2014 and the first quarter of 2016, indicating a boom in the global oil markets. The price of a barrel of oil fell from its highest level in June 2014, close to 115 dollars, to its lowest level in the first quarter of 2016, indicating a boom in the global oil markets. It dropped to 26.5 dollars per barrel in January 2016, with a 75 % differential calculated at 88,5 dollars per barrel. In the global oil markets, this kind of price drop has not been seen since December 2003, when the price of a barrel was 26.3 dollars. (Organization of Arab Petroleum Exporting Countries, (2016), p 16)

The reason for the price collapse in this period, according to experts, is due to two main factors, the first of which is the slowdown in the growth rate of the Chinese economy, which is the largest consumer of oil after the United States of America. This article is due to the high rate of exploitation of shale gas in America and the increase in its oil reserves.

Below we explain some of the practical reasons behind the qualitative jump in the volatility rates of oil prices during the mentioned phase, which is:

- The decision by the Kingdom of Saudi Arabia to raise oil supplies to flood the global market with the goal of recovering its share of

oil production after the Organization of Petroleum Exporting Countries opted to decrease its quotas in order to keep prices above \$35 per barrel, in light of reports that Saudi Arabia plans to send oil tankers carrying 50 million barrels of Saudi crude to US refineries.

- Increasing attention to clean energy resources in response to international calls and distress on the need to preserve the environment and reduce environmental pollution due to gaseous emissions and global warming resulting from the excessive exploitation of fossil fuels from traditional sources, as the United Nations General Assembly contributed to the conclusion of many international agreements amounting to more than 152 agreements. Many decisions were taken that contributed to creating the first building blocks of ~~an~~ international environmental law. (العشاوي، 2009، ص114)
- Expectations of the limited volume of oil resources and global oil reserves, which portend a future free of depleted energies in favour of renewable and clean energies, and necessarily leads to increased interest in sustainable resources and sources that guarantee inexhaustible energy supplies. (داود، 2017، ص 23)

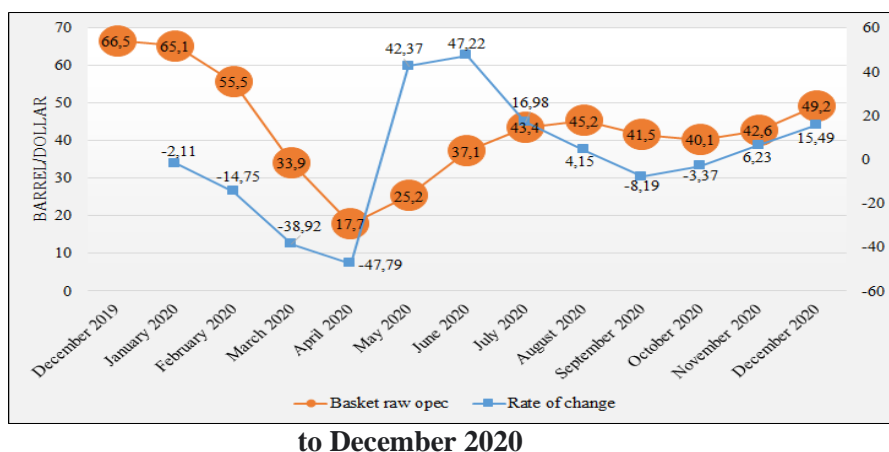
3.3. Oil prices in light of the Corona pandemic :

The Corona pandemic has caused several disturbances and losses in various economic sectors and fields, and perhaps the most important sector that has been shocked is the economic and commercial sector, due to the policies of closing the air, sea and land airspace of most countries among them, and the international trade movement was paralyzed within a short period of the beginning of the outbreak of the Coronavirus, which caused panic and a state of affairs. Of the uncertainty, and among the most important markets that have been hit by the Coronavirus, which have been severely affected by this situation, is the global oil market, which is based mainly on global demand and supply of the most important sources of energy driving the economic wheel of the countries of the world, especially the great countries whose economies are based on the manufacturing and production sectors of various goods and equipment, Such as the automobile production sector, electronic and electrical devices, the pharmaceutical industry sector, and the agricultural sector. Cutting off oil supplies to such sectors is an imminent suicide for the economies on which they are built. This interruption actually led to a sharp slowdown in the production process, which formed major supply

shocks in the international market. The expansion of the spread of the Coronavirus led to a reconsideration of the rates of demand for oil at the global market level, which greatly affected oil prices, which were expected to reach 25 dollars per barrel, but in fact, the price fell to less than that, as The price of Brent oil recorded a level of \$ 22 a barrel due to the sharp decline in demand for aviation fuel and land transportation, and the decline in the growth of the global economy due to the paralysis of all sectors due to the general closure, quarantine and social distancing policies adopted by most countries of the world.

In the following figure, we try to shed light on the levels of spot prices for the OPEC basket in the global market, starting from the emergence of the Coronavirus until the end of the last quarter of the year 2020.

Figure 03 : OPEC basket spot prices for the period from December 2019



Source : أمال حموزوقي، (2021)، ص 258.

From the first sight of the beginning of the spread of the Corona virus in its source, which is China, we note the significant decrease in oil prices, specifically in the period from December 2019 to January 2021, and this is illustrated by the above figure, where the rate of change in the mentioned phase amounted to -2.11% Immediately and suddenly, prices fell sharply until the rate of change reached -14.75% within only 30 days, but the highest rate of change in prices amounted to -47.79% and that was in the month of April 2020, As oil prices tumbled to the lowest level at 17.7 dollars a barrel, a period during

which the world witnessed a sweeping of the virus in all countries in a very short time, due to the rapid transmission of infection and the destruction of human lives in a frightening and suspicious manner, forcing the countries of the world to implement preventive measures to limit the spread of the virus through the policy of quarantine and general closure of most economic activities, and has severely and directly affected the global demand for energy and oil sources.

We also note from the figure that oil prices witnessed a slight movement during the month of May 2020, reaching 25.2 dollars per barrel, i.e. an increase of 42.37%, after the global demand for oil rose due to the return of the Chinese economic wheel in recovery after the virus was relatively confined to its lands. And the lack of production due to the closure of many oil facilities and refineries, but the effects of the virus were stronger on the economies of many industrialized and producing countries, as oil prices returned to decline in the period from August to October of the same year, from 45.2 dollars to 40, 1 dollar per barrel, i.e. 11.2%, after which we notice a gradual recovery in prices again in the last quarter of 2020, Where the month of December reached 49.2 dollars per barrel, an increase of 18.49% compared to the third quarter of the same year. Experts suggest this significant recovery in prices to the policy of easing the precautionary measures in this period, with many countries of the world opening the way for exchanges Gradually, commercial oil refineries returned to operation due to urgency and the increasing demand for oil.

Through Figure No. 04, we note that oil price levels have witnessed a sharp decline and fluctuation in rates of change coinciding with the period of the spread of the Coronavirus. In addition to the pandemic, experts suggest that there are other reasons that had a significant impact on oil prices reaching these levels, the most important of which are :

- Russia's strong opposition to the OPEC proposal during its negotiations with its allies and some non-member producing countries on March 05, 2020, to reduce production by 1.5 million barrels per day, as it was decided to reduce one million barrels per day on the shoulders of OPEC and the other half a million on the responsibility of the non-member countries, However, these negotiations failed, which further perpetuated the fall in prices.
- Due to differences in visions with Russia about the strategy used to maintain the balance of oil markets, Saudi Arabia, the world's first

oil producer, increased its production capacity to its maximum capacity of 12.3 million barrels per day, causing confusion in the markets and forcing the OPEC + meetings to a halt. The oil-exporting countries maintained up with Saudi oil prices, which resulted in a 30 % reduction in prices almost immediately.

- The difficulty of estimating the damages of the Coronavirus and the uncertainty about the duration of the survival of this epidemic and the efficacy of the health policies adopted to limit and eliminate its spread, have severely affected oil prices due to the difficulty of accurately estimating current and future prices, which are mainly related to the extent of the impact of global oil consumption in the near future on the pandemic, especially if we speak About China, the epicentre of the epidemic and the largest consumer of energy resources in the world.

4. The impact of the Corona pandemic on the economic indicators of energy consumption in the world for the period 2019-2020 :

4.1. The impact of the Corona pandemic on the global demand and supply of oil and natural gas :

4.1.1. An analysis of the global demand for oil and natural gas during the pandemic period :

Before the emergence of the Coronavirus in the Chinese city of Wuhan, the energy markets in the world were trying to find solutions to the problem of oil supplies and the glut of global oil stocks, but now, after the emergence of the virus and its sweeping of most countries of the world, the problem and the biggest challenge is how to find markets to sell oil and get rid of the situation of the glut in light of the deterioration Sharp global demand for oil to unprecedented rates.

Through the table below, we try to shed light on the levels of global demand for crude oil for the largest international groups during the Corona pandemic period from the third quarter of 2019 to the third quarter of 2020, which is the peak period for the spread of the Corona pandemic.

**Table 01 : Global demand for oil for the period 2019-2020.
(Million barrels/day)**

Period		OECD Countries	Countries outside OECD	Total global demand
Third Quarter 2019		48.5	52.0	100.5
Fourth Quarter 2019		48.3	52.5	100.8
First Quarter 2020		45.4	47.3	92.7
Second Quarter 2020		37.6	45.0	82.6
Third Quarter 2020		43.3	47.7	91.0
Change about (million barrels/ day)	Second Quarter 2020	5.7	2.4	8.4
	Third Quarter 2019	(5.2)	(4.3)	(9.5)

Source : Organization of Arab Petroleum Exporting Countries, (2020), p30.

We note from the above table that the period in which the global demand for oil witnessed a sharp and remarkable decline is the period from the first quarter to the second quarter of the year 2020 when the demand for oil for the countries of the Organization for Economic Cooperation and Development witnessed a decrease during the mentioned period by 17.18%, While the countries outside the organization witnessed a slight and less severe decline by 4.86%, and if the data for the year 2020 were compared with the third quarter of 2019, the levels of global demand for oil witnessed the largest change at a rate of 11.57% in the second quarter of the year 2020, which is the period that swept Corona virus in most countries of the world.

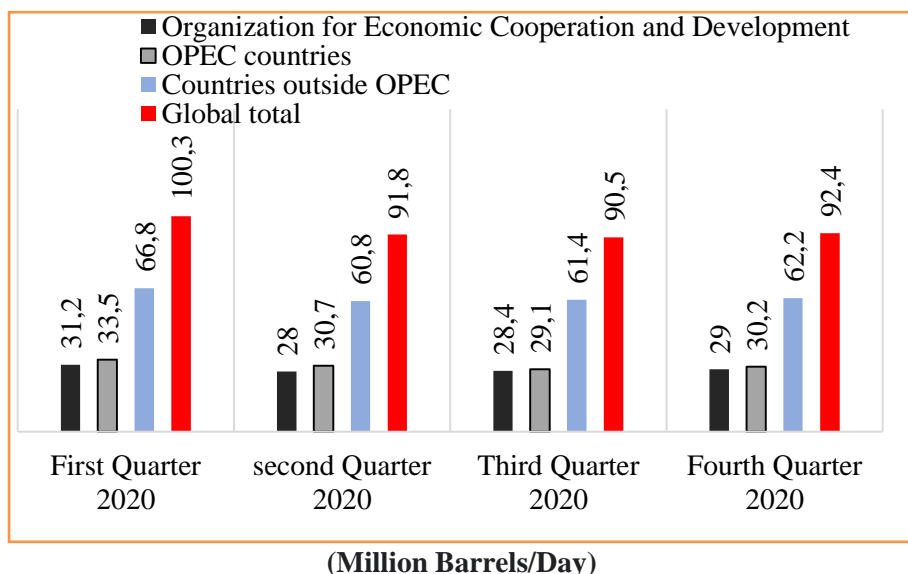
4.1.2. An analysis of the global supply of oil and natural gas during the pandemic period :

The virus's effects, on the other hand, extend across the global supply chain through the engines of production capacity, which were left untapped in their full production capacities during the start of the pandemic as a result of the precautionary policies and preventive measures implemented, due to the spread of infection and the high death rate. In the same context, the manufacturing sector of goods, cars and tools is considered Electronic and electrical industries are among the main sectors in the world, especially in emerging economies, most of which are concentrated in East Asia, such as China, Japan and South Korea, Which is basically one of the first

countries affected by the epidemic, in addition to major industrial companies in European countries and the United States of America.

Accordingly, the interruption of supplies as a result of the outbreak of the virus led to a slowdown in the production process and the occurrence of supply shocks in the countries of the world, as shown in the following figure:

Figure 04 : Global Oil and Natural Gas Supply for the Year 2020.



Source : Organization of Arab Petroleum Exporting Countries, (2021), p 25.

We note in Figure 05 that the global supply of oil and gas has changed with negative results at all levels, especially the supply of OPEC countries and the total global supply, where the latter witnessed a decrease from 100.3 million barrels per day in the first quarter of 2020 to 90.5 million barrels per day in The third quarter of the same year, which is the lowest quantity supplied for the year 2020, as the OPEC countries witnessed a decrease in the quantities supplied from 33.5 million barrels per day to the lowest quantity of 29.1 million barrels per day. A rather slight change in the supply of oil and gas at negative rates equal to -10.25% and -8.98%, respectively. As we mentioned earlier, the reason for the decline in the global supply of oil and gas is mainly due to the suspension of oil facilities and refineries

from operating and production due to the outbreak of the Coronavirus, paralysis of transport and shipping, and limited oil supplies.

4.2. The impact of the Corona pandemic on global supplies of oil and natural gas :

Through the table below, we are trying to analyze the impact of the Corona pandemic on oil and natural gas supplies in the world during the peak period of the pandemic's spread.

Table 02 : Evolution of global supplies of oil and natural gas for the period 2019-2020. (Million barrels/day)

Period		OPEC Countries	Countries outside OPEC	Total global supply
Third Quarter 2019		34.2	64.8	99.0
Fourth Quarter 2019		34.4	66.4	100.8
First Quarter 2020		33.5	66.6	100.1
Second Quarter 2020		30.8	60.8	91.6
Third Quarter 2020		29.1	61.5	90.6
Change about (million barrels/ day)	Second Quarter 2020	(1.7)	0.7	(1.0)
	Third Quarter 2019	(5.1)	(3.3)	(8.4)

Source : Organization of Arab Petroleum Exporting Countries, (2020), p 22.

According to the statistics, crude oil and natural gas liquids deliveries to OPEC countries were 29.1 million barrels per day in the third quarter of 2020, down 1.7 million barrels per day from the second quarter and 5.1 million barrels per day from the previous quarter. While supplies in countries outside of the Organization of Petroleum Exporting Countries fell between the first and second quarters of 2020, they increased in the third quarter of 2019, from 66.6 million barrels per day to 60.8 million barrels per day, with a negative change rate estimated at -8.7%, while Total global supplies during the same period witnessed a negative change rate of -8.49%, as this percentage continued to decline until it reached -9.49%, compared to the third quarter of 2020.

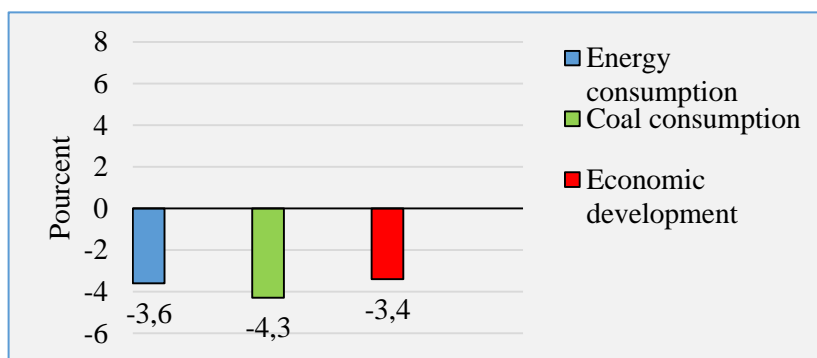
The reason for the decline in global oil supplies, as confirmed by international reports, is due to the policy of general closure of many oil facilities and refineries due to the continuation of the epidemic and the speed of its spread, which directly affected the expectations of global demand for energy sources, which turned to severe negative, as this situation constituted a case of Confusion in the movement of oil

transport, which led to many shipments destined for China having to change their destination for fear of infection, and this, in turn, caused a decrease in oil supplies on the one hand, and a rise in freight prices on the other. It should be noted that the decline in oil supplies at this stage has other secondary reasons, the most important of which is the suspension of Libyan oil supplies due to the security and internal conditions of the country and the closure of ports and oil production fields, in addition to the commitment of Arab countries in general to OPEC+ agreement to adjust production quantities in order to ensure balance in the market oil.

4.3. The impact of the Corona pandemic on global energy consumption and economic growth :

The widespread closure policies that destroyed the economy of countries, especially the major countries whose economies rely on energy, had an impact on energy consumption in most of the countries affected by the epidemic. As a result, the country's economic progress has slowed to a halt. This is what the graph below, which depicts the Group of Twenty's steep drop in energy consumption and economic growth for the year 2020, is attempting to address.

Figure 05 : Energy consumption and economic growth for the G20 in 2020.



Source : Statistics from the ENERDATA website at the link : <https://www.enerdata.fr/publications/analyses-energetiques/bilan-mondial-energie.html>

According to the statistics in the graph, the Group of Twenty's energy consumption fell to its lowest level in 2020, with a negative value estimated at -3.6 %, while coal consumption fell to a level of -4.3 %. During the same year, the Group of Twenty's economic development slowed significantly. The reason for this collapse at all levels, particularly in the sphere of energy and economic growth, is

due to various elements, as established by international reports and as required by epidemiological conditions, including the following :

- According to the report of the International Energy Agency published on April 15, 2020, global oil consumption decreased by the beginning of the second quarter of the year by 29 million barrels per day compared to the same quarter of 2019, with the decrease in demand during the closing period, and the agency estimates that oil consumption in 2020 may decrease By 9.3 million barrels per day compared to 2019.

- A significant decline in the consumption of oil, gas, and electricity products, owing to fluctuations in energy supplies, to land transport activity, which fell by more than 50% in comparison to 2019 and to air transport activity, which fell by 60%, according to the International Energy Agency, with the possibility of a 3% reduction in nuclear production. According to the same agency, it will reach a new high in 2020 after reaching a new high in 2019. (Connaissance de l'énergie, 2020)

- The decline in coal consumption due to the pandemic on the one hand, and the repercussions of the policy of gradual reduction in the use of coal in the field of energy for environmental reasons on the other hand, as China alone witnessed a decrease in coal consumption by 8% in the first quarter of 2020 compared to the same period in 2019, and it is likely Experts that this percentage is about to decline by more than 10% with the decrease in global consumption directed to the production of electricity from coal-fired power plants, especially with China stopping the launch of new construction projects for coal-fired power plants, in order to move towards supporting projects of renewable energies with low emissions, if We learned that China's carbon dioxide emissions from combustion tripled between 2000 and 2013, an increase of 7%. (Connaissances de l'énergie, 2020)

According to the International Monetary Fund's estimates of the global economic growth rate announced in the framework of the World Economic Outlook report, the decline in global economic growth is attributed to the decline in the growth of the US economy in 2020 as a result of the virus outbreak to minus 5.9% due to the decline in public and private consumption, and uncertainty about asset prices, As well as the closures due to the outbreak of the Coronavirus in the United States, which has the highest rate of infections and deaths in

the world. As for the euro area, the gross domestic product is expected to decline by 7.1% due to a decline in exports and a slowdown in consumption, and for the Japanese economy, it is expected to shrink in 2020 by about 5.9%, While the Chinese economy is expected to achieve a weak growth of 1.2% in 2020, there are still other negative risks to the global economy given the uncertainty that prevails in the world during this period. (البطراوي، 2020)

Conclusion :

In the present research paper, we explored the impact of the worldwide epidemiological condition on some variables of the global energy market in our research paper, as it was one of the most affected markets that experienced extreme instability due to the pandemic when most economic operations ceased for reasons related to the epidemic. We concluded that the Corona pandemic had a severe impact on the energy sector due to the sharp drop in oil prices and the decline in global energy consumption, oil supplies, and economic growth during this period, owing to the imposition of health protocols and the closure of air, sea, and land skies between countries.

From this point of view, we can derive the results of the research after testing the proposed hypotheses, which we present in the following points :

- Through the study, we were able to come up with the main conclusion that the Corona pandemic had a severe and severe impact on the global demand for oil and gas as the first indicator, which witnessed a decrease from 100.8 million barrels per day in 2019 to 82.6 million barrels per day in the second quarter of 2020. , with a negative change rate of 18.05% and the international supply of oil was also affected as a result of the failure to exploit the production capacity engines to their full potential during the period of the epidemic, which witnessed a relative decrease of 9.77%. This turmoil in the economic indicators of the global energy market was the main reason for Oil prices tumbled to form a situation described as a severe price crisis, which witnessed its lowest level in two decades at a price of 17.7 dollars a barrel in April 2020, and from this point of view, we confirmed the validity of the first hypothesis.
- The global economic stagnation caused by most countries' general closure policies to confine the spread of the virus and control the epidemic resulted in the suspension of many producing and industrial

countries' oil facilities and refineries, as well as the decline of many economic activities such as refining and maritime transportation of oil and gas. The global oil supply rate also decreased by 5.1 million barrels per day in 2020, which negatively affected the levels of economic growth in the world, which fell to a negative rate of -3.4 % in 2020. This significant decline negatively affected the level of energy consumption, which Most of the economic activities are based on it. During the same period, we notice a decline in oil and gas consumption, especially in industrialized countries, to negative rates that reached -3.6 %, With the decline in the consumption of coal as a primary fuel for energy, especially in China, by -3.4 %, and based on the above, we confirmed the validity of the second hypothesis.

- What we referred to in our previous research paper about the price war that erupted between Russia and Saudi Arabia during the first quarter of 2020, which led to the collapse of the OPEC + agreement, a relative drop in oil prices in the global market and an increase in the severity of the oil crisis, proves to us those quarantine policies such as general lockdown is not the only reason for the low levels of energy consumption in the world and the collapse in oil prices, but there are other reasons and side variables such as the commitment of many countries to go towards consuming clean energies to reduce carbon emissions, and this proves the validity of the third hypothesis of our research.

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