The factors affecting fluctuations in global crude oil prices in the light of economic theory

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Abstract :
The set of economic and non-economic factors has a significant impact in determining crude oil prices through the interaction of forces affecting the oil market, such as oil-producing and consuming countries , The first group plays a major role in determining the prices of crude oil as a depleted economic resource according to the interaction of supply and demand forces, and the stability of the global oil market depends on basic factors, The most important of which is the interaction between supply and demand and the balance between them by withdrawing or adding to the global stockpile of crude oil, A disruption to one or more of these factors would inevitably cause a disruption in the global crude oil market, It may happen that the price path of crude oil is the result of a balance between supply and demand for it, or that the price of oil is the influence in the occurrence of this balance, and changing any of them will necessarily lead to a change in the other, which will be successive streams one after the other, Events have shown that changes in oil market conditions and supply and demand responses to price changes have an important relationship with the behavior and implications of the policy of OPEC and non-OPEC producers and exporters, Thus, the process of determining crude oil prices at present and in the future depends, in an essential part, on what is caused by supply and demand factors in the global crude oil market, In addition to the presence of other factors that have an impact on prices, so in this research we will clarify these factors and the extent of their impact through three demands:

The first requirement: the economic factors affecting the volume of the total international oil supply.

The second requirement: the economic factors affecting the global demand for crude oil .

The third requirement: non-economic factors affecting the price of crude oil

Keywords: crude oil, crude oil prices, oil markets, economic and non-economic factors.

Introduction;

The crude oil is one of the most important sources of energy in the world. It is an international strategic commodity that has a high economic value. Since the beginning of the seventies of the twentieth century, the international markets for crude oil have witnessed structural changes, represented in the case of the two sides of the market being monopolized by the giant monopolistic oil companies. After those companies lost their absolute monopoly on the production process in a large number of crude oil-owning countries, and in turn, the role of the Organization of Petroleum Exporting Countries (OPEC) emerged as a corresponding force. In particular, at the end of 1973, after the decision of the Arab oil embargo and the first price jump, as well as through dialogue between the producing countries and the countries

consuming crude oil, to ensure the continuation of crude oil supplies at fair prices, the global oil market has undergone a set of important developments that led to a significant difference in the balance of supply and demand. As the oil market is of the nature of its specificity, it is taken from the overlapping of economic factors with political factors, whose importance and degree of impact on crude oil prices in the market vary. It appears that the problem of determining the prices of crude oil depends, in an essential part, on what is caused by supply and demand factors in the global market. As well as the presence of other driving forces that have an impact on prices, including future expectations, the volume of reserves, the rate of economic growth and others. Oil is an important commodity in international trade, as oil exports to oil-producing countries constitute a high percentage of their foreign trade, and because they are characterized by backward production relations, they are unable to provide commodities. The services to meet the needs of domestic demand, and thus they are forced to resort to importing from developed countries, as well as being a major source of income for the oil-producing countries, as these countries rely on oil revenues to a large extent in the formation of their income, so any change in oil prices will greatly affect their economic activity.

First: The importance of the research: The oil prices play a major role in economic life in particular and the rest of life in general, and this requires understanding the nature of the factors affecting the fluctuations of crude oil prices in the global market, and emphasizing the importance of these factors in the events of price fluctuations.

Second: The research problem: The research problem stems from the following question: How do economic and non-economic factors affect the fluctuations of crude oil prices in the global market?

Second: The research hypothesis: The research hypothesis stems from the possibility of determining the factors affecting the fluctuations of crude oil prices in the global market, whether they are economic or non-economic, varying in the degree of their impact, but the factors are not The economy may have a relatively greater impact on crude oil prices in the global market, which leads to the instability of crude oil prices in the global market.

Third - the aim of the research: to determine the factors affecting the prices of crude oil in the global market, in order to understand the impact of these factors and variables on the levels of oil prices, which in turn affect the value of oil exports and their returns in order to avoid the negative impact of these factors in the past.

Fourth: the structure of the search

We will discuss in this research, which dealt with two sections. The first topic focused on clarifying the concept of oil prices and oil markets, while the second topic dealt with the influencing and explaining factors for the fluctuations in prices in the global oil markets during the twentieth century and the twenty-first century.

The first topic

The oil prices and oil markets (conceptual framework)

The first requirement: the theoretical basis for crude oil prices

First: the concept of crude oil:

The crude oil is a strategic resource and one of the most important commodities influencing the global economy and international trade (Milonas and Henker, 2001:23), and it is the most actively traded commodity in the world, and crude oil is a fossil fuel (meaning extracted from the ground by drilling). It is a remnant of plants and animals buried for millions of years under the sedimentary layers of the ancient seas. Anaerobic bacteria did their job with these rotting remains, in addition to the increased pressure and temperature of the clay, sand and sedimentary layers to convert these residues into hydrocarbons. Crude oil is a complex mixture of hundreds of different types of hydrocarbons with small amounts of other chemical compounds such as sulfur compounds, nitrogen and oxygen. Hydrocarbons are organic compounds composed of hydrogen and carbon atoms, and they vary in the number and arrangement of carbon atoms, which may be in the form of straight or branched chains or in the form of closed rings (Sweeney and Yu, 2004:8). In which carbon and hydrogen atoms react to form petroleum.

Second: Types of Crude Oil Types of crude oil can be divided into three basic types as follows

1. **The Brent crude oil**: The Brent crude oil is a light, sweet oil that comes from the North Sea, with a specific weight of 38.6 (API). Brent crude oil is used as a standard to measure about two-thirds of the oil produced globally, and most of this crude is refined in northwestern Europe. Brent crude oil is extracted from the Brent field in the Basin Eastern Shetland, which is located halfway between Scotland and Norway, and there are a number of indicators that the point may be depleted, which may cause a problem in pricing a large number of oils that take Brent as a reference for measurement, that Brent crude oil includes a slight discount in the price due to differences in specific weight and cost Transportation to the United States markets, where it was competing with West Texas crude, and these long-term relations between the two crudes began to change. From a project to extend a railroad, which makes it possible to transport oil to the centers of American refineries such as Texas and North Dakota without the need to pass in the center and even to the American refineries located on the eastern coast of the United States, which depended on Brent crude oil imported to the United States, so it could use crude West Texas, and that all these infrastructure developments in the transportation sector of petroleum products have reduced the difference between the price of Brent and West Texas (Hassan, 2014, 27). .

2. **West Texas Crude Oil**

The West Texas Intermediate Crude (WTI) is a light American crude (density °40 API) and sweet (0.4% sulfur content) (Horsnell and Mabro, 1993,226), and because Brent is heavier and slightly more acidic than WTI, it is natural that Its price is lower than that of WTI (2003:53,

DOE). It is the reference crude for approximately (12-15) million barrels of crude oil produced or sold every day in the Western Hemisphere, and with the exception of crude oil produced in Alaska, all Crude oil (almost) produced in the United States is priced compared to (WTI), and about (80%) of crude oil imported to the United States of America is priced compared to (WTI). Although crude oil prices around the world compared to Brent are more than those priced compared to (WTI), the New York Mercantile Exchange (NYMEX) Standard Crude Futures (WTI) contract is the most widely traded commodity futures contract in the world. Daily about (150,000) contracts are traded in (NYMEX) and this volume of crude oil is almost equal to twice the daily production of the world, and in fact (WTI) is a mixture of crude oils produced in the fields of Texas, New Mexico, Oklahoma and Kansas, and all of these crudes It is sweet and light (DOE 2003:62).

3. Dubai crude oil

The Dubai crude oil is a medium-density crude oil (31° API) with a high sulfur content (acid) (2%), and it had a relatively stable production base, estimated at about 350 thousand barrels per day, and unlike Saudi Arabia, Iran, Iraq and Kuwait, the United Arab Emirates United allows the ownership of production by oil companies, and for crude oil (Al-Fateh Dubai) six producers owning oil, and although the number of producers is less than the number of producers of Brent, the concentration of ownership among those producers is very similar, and the most important of these six companies are (Conoco, CFP(TOTAL), Repsol, Rheinol/Texaco, Sun, Winter shall (Horsnel and l Mabro,1993:207).

Third: The concept of crude oil price:

Price is defined as the monetary expression of the value of a good or service. The price was defined by many economists in this field, including Harper, who defined the price as (the amount of money paid by the buyer to the seller in exchange for a product or service) (Yahya, 2005, 36).

The price means that it is the monetary value of the product or service, and there are those who defined it as the quantity of money required for the purpose of obtaining a unit of a good or service, while the economist Karl Marx defined it as (the monetary expression of the value of the commodity), It seems that there is a relationship between the value of the thing and the price specified for it, and this relationship is not fixed, but rather a variable relationship, and this change is subject and caused by the influence and overlap of many different factors, whether economic, social, political or natural, and the shape of the market itself. The price of crude oil means the value of the oil commodity. Expressed in monetary units at a specific time and place. and that the relationship between the price of oil and its value is not equal and stable, for most of it represented an unequal relationship. The price of oil for a long period of time was much less than the value of the oil commodity, and this was linked to economic and political factors related to the nature of this commodity and how it was exploited for production and consumption (Al-Samarrai, 1987,

10), and it can be defined as the monetary value or monetary image of a barrel of crude oil measured in US dollars per barrel consisting of (42) gallons about 159 liters, or expressed in US monetary units, for example (100) dollars per barrel, despite all attempts, ideas and practical measures to find an alternative monetary unit through the names of the oil dollar, the typical dinar, a basket of major currencies and the Special Drawing Rights, this barrel was estimated to be linked to the US dollar (Al-Hiti, 2000, 117).

Fourth: The types of crude oil prices: The oil price has many types, including:

1- **The published prices**: are the price announced by the international oil companies that have concessions for accounting purposes with the countries producing crude oil, and the declared price does not reflect the state of interaction of the forces of supply and demand in the international market, but rather it reflects the value of a barrel of crude oil as seen by those companies It is calculated in US dollars (Moses, 2007, 21).

2- **The Realized Price**: which is the declared price minus the discounts and deductions, i.e. reducing a certain percentage of the declared price per barrel to entice the buyer, i.e. the price of an oil barrel, expressed in monetary unit, determined by what arises due to the allowances, discounts or facilities provided by the selling company. Crude oil to the buyer (Al-Hiti, , 2011,139).

3- **The reference price (The Refer Prices)**

The reference price or the retrospective price means the average of a basket of convergent oils in degrees of intensity and separated by geographical location to form an indicator or signal for pricing a group of oils according to the proximity or distance of the oil density from the reference oil, including: Arab Light Oil, OPEC Oil, West Texas Oil, Brent Oil (Moses, 2007, 259)

4- Transfer price :

It means the price that is agreed upon between the parent company and one of its branches or between its branches for the sale and purchase of crude oil, or when oil is transferred from one activity to another such as production, transportation and refining within the framework of one company, as if Exxon sells its crude extraction to Exxon for transportation, and this in turn sells it to Exxon Refining in In this case, it is agreed on a fictitious or arithmetic price that takes into account in its estimation the attempt to make taxes on their oil profits in the registered countries as low as possible to achieve the purpose, the transfer price may be less than the real and declared prices, so the producing countries did not recognize this price and refused to use it as a basis for calculating The components of its cash revenues from crude oil, such as rents and taxes.

5-**The spot or instant price**:

It is defined as the price of the oil unit exchanged immediately or simultaneously in the free oil market. This price is an embodiment of the monetary value of the oil commodity in the oil market between the parties that offer the oil and the buyer in real time. The interest in this price and

working with it has appeared after the spot market has taken an important percentage in the international crude oil trade, and the spot markets are many in the world and the main ones that represent an indicator of the movement of markets and prices in the world are (Rotterdam, Genoa market, Singapore market, Northern European market) and the pricing equation estimates a specific oil price based on a reference oil price according to the following formula (Jami', 2011, 66):

The price of oil to be priced = the reference oil price (spot or future) ± differences.

As for the differences, their presence in the equation aims to ensure competitiveness between the oil to be priced and other similar and alternative oils. These differences include quality differences and geographical location differences. Through the formula of the equation, the differences may be a premium or a discount. Thus, the equation becomes as follows:

The price of the oil to be priced = the reference crude oil price + quality differences + geographical location differences.

6- **Forward prices or long-term deals prices**: which mean the oil prices according to which the contract is now concluded, provided that the crude oil is delivered in a specified future period (Abdul-Ridha, 2011, 104).

7- **Net back price**: It is the price of a barrel of crude oil in light of the prices of its refined products, which are called the composite barrel, i.e. (the barrel of OPEC) (Al-Hiti, 2000, 121).

8- **The price of a paper barrel (Barrel Price in Dollar)**: It is the name given to the price of a barrel in spot deals and is very close to the concept of the price of crude oil in oil exchanges, and it is sold more than once (Al-Hiti, 2011, 157).

The second requirement - the concept of global oil markets:

First: What is the oil market?

The global oil markets are among the most important commodity markets, in which trading began since the late nineteenth century, and transactions developed in these markets, and futures and electronic transactions and other mechanisms of dealing with oil contracts appeared, and the oil market became one of the most important commodity markets in the world. This market is one of the most exposed commodity markets to economic cycles, as it oscillates between economic recovery at times and deflation at other times, and behind this is a group of variables that affect the structure of the oil market, represented by the side of oil supply and demand, as the compatibility between them leads to balance, and imbalance Leads to the emergence of the so-called oil scarcity or excess oil.

The oil market is defined as the market in which an important source of energy, which is oil, as well as other oil derivatives, is exchanged at a certain price, and during a specific time. , it can be defined as the place where sellers and buyers meet to complete their exchange operations and conclude deals. The market may refer to a specific time and place. This definition is from a

narrow angle. and the purchasing power of money and the willingness to make a purchase decision, and the buyer in this case may be a natural or legal person, and this is the common and comprehensive definition of the market (Hussain, 2005, 122).

Second - Types of international oil markets: The most important global oil markets can be summarized as follows:

A- ***New York market***: It is the first market that began trading futures contracts in 1978 in the United States of America and covers North America, in which its futures exchange contracts are based on the price of West Texas Intermediate Crude, most of which are produced in West Texas, and these contracts are used as a reference for the international pricing of crude oil about 12) - 15) MB of oil sold in the world, and the pricing point is the city of Cushing, Oklahoma, because of its strategic location at the intersection of oil pipelines in American ports that enable it to export to all parts of the world, and although the world's crude oils priced in Brent crude are more than those priced in West Texas Intermediate crude, however, the West Texas crude futures contract on the New York Mercantile Exchange (NYMEX) is the most widely traded in the world. As daily about 150 thousand contracts are traded in NYMEX, and this volume of crude oil is almost equal to twice the global daily production (Hadi and Ibrahim, Nos. Number 20, 42).

B- ***The international oil market***: It has started trading oil futures contracts since 1981, and it is the largest oil market in Europe and its headquarters is in London, and it uses Brent crude as a standard for pricing transactions, as it is used as a base comparison reference for approximately (40-50) million barrels of oil sold per day. And that most of the production of Brent crude is purchased from European countries and some African countries, and that 20% of the United States import of crude oil comes from it, and that sales of crude oil based on Brent crude come from West Africa and Northwest Europe, and Brent crude is an oil mixture that consists of The oils of the (15) different fields in the producing regions of Brent and Ninian in the North Sea. It is worth mentioning that it is considered one of the light and sweet oils due to its specific weight of 38 degrees and the low sulfur content of 0.37. Brent blend is sold at a price higher than the OPEC basket of oils by about A dollar a barrel, at a price less than West Texas crude by about a dollar as well, and depends on pricing, especially in European and African markets, and because of fears about the scarcity of North oil, this criterion could lose its normativeness. to depletion (Paul Steves, 1998, 52).

C- ***The International Monetary Market in Singapore***: SIMEX was established in 1989 in the Far East and follows the Dubai crude standard, which is a medium-density crude oil of 31 degrees and with a high sulfur content of acid (60%), and it is used as a standard for pricing oil sales in the Middle East, and the quantity sold of it is about (10-15) million barrels per day, and Dubai's standard oil is the oil produced by the Dubai Oil Company Ltd. from a field called

Haifa that was discovered in 1966, and this market is dominated by international oil companies, banks and western trading companies with little Asian participation, which made this market more sensitive to the conditions Western trading, and as a result of the decline in Dubai crude, Oman crude was added to the base of reference crude in 2001, and although Singapore is not a large oil producing or importing country, it was chosen as an international oil market for many reasons, including (geographical location, political stability, It also possesses the conditions for the establishment of a successful international stock exchange, the existence of a legislative and legal environment, a highly efficient judicial system, and a developed financial and banking system) these reasons qualified it for this position (Abdullah, 2000, 98).

The second topic / the factors affecting the prices of crude oil in the world market

The crude oil prices are one of the most important international prices for commercial goods, and all countries of the world and all its economic institutions to oil-producing and oil-consuming countries alike monitor those prices because of their great and clear importance throughout the world, and that oil prices have become one of the most volatile international trade commodities The decade of the seventies so far has not witnessed stability, but was characterized by successive turmoil and instability, due to many reasons and variables affected by it, the most important of which are economic, political and climatic variables or speculative factors based on expectations and other factors. The most important factors affecting crude oil prices can be summarized as follows:

The first requirement: the economic factors affecting the volume of the total international oil supply:

Supply is generally defined in economic theory as (the quantities that sellers and producers want to sell at a certain time at different levels of prices and assuming that other factors remain the same), and that the relationship between the quantity supplied that producers want to sell, and the price of the commodity is a direct relationship with the survival of factors The other is constant, as the quantity produced responds positively to price so that the supply curve rises to the top of the right, and that there are other factors than the price of the commodity that affect its supply. , (Samo Wilson, 2003, 68).

As for the petroleum offer, it is the presentation of the quantities produced of crude oil in the international market by the exhibiting parties in this market, namely, the oil-producing countries that belong to OPEC and other countries outside OPEC, at a certain price and during a certain period (Muqalled, 2001, 56), and the supply is a response to demand . The elasticity of the supply of crude oil is described as being low, especially during the short period of time, so any changes in the demand side are largely reflected in prices in the international oil market, and the global supply of oil is determined by the production capabilities available in

the oil fields, and this does not mean that the availability of large oil reserves that It becomes easy to increase production as soon as global demand for it rises, because production requires several things, including the development of the discovered oil fields and providing them with advanced means capable of extracting oil from the ground, treating it, storing it and pumping it to the surface of the tanker (Abdullah, 2000, 137). In determining the oil price from an economic point of view, as follows:

1. The volume of oil reserves (Proven Reserves):-

The size of the oil reserves is one of the factors that affect the course of crude oil prices globally. In light of the reserves, the extent of the scarcity of crude oil can be determined. The size of the oil reserves also shows the quantities of oil stored in the ground that have not been extracted or exploited with the possibility of extraction and exploitation using the prevailing technical methods. But with the different costs and money spent on the extraction process and according to the wells' variation in terms of geography and location of the wells and the technical method used in extraction, as global reserves included large quantities in previous periods, but these reserves began to decline with the increase in global demand for oil due to the increase Economic growth, as the theory of scarcity of this reserve increases as the rate of oil extraction increases, and one of the most approved methods for estimating the reserve is the volumetric method, which takes the following formula (Al-Hiti, 2011, 42).

QSD = FH MB * O

whereas :

QSD: The oil reserves in barrels.

F: the area containing crude oil in square meters.

H: the average thickness of the actual layer saturated with crude oil.

B: the actual saturation coefficient of the rocks.

O: the statistical coefficient that takes the change in the volume of crude oil when rising to the top, usually: O=1/6.

Oil reserves are classified into many types, including:

A- ***Proven Reserves***: According to the definition of the American Petroleum Institute (API), the proven oil reserves are (the quantities of crude oil that the available engineering and geological data clearly indicate beyond the possibility of extracting them in the future from the field, assuming the continuation of the current technological and economic conditions (API and AGA, 1962, 6-7).

b- Probable Reserves:

It expresses the quantities of oil or (gas) that can be obtained in the future and the quantities that have been discovered from hydrocarbon resources minus the proven reserves (Abdullah, 1979, 55).

C- Un-discovered Reserves:-

It expresses the quantities of oil and gas that can be obtained from places where well drilling has not yet been conducted to determine the quantities of reserves in them, and these quantities are usually not known specifically. One of the controversial issues regarding the classification of global oil reserves is the discrepancy in the calculation of oil reserves, as there are several systems for classifying oil reserves and there is no clear separation between the categories of these systems, with the need to unify these classifications, standards and coordination in a way that ensures the accuracy of estimating global oil reserves (Warner & Ceuns, 2008, 110).

2. **The economic cost of producing crude oil:**

It is the amount spent on extracting crude oil from the oil field or well until it reaches the final products of the consumer. There is no doubt that the volume of the total demand for crude oil cannot be satisfied through the production of one well, because the exploitation of wells begins with the lowest extraction cost and the extraction policy requires In accordance with the technical and economic conditions, the percentage of crude oil extracted from a well is related to the reserve ratio for that well. Otherwise, any increase in extraction from that rate will lead to a rapid depletion of the reserve and an increase in the speed of depletion of the source, as well as reducing the well productivity time . The user cost begins to increase as a result of the need for additional extractive costs, and as a result of the rise in crude oil prices in the international market due to the increase in global demand, this requires an increase in the quantity extracted from oil wells with high marginal cost (wells with high cost become economic after their marginal cost was higher than The price of crude oil), in the case of perfect competition and at the level of equilibrium of supply and demand in the market, the product gets the normal profit, but in the less competitive markets, the producer gets the monopoly profit in addition to the rent. Thus, the extractive marginal cost is considered a ceiling for the price of crude oil, and research plays down The costs of exploration and production activities play an important role in the oil economies, whether in OPEC countries (where production costs are reduced to the lowest level) or in high-cost areas, especially in an environment characterized by low prices and few investments. Reducing costs in these activities depends on two important elements in the oil industries (Abdullah, 2000, 107):

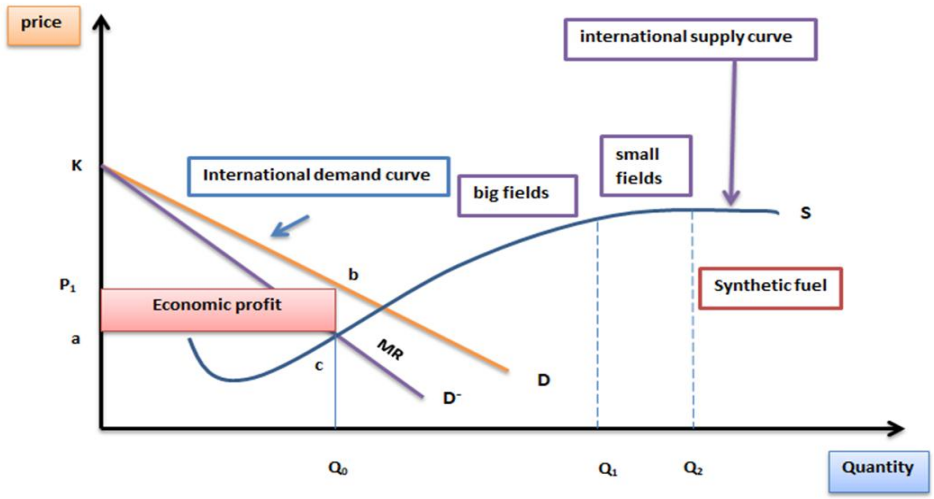
A-**The strategy**: which means good management of the oil industry, close monitoring and cooperation between the various parts of the oil industry, and the trends of the OPEC countries, in which the oil industry is subject to state control, are towards exploiting the most quality and least expensive field, as the distinguishing feature of the costs in the OPEC countries is that they are significantly lower than production costs In non-OPEC countries, costs in many OPEC countries are less than one dollar per barrel, such as Iraq, Saudi Arabia,

and Iran. They rise in some countries, ranging between (3-6) dollars per barrel, as in the United Arab Emirates and Venezuela.

B. **Technology** :

Technology plays a major role in reducing costs in exploration and production operations and in the various stages of the manufacturing industry and working to use the best technological means for the purpose of improving oil products and achieving the maximum benefit from the volume of production achieved with these percentages of costs as it is a depleted resource as the refining industry in OPEC countries is characterized by its smallness, simplicity and adaptability with the provision of The local needs of oil derivatives and it consists of distillation and repair units with limited capacities in diversifying products. The importance of reducing these costs is that whenever the cost of producing crude oil is relatively low, this is reflected positively on the supply of oil and vice versa, and this can be illustrated by Figure 1).

Figure (1) The relationship between the economic cost of producing crude oil and oil prices



Source: Abdul-Sattar Abdul-Jabbar, an analytical study of changes in crude oil prices in the international market (1970-1998), PhD thesis, College of Administration and Economics, Al-Mustansiriya University, 2001, p. 41.

We notice from Figure (1) that the marginal revenue curve (MR) and the global demand curve (KD) in an oligopoly market are above the MR curve.

As for the supply curve (S), which cuts the marginal revenue curve at point (C), it is noted that the exploitation of the least expensive fields starts first, but the volume of aggregate demand requires the exploitation of other fields whose extractive cost is greater, that the international aggregate supply curve cuts the marginal revenue curve at point (C). Which represents the point from which MC equals MR with MR MC=MR)) As for the price, it is determined at point P1, all fields whose

economic cost of extraction is less than the price (Pt) achieve a monopoly profit and vice versa, achieve an exceptional loss.

Because of the high prices of crude oil in the international market due to the increase in global demand, the wells become economically high cost after their marginal cost was below the price of crude oil in the international market, in the case of perfect competition and at the level of supply balance. In the market demand, the producer gets the normal profit, but in the less competitive markets, the producer will get the monopoly profit in addition to the rent, and thus the marginal cost of extracting it is a ceiling for the price of crude oil, noting that crude oil is a source From energy sources of various sources and that if its price level reaches the level (K) in Figure (1), which is termed as the suffocation price, the demand for it will become zero and the demand will go to alternative energy sources whose marginal cost of production becomes economic at the price (K) (Abdul-Jabbar, 2001, 42).

3 - **US dollar exchange rate**: The buying and selling of crude oil in the international market is done in US dollars. Any changes in the US dollar exchange rate are reflected in crude oil prices. When the dollar exchange rate drops, it causes an increase in oil prices, either through direct influence or Indirect, and the direct effect is to increase the intensity of speculation in oil contracts, which will raise oil prices. As for the long-term indirect effect, the decline in the dollar exchange changes the fundamentals of the market by decreasing supply compared to demand despite the high oil prices, and it results due to the lack of growth in production capacity In the long-term, oil-exporting countries have a decrease in their purchasing power, as well as the high costs of international companies that pay the wages of their workers in other foreign currencies, and receive their oil revenues in dollars, not to increase their investment in additional energy, which reduces the supply of oil and raises prices (Abdul Al-Ridha, 2011,112).

It is required to summarize the following that there is an inverse relationship between the dollar exchange rate and crude oil prices and that the continued deterioration of the dollar exchange rate will cost the crude oil exporting countries significant financial losses represented by a decrease in their real oil revenues, as well as the depletion of their reserves as a result of exporting twice the previously exported quantity (before the deterioration of the dollar) if She didn't want to get the same real cash value before the deterioration.

4- **The oil price elasticity of supply:**

The flexibility of oil price supply is characterized by being low in the short term, if not non-existent, because investment operations require a relatively long period. While we find that the price elasticity of oil supply is characterized by being relatively elastic in the long run (Daoud, 1992, 43-44).

5- **Requirements for achieving economic development and imported inflation**:

Most of the major oil producing and exporting countries are characterized as developing countries with a unilateral economy that mainly depends on the money derived from crude oil exports to the international market. Crude because of the increase in the supply of it, and thus the need for hard currency arises again due to the decrease in the total oil revenue, which pushes those countries to increase production again, and so the process continues to increase production and decline in prices.

As for imported inflation, most of the oil-exporting countries are importers of goods and services from the international market, and therefore the state of inflation pushes them to increase oil production to cover import requirements, and this creates a surplus in the international oil supply that leads to a reduction in crude oil prices in the international market (Al-Maraj, 2002, 17).

6- **The movement of crude oil storage**: It means the strategic oil stockpile, which is large quantities of oil stocks that are sufficient for the needs of the country consuming oil and its derivatives for a period ranging from one to three months in the event that supplies are interrupted for some reason. Avoiding disruption of oil supplies, but storage has later become a tool to influence crude oil prices by affecting the total volume of supply and demand for crude oil. The international market pushes prices downward, as the countries that own the stockpiles have turned into countries that affect the volume of oil supply in a similar way to the countries producing crude oil by doing that storage, and the stock has also become a fertile field for oil speculation, and the global strategic oil storage plays a major role in the international oil market, as it is one The most important influences on global oil supply and demand, especially after its role has evolved from a mere emergency stockpile to fill the shortfall in oil supplies to a strategic stockpile that affects a wider movement. The price of crude oil determines its ups and downs by influencing the total volume of oil demand and supply, and affects the price and production policies of OPEC (Nouri, 1992, 15).

The second requirement: the economic factors affecting the global demand for crude oil:

The focus will be on two types of demand, demand for the purpose of consumption and demand for the purpose of speculation, and the demand for oil is going through several changes as the global demand for oil is constantly increasing, and the demand for oil for consumption is affected by the increase in global economic growth rates, which contributed to the increase in demand for oil The entry of China and India and the increase in their consumption of oil affected the global demand for oil.

As for the demand for oil in order to speculate in the future oil markets, these markets have been known since the mid-eighties of the last century, when brokers and speculators entered international markets with the intention of making profits. When speculators in these markets are in an active state, prices will rise significantly and vice versa when speculators refrain from entering these markets (Ali, 1998, 17), and global demand for crude oil is generally characterized

as inelastic in the short term, due to the lack of alternative energy sources and this is what Contributes to price changes, as it is known in economic theory that the price of any commodity is what determines mainly the volume of demand for it as well as the direction of that demand. substitute goods (Al-Ugaili, 2001, 25), Therefore, the policies pursued by the producing countries in dealing with the nature of demand for oil vary, and the consuming countries are looking for alternatives to it, as well as following policies aimed at reducing dependence on oil and controlling its consumption through various measures, including the imposition of a carbon tax (a tax on consumption). If we follow global oil consumption, we note It increased by a large percentage after World War II, and this increase was closely related to the extent of the use of petroleum products, and research confirms that the energy demand will rise without stopping, and this will include all types of energy, including oil, which will maintain the lead throughout the coming decades, and these researches differ only In the size of the rise that will be affected by how the oil is used and environmental considerations (Abdullah, 2000, 25). In general, the global demand for oil is affected by several factors, including:

1- Global economic growth rate:

The wheel of the global economy, when it turns, needs sources of energy for its rotation, and that the countries of the world seek to achieve growth rates in their economies, whether they are developed or developing countries, and that the sum of these rates constitutes the global economic growth rate is one of the main determinants of oil consumption in the world. The high rates of economic growth were accompanied by high rates of energy consumption, and the demand for energy and crude oil is closely related to the level of economic activity and its growth rates, which is one of the most important factors affecting the volume and direction of demand up and down. In the demand for crude oil as a result of the change in domestic product), which is calculated by dividing the rate of change in demand by the rate of change in domestic product (GDP), and this elasticity is currently estimated at about two-thirds of the correct one, meaning that every 1% increase in GDP results in An increase in demand of about 0.7.

For this reason, most studies on oil demand consider that there is a direct relationship between changes in the volume of its consumption and changes in the volume of GDP, from the obvious. From this point of view, every change in income leads to a change in oil demand, and in the same direction. However, this relationship cannot be measured in this simple way, because measuring the impact of GDP on oil demand is not without difficulty, because the demand for oil is one of the factors in the production process, including capital (K) and labor (L), the capital ratio To work is (γ)(**Bassam :2007, 4**)

$$\gamma = \frac{K}{L}$$

The higher this ratio, the greater the elasticity of demand for crude oil as a demand derived from the demand for petroleum products needed to operate machinery and equipment.

In order to reach the effect of the economic growth rate on the growth of demand for oil, the energy coefficient index or the energy consumption coefficient is usually used, which is (the result of the percentage change in energy consumption divided by the change in national product), but this factor is in The first periods of economic growth are increasing affected by the increase in income and national product, and in later stages of saturation, i.e. reaching a stage and a high level of economic and social development, this coefficient decreases, and it can be represented by the following formula (Bassam, 2007, 25):

(Energy consumption value per change) / (National output per change) = Energy factor x 100

2- Oil prices and the nature of its price elasticity:

The price elasticity of demand is defined as the relative change in the quantity demanded to the relative change in its price. In general, the nature of the relationship between the required quantity and prices is described in the opposite way, according to the law of demand and for the various types of commodities. However, the nature of the oil commodity and its prices in the short term are described as low elasticity, meaning that The rise in oil prices does not result in a decrease in the required quantity, and also the decline in oil prices does not result in a rise in the required quantity. This situation is described (relative stagnation in the demand for oil), as the historical facts of the development of oil prices and global oil consumption show that there are limited consumer reactions to the change in prices In the long term, the relationship is described as highly flexible, because adapting to changes in the market in the long term requires periods of time that may take a decade or more, and the monopolist can invest the demand in the short term, which is a relatively inelastic demand in his favour, by imposing a higher price. For its production, the reason for this is due to the lack of sufficient and efficient alternatives to crude oil from an economic point of view, and because oil is a strategic material that can only be It will be dispensed with, and because it occupies a large space in all fields, including service and productivity (Al-Hiti, 2000, 149).

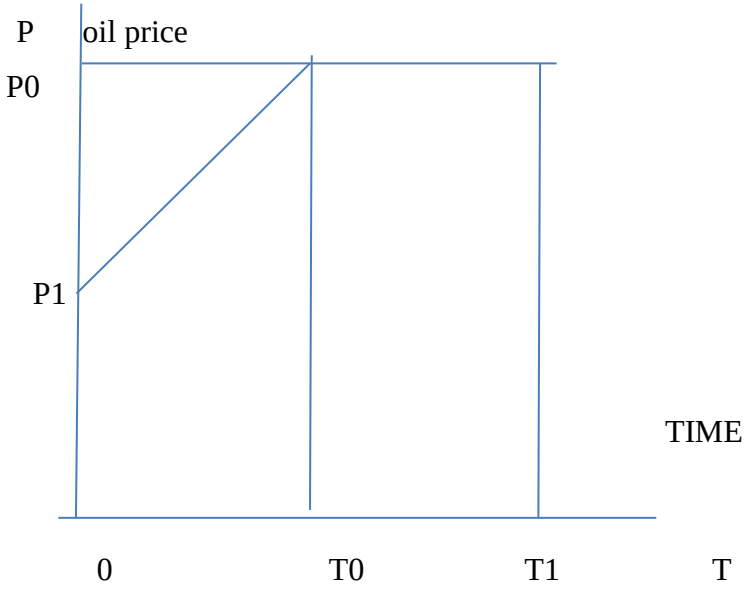
3- **Availability of energy alternatives**:

The concept of alternatives to crude oil means that it is the available energy source that can be used and not substituted for crude oil, especially when prices rise. In other words, it means replacing the original source with another source when the oil price reaches a level that exceeds its cost and development level, and that the possibility of obtaining alternatives to replace crude oil And its products in use constitute a factor affecting the price of crude oil in the international market, but these alternatives, in order to replace crude oil and its products, are subject to two restrictions (Al-Samarrai, 1999, 12):

The first constraint is the cost of production: The technology for developing the alternative resource works when the price of crude oil reaches a level where it becomes sufficient to cover the cost of developing the alternative source of crude oil.

The second constraint is the technological pattern: the prevailing technological pattern constitutes a constraint on the replacement of alternatives to crude oil, and more precisely, the elasticity of the current demand for alternatives varies from one oil product to another, and this matter will certainly lead to the development of alternative energy sources such as nuclear and solar energy, and thus the use of oil For energy purposes on the amount of rapid replacement of technologies developed for alternative energy. And as (Solow) showed that with the occurrence of substitution, the market price of the metal or its substitutes will stop rising (Solow, 1974, 4. Economist William Nord House (WD Nord house) points out that there is a so-called backstop technology when the price of crude oil reaches the so-called throttling price and the replacement process occurs, which is the highest price that crude oil reaches, so any price of a barrel of crude oil is higher The price of suffocation is higher than the price of the alternative source of energy, which pushes the energy consumer to buy the cheaper alternative, meaning that the demand for crude oil is zero. In other words, at the price of suffocation, consumers turn to alternative energy sources that will become economical at that price ((Perman & others,1998, 150). Below is figure (2) illustrates the suffocation price of crude oil in the international market:

Figure (2) The suffocation price of crude oil in the international market



Ahmed Hussein Al-Hiti , Introduction to the Oil Economy, first edition, Beirut, the Model House for .Printing and Publishing, 2011, p. 126

It is possible to use figure (2), which shows the path of the oil price and the presentation of the alternative resource. When the alternatives are completely flexible at the price (P0), that is, the possibility of obtaining them in large quantities, through which the international demand for crude oil can be covered. In Figure (2) it is noted that in the period (T0-0) the price of crude oil (P1) continues to rise, and in The

end of the period (T1)) The price of crude oil reaches the point (P0), at that price the demand for crude oil stops and the alternative sources are able to cover the global demand for oil, which leads to consumers switching to these sources that will be flexible and cover the demand for oil, which Contributes to the decline in crude oil prices in the international market (Al-Hiti, 126, 2011). From the foregoing, the impact of alternative energy sources at the present time on crude oil prices is almost non-existent, as oil prices are still high, despite the great development and progress in other energy sources, but it may have a significant impact on crude oil prices in the future, and thus on the revenues of oil countries.

The third requirement: non-economic factors affecting the price of crude oil

1- The Political factors and emergency crises:

Political factors are among the important factors influencing the international oil market. On the part of the producing countries, most of the oil production is concentrated in the Arab Gulf region, which is a hot area, whether at the level of internal disputes, such as Bahrain and Iraq, or foreign policy, such as the differences between Iran On the one hand and Saudi Arabia, or the political differences between Iran and America and European countries in the Iranian nuclear issue, any political tension that occurs in the region will have repercussions on the supply of oil and prices, which will negatively affect the oil revenues of the Arab Gulf states. As for the advanced industrial countries, their policy has long been characterized by maximizing their economic interests, and given the importance of crude oil for the military and economic national security of the United States of America and the rest of the advanced industrial countries, as it is the cheapest alternative available at the present time and is a major source of energy needed to operate the military and industrial machine, it seeks to Maximizing its consumption by exerting political pressure on crude oil producing countries and by allying with a number of them and waving the military and economic boycott of others, and adopting international strategies with the aim of increasing international supply and achieving a surplus of international demand, not keeping crude oil prices at low levels. Inflation and stagnation are phenomena Which affects the global economy, which affects the global demand for crude oil. During the eighties, the global economy fell into a recession, which led to a significant decline in demand for oil and turmoil in energy markets.

Emergency conditions and crises (stagnation and inflation) have played a major role in causing sharp fluctuations in crude oil prices in the short term, especially wars and political turmoil on the supply side of crude oil and then on crude oil prices. As a result of the October 1973 war, the first oil shock appeared (First Oil). Shock), which turned the crude oil market into a sellers' market on the one hand, and the emergence of the second oil shock in 1979 during the Iranian revolution when the price of crude oil rose to (34) dollars for Arab light oil on the other hand, but in 1983 the opposite shock appeared and oil prices fell Crude and (OPEC) countries lost their control over price setting, and a number of specialists attribute most of the price spikes that occurred to those conditions (The Economist, 2000, 97).

2- **Policies to reduce environmental pollution:**

In the second half of the eighties of the twentieth century, the problem of environmental deterioration occupied the forefront of the list of challenges the world faced. The issue of carbon dioxide emissions prompted workers in the oil industries to shift their focus from the possibility of depleting oil resources. and scarcity of supply, to issues The impact of fossil fuels on environmental pollution and climate change (Climate Change), and despite the scientific uncertainty that carbon dioxide emissions cause global warming, attention has focused on imposing a tax in industrialized countries on products whose consumption leads to the emission of carbon dioxide. Carbon dioxide as a means to influence the volume of demand for these products through prices, and to charge the cost of pollution to the cause of pollution by what is known as the carbon tax, and that the imposition of these taxes aims to increase the prices at which they are sold to the final consumer, meaning that the countries that impose them do not use them to reduce pollution Not only, but you use it to put pressure on OPEC, and reduce the demand for oil, and the evidence is that coal is more polluting than crude oil, and a carbon tax has not been imposed on it.

From the foregoing, we conclude that the factors we mentioned previously affect the prices of crude oil, and accordingly oil revenues will be affected, which will affect the volume of oil revenues that can be used in economic diversification, but the impact of these factors is in different proportions, as the low costs of unconventional oil production (shale oil) It was the main factor in the significant decline in crude oil prices in the international market at the end of 2014 and has continued until now, which caused a significant decrease in oil revenues, which led to a reduction in the general budget of oil countries, especially Iraq in general, and investment allocations in particular, and if this continues The decline for a long time, it contributes to slowing down the process of economic diversification of these countries because of the dependence on oil revenues in it.

Conclusions

1. The global demand for oil will grow at modest rates, driven by economic growth in the developing countries, which account for most of the increase in demand, especially since the demand in developed countries has reached its peak.

2. It is not possible to neglect the non-economic factors, and the political factor, which appeared clearly in the last century, is considered the most influential in the fluctuations of international crude oil prices.

3. The oil reserves of the capitalist countries contributed to increasing the ability of those countries to control oil prices from time to time.

4. The supply side is the general trend of most expectations of a decline in the production of conventional oil from outside OPEC and an increase in the production of unconventional oil and energy alternatives in general.

5. Oil prices are determined to some extent according to the mechanics of the economy (supply and demand), and besides that, the political factor has an economic impact.

6. The growth of the global economy is the main determinant of the demand for oil in the short and long terms, and therefore any decrease in the growth of the global economy will lead to a decrease in the demand for oil, and conversely, any recovery in economic growth will lead to an increase in the demand for oil.

7. Oil prices play a major role in increasing supply in the short term, followed by reserves and then OPEC's share in the international oil market, and the impact of oil alternatives is negative in the short term and in a relatively small percentage, but in the long term the impact of oil reserves has a major role on oil supply, followed by The share of OPEC, then oil prices, and the impact of oil alternatives is significant in the long term.

Recommendations

1. Working on defining oil production and adopting a policy of setting flexible prices for crude oil and maintaining the stability of global markets.

2. To avoid fluctuations in crude oil prices, we must diversify the sources of energy production and resort to different types of multiplicity of energies, such as traditional non-renewable energies and renewable energies in general.

3. The oil-producing countries must regulate the production and supply of oil in the global market, in line with the requirements of preserving this depleted wealth.

4. The producing and consuming countries should increase investments in production and subsequent operations in order to maintain a stable and stable level of production in the global oil markets and to get rid of fluctuations in order to reach a state of equilibrium.

5. The necessity for the oil-producing countries to reduce their actual production capacities to the limits commensurate with the level of demand, which is expected to be relatively low, and with the actual and basic needs for development and necessary consumption because the excess production capacity constitutes a constant threat to the price levels in the global market for crude oil.

6. Conducting accurate geological surveys on the oil industry and other energy sources in the oil-producing countries, with the need to use the scientific aspect in analyzing data on oil reserves in order to reduce future uncertainty in oil prices.

7. The need to find objective criteria to determine the fair share of OPEC in the world market and to determine the fair price of a barrel of oil, as well as the need to create a body to monitor prices and production to follow up on the commitment of member states to the decisions of the organization.

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