کنفرانس بین المللی
مدیریت واقتصاد در قرن ۲۱
۱۲ اسفند ۱۳۹۴
International Conference on
Management and Economics in 21 Century
2 March, 2016

Is OPEC A Cartel?

Javid Nafari
M.B.A. Amir Kabir University of Technology
Email: j.nafari@aut.ac.ir

Abstract

Even though the theory of cartels, especially international ones, is not fully developed in the literature, some characteristics can be detected that is found in every cartel. This study tries to find out the existence of these characteristics in six commodity cartels including OPEC. Also, it compares the Seven Sisters which was a cartel to OPEC. Even though other cartels are and have been more successful than OPEC, many sources use OPEC as a cartel example. Neither theory nor statistical studies fully support the popular use of OPEC as a cartel. This research shows that OPEC is composed of Saudi Arabia, the dominant world producer, and several sub-groups all of which have separate models that explain the behavior of each member. Mistakenly assigning the power of some members to OPEC has resulted in confusion about its behavior and its nature.

Keywords: OPEC – Cartel Behavior – Oil and Gas

1. About OPEC

1.1 Member Countries

The Organization of the Petroleum Exporting Countries (OPEC) was founded in Baghdad, Iraq, with the signing of an agreement in September 1960 by five countries namely Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. They were to become the Founder Members of the Organization.

These countries were later joined by Qatar (1961), Indonesia (1962), Libya (1962), the United Arab Emirates (1967), Algeria (1969), Nigeria (1971), Ecuador (1973), Gabon (1975) and Angola (2007). From December 1992 until October 2007, Ecuador suspended its membership. Gabon terminated its membership in 1995. Indonesia suspended its membership in January 2009, but this was reactivated from 1st January 2016.

This means that, currently, the Organization has a total of 13 Member Countries.

The OPEC Statute distinguishes between the Founder Members and Full Members - those countries whose applications for membership have been accepted by the Conference.

The Statute stipulates that “any country with a substantial net export of crude petroleum, which has fundamentally similar interests to those of Member Countries, may become a Full Member of the Organization, if accepted by a majority of three-fourths of Full Members, including the concurring votes of all Founder Members.”

The Statute further provides for Associate Members which are those countries that do not qualify for full membership, but are nevertheless admitted under such special conditions as may be prescribed by the Conference.

1.2 A Brief History

The Organization of the Petroleum Exporting Countries (OPEC) is a permanent, intergovernmental Organization, created at the Baghdad Conference on September 10–14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The five Founding Members were later joined by nine other Members: Qatar (1961); Indonesia (1962) – suspended its membership from January 2009-December 2015; Libya (1962); United Arab Emirates (1967); Algeria (1969); Nigeria (1971); Ecuador (1973) – suspended its membership from December 1992-October 2007; Angola (2007) and Gabon (1975–1994). OPEC had its headquarters in Geneva, Switzerland, in the first five years of its existence. This was moved to Vienna, Austria, on September 1, 1965.

OPEC's objective is to co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.

The 1960s

OPEC’s formation by five oil-producing developing countries in Baghdad in September 1960 occurred at a time of transition in the international economic and political landscape, with extensive decolonization and the birth of many new independent states in the developing world. The international oil market was dominated by the “Seven Sisters” multinational companies and was largely separate from that of the former Soviet Union (FSU) and other centrally planned economies (CPEs).

OPEC developed its collective vision, set up its objectives and established its Secretariat, first in Geneva and then, in 1965, in Vienna. It adopted a 'Declaratory Statement of Petroleum Policy in Member Countries' in 1968, which emphasized the inalienable right of all countries to exercise permanent sovereignty over their natural resources in the interest of their national development. Membership grew to ten by 1969.

The 1970s

OPEC rose to international prominence during this decade, as its Member Countries took control of their domestic petroleum industries and acquired a major say in the pricing of crude oil on world markets. On two occasions, oil prices rose steeply in a volatile market, triggered by the Arab oil embargo in 1973 and the outbreak of the Iranian Revolution in 1979. OPEC broadened its mandate with the first Summit of Heads of State and Government in Algiers in 1975, which addressed the plight of the poorer nations and called for a new era of cooperation in international relations, in the interests of world economic development and stability. This led to the establishment of the OPEC Fund for International Development in 1976. Member Countries embarked on ambitious socio-economic development schemes. Membership grew to 13 by 1975.

The 1980s

After reaching record levels early in the decade, prices began to weaken, before crashing in 1986, responding to a big oil glut and consumer shift away from this hydrocarbon. OPEC's share of the smaller oil market fell heavily and its total petroleum revenue dropped below a third of earlier peaks, causing severe economic hardship for many Member Countries. Prices rallied in the final part of the decade, but to around half the levels of the early part, and OPEC's share of newly growing world output began to recover. This was supported by OPEC introducing a group production ceiling divided among Member Countries and a Reference Basket for pricing, as well as significant progress with OPEC/non-OPEC dialogue and cooperation, seen as essential for market stability and reasonable prices. Environmental issues emerged on the international energy agenda.

The 1990s

Prices moved less dramatically than in the 1970s and 1980s, and timely OPEC action reduced the market impact of Middle East hostilities in 1990–91. But excessive volatility and general price weakness dominated the decade, and the South-East Asian economic downturn and mild Northern Hemisphere winter of 1998–99 saw prices back at 1986 levels. However, a solid recovery followed in a more integrated oil market, which was adjusting to the post-Soviet world, greater regionalism, globalization, the communications revolution and other high-tech trends. Breakthroughs in producer-consumer dialogue matched continued advances in OPEC/non-OPEC relations. As the United Nations-sponsored climate change negotiations gathered momentum, after the Earth Summit of 1992, OPEC sought fairness, balance and realism in the treatment of oil supply. One country left OPEC, while another suspended its Membership.

The 2000s

An innovative OPEC oil price band mechanism helped strengthen and stabilize crude prices in the early years of the decade. But a combination of market forces, speculation and other factors transformed the situation in 2004, pushing up prices and increasing volatility in a well-supplied crude market. Oil was used increasingly as an asset class. Prices soared to record levels in mid-2008, before collapsing in the emerging global financial turmoil and economic recession. OPEC became prominent in supporting the oil sector, as part of global efforts to address the economic crisis. OPEC's second and third summits in Caracas and Riyadh in 2000 and 2007 established stable energy markets, sustainable development and the environment as three guiding themes, and it adopted a comprehensive long-term strategy in 2005. One country joined OPEC, another reactivated its Membership and a third suspended it.

2010 until now

The global economy represented the main risk to the oil market early in the decade, as global macroeconomic uncertainties and heightened risks surrounding the international financial system weighed on economies. Escalating social unrest in many parts of the world affected both supply and demand throughout the first half of the decade, although the market remained relatively balanced. Prices were stable between 2011 and mid-2014, before a combination of speculation and oversupply caused them to fall in 2014. Trade patterns continued to shift, with demand growing further in Asian countries and generally shrinking in the OECD. The world's focus on multilateral environmental matters began to sharpen, with expectations for a new UN-led climate change agreement. OPEC continued to seek stability in the market, and looked to further enhance its dialogue and cooperation with consumers, and non-OPEC producers.

1.3 OPEC's Mission

In accordance with its Statute, the mission of the Organization of the Petroleum Exporting Countries (OPEC) is to coordinate and unify the petroleum policies of its Member Countries and ensure the stabilization of oil markets in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers and a fair return on capital for those investing in the petroleum industry.

2. Literature review

OPEC's cartel behavior

Unsurprisingly the OPEC's growing power and dominance in the late 70s and also the growing perception that OPEC could affect the world's oil prices started a series of empirical studies about OPEC's behavior as a cartel. However there seems to be no absolute consensus in the literature about OPEC's price influencing power. Studies from 1980s through the early 1990s suggested that OPEC was a "collusive cartel". For example, Griffin tested each country's behavior in both OPEC and non-OPEC members for the period of 1971 to 1983. He suggests that most OPEC members behave as if they were part of a collusive cartel, but non-OPEC countries behave as if in Bertrand competition. Jones draws the same conclusion for the 1983 t0 1988 period, whereas Loderer concludes that OPEC could affect oil prices only between 1981 and 1983. On the other hand, other investigations like Spilimbergo find no evidence for the hypothesis that OPEC was a market-sharing cartel in the period of 1983 to 1991. The same results were found by other researchers only by using different techniques. For example, Gulen investigates whether or not OPEC is a cartel with members who agree on their assigned role, and whether or not OPEC has the strength to influence the market price by adjusting its production. Gulen finds that, all in all, OPEC is not cohesive. Xiong calculates joint-profit-maximizing price paths and shows that for some of the member countries it is more profitable to cheat on the assigned quota by the organization, even though the possibility of punishment was high. AL hajji and Huettner test the dominant producer hypothesis for OPEC, the OPEC core, and Saudi Arabia when non-OPEC oil producers are considered and treated like a competitive fringe. The fin proof that neither OPEC nor the OPEC core are dominant producers. More recently, Smith found evidence that OPEC's market structure is something in between a cartel and a non-cooperative oligopoly.

There are 13 studies that did statistical tests but only two of them (Griffin, 1985; Jones, 1990) found data and evidence to support the cartel model. The 11 other studies found support for some form of oligopoly in the international oil market.

We can only find some studies discussing the differences among OPEC and the cartel theory. Most of these studies were small parts of much larger studies except for one conducted by Plaut.

Other studies include Elsarafy, Araim and Johany. These compare cartel characteristics in economics literature with OPEC. All the three studies show that OPEC is not a cartel. None of them used any statistical tests and also none of them could explain the transfer of wealth to OPEC members.

Brown mentioned that OPEC is different to other commodity cartels and the reason is that, 'no formal provisions existed concerning market sharing, production controls, price levels or penalties for non-complying members.'

3. International Commodity Cartels

Throughout history one can find and notice many commodity cartels. In this article the focus is on some commodity cartels in the 20th century and it includes these commodities: rubber, coffee, tin, bauxite, diamond and oil. Extracted from economic literature, we can find six characteristics for a cartel. And they are:

- A quota system and the monitoring of it in order to distinguish violations and violators.
- Dividing the market through a quota system.
- Punish cheaters by a punishment mechanism.
- Using the cartel authority to make sure that the cartel, not the members, has power.
- Preventing erosion of market and product substitution by using cash and buffer stocks.
- A large market share to control the market.

3.1 Monitoring system

If you want to punish someone, first you need to detect and observe the wrong action, therefore, a cartel usually has a monitoring system to supervise production and shipments. The individual monitoring system that all cartels have, belongs to and is created by the cartel not the members. The coffee cartel got help from an auditing company to supervise. The (ICO) requires all exporting members to issue certificates of origin for every shipment. The International Rubber Agreement requires a certificate of origin for exportation. The Diamond Cartel has a special way of monitoring; it buys all the diamonds in the world from its producers.

OPEC established the Ministerial Monitoring Committee 25 years after its establishment. Although, this monitoring system differs from the systems established by other cartels. OPEC will send monitors if it suspects a country of violating, but this doesn't include certification of exports and it also is for a short period of time. On the contrary, the monitoring system of other cartels was around the clock.

3.2 Quota system

From its birth, a cartel assigns quotas to the members, but there were no quotas in OPEC until 1983, not until 23 years after being established. But even after assigning quotas the OPEC members did not act according to their quota. Other cartels assigned quotes at the birth of the cartel. And most of the times, these assigned quotas were followed, monitored and enforced. The Tin Producer Association (TPA) and the International Tin Council (ITC) and all the following tin agreements have had a quota. All international coffee agreements, including the International Coffee Organization (ICO) have a quota system. In the diamond, rubber, and bauxite cartels we have the same system. Even unsuccessful cartels, such as the sugar cartel, the International Wheat Agreement of 1933, the International Copper Cartel, International Cocoa Agreement, and the International Tea Committee, all had a quota system from their birth. The lack of a quota system between 1960 and 1983 is a strong point against the argument of those who see OPEC as a cartel. OPEC moved towards the cartel status after implementing the quota system in 1983; although, many economists argue that despite the quota system, the international oil market became more competitive after the implementation of the quota system.

3.3 Punishment mechanism

The main theme and characteristic in every classic cartel is punishment and a mechanism for punishment in order to prevent members form violation and cheating. OPEC has no punishment mechanism but other cartels do. For example, in the tin cartel the cheater's quota will be reduced for the next quarter. In the coffee cartel, cheating countries will suffer a future quota reduction equal to the amount of the over-shipment. Second and third over-shipments have double-deduction penalties for the over-shipment. Repeated violators may be expelled from the organization with a two-third voting majority. In the diamond cartel the punishment is much more with De Beers acting as the cartel authority. De Beers uses the buffer stocks to punish quota violators who, by lowering the price of their type of diamond, want to leave the cartel. This punishment was done against Zaire in 1981, when the country decided to market its production autonomously until it returned to the cartel.
Some economists say that Saudi Arabia increased production in 1986 as a way of punishment, and the invasion of Kuwait by Iraq was another form of punishment. Although these could be true and defendable, the punishment was not enforced by OPEC as an organization.

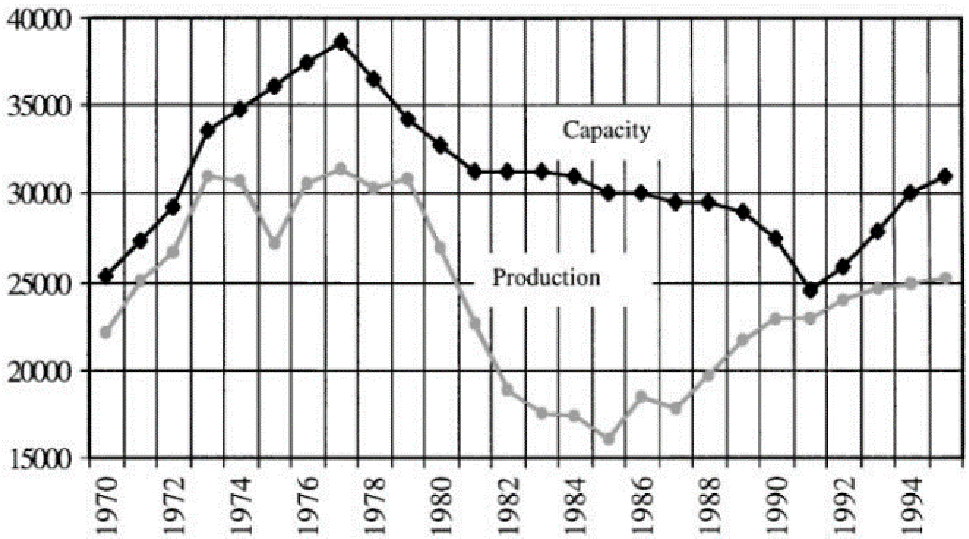
3.4 Cartel authority

A cartel always wants to have more authority than its members. But this is not true for OPEC, because in OPEC the members have production independency. Authority in other cartels is above the members. The tin cartel has the power and authority to order a member to lower its production to maintain the price floor. Not following these orders will result in punishment. De Beers signs specific long-term contracts with major producers to supply a specified amount of its annual sales. This system guarantees that a reduction in the demand will result in a reduction in production.

3.5 Side payments or buffer stocks

One of the characteristics of a classical cartel is side payments or buffer stocks. A producer gets a side payment from the cartel to keep its production low or at zero to maintain higher prices. Step by step, cartels developed a buffer stock system to handle these situations. The aim of buffer stocks is to keep prices in a desired range for the cartel. The cartel will collect and maintain a fund and keep part of the commodity in stocks. When prices go down under the minimum price, the cartel buys the commodity on the market and increases the price. When price goes over the maximum price, the cartel sells to decrease prices and to prevent substitution. But OPEC has never had a system like this.
A cartel sets a minimum price when prices are fluctuating above that minimum and will prevent price declines below that minimum. OPEC does not set or have a minimum price as other cartels do. OPEC sets a guideline price and prices fluctuate around it without limits. The most important issue is not the minimum price but defending that price. Studies shows us that OPEC, has never had the ability to support its official price. Prices may have been supported by Saudi Arabia or other oil producing countries but not by the actions of OPEC as an organization.
Other cartels are normally successful in supporting their minimum prices. Between 1957 and 1977, the (ITC) interfered in the market 30 times to increase the price above the current level. And the ITC defended the price in almost all the scenarios but one. Studies show that prices were more stable during the time of the tin agreements than other periods. At worst, critics agree that the tin agreement has only marginally reduced the instability of prices. Buying directly from their market was another way for ICO and other commodity cartels to support their minimum prices.
OPEC may not have or use any of these strategies but we can say that the capacity in the major producing countries is the mentioned buffer stock and OPEC has used it many times in the past to affect prices. Fig. 1 shows the production and production capacity of OPEC members between 1973 and 1994. As it is obvious in the chart, the excess capacity exists mainly in three countries: Kuwait, The U.A.E, and Saudi Arabia. At most of the times other members didn't have excess capacity produced. But, the major difference between OPEC and other cartels is that buffer stocks are

controlled by the cartel and are an agreement in the cartel. In OPEC the excess capacity is controlled by individual countries and it is based on the interest of the country, not the interest of OPEC.
After the price decrease in 83 the Middle Eastern members decreased production in order to stabilize the prices but on the other hand, the remaining members increased their production. This decision was made by the individual countries and not by OPEC. In 1992, in an OPEC meeting in Vienna, all members except Saudi Arabia decided to cut production to increase oil prices. Saudi Arabia rejected the agreement and threatened to use its excess capacity to increase production and to compensate for any cut so that oil prices would not increase. The Saudi government said that higher oil prices will hurt the American economy. Therefore, this helped President Bush who was running for re-election. Bush had helped the Saudis defend their land during the Kuwait war.
Many examples show that the Saudis both alone and sometimes joined by the UAE and Kuwait, have used their excess capacity for their personal interest at the expense of OPEC as a whole. In fact, about 90% of the output cuts in 1973 that led to the claimed success of the cartel were made by only three countries: Saudi Arabia, making approximately 60% of the cuts, Kuwait, and Libya.



Source: Capacity Data: Energy Statistics Source Book, 1996
Production Data: API Basic Petroleum Data Book, 1997

Fig. 1. OPEC capacity Versus Production (Thousands of b/d) 1970-1995

3.6 Large market share

Table 1 shows OPEC oil production and market share 1970 to 1999. As shown, OPEC's market share has not ever exceeded 56% even at its best and it declined to 30% in 1985. All other commodity cartels have a market share much larger than that of OPEC. The coffee cartel has more than 90% of the world production. The tin cartel has over 90% at birth. The fifth ITA controlled 87% of the world tin production in 1987. The bauxite cartel had 84.6% of the market share in 1976 and 72.7% of the world production for the same year. In 1984, the IBA had 73% of the world market. Even unsuccessful cartels like the International Copper Cartel, without Canada and the US controlled 70%, a market share larger than that of OPEC.Up to this part of the discussion it seems that the cartel theory fits other commodity organizations better than OPEC. Although there is much evidence to support the theory of cartels for other commodity organizations, many experts argue that most of these commodity organizations are not cartels. Gocht et al. (1988) argue that the IBA is not a cartel; Araim (1991) says that none of the commodity organizations are actually cartels. So what is OPEC If they are not cartels?

Table 1.
OPEC oil production and world market share 1973-1999 (Thousands of barrels per day)
*Source: From 1970 to 1993, Energy Statistics Source Book (1994). From 1994 to 1999, International Petroleum Statistics Report, May 1997, and Monthly Energy Review, January 2000.

Year	Production	Market share (%)
1970	23,371.9	51.50
1971	25,239.3	52.45
1972	26,860.5	53.23
1973	30,827.3	55.80
1974	30,443.9	54.70
1975	27,073.9	51.02
1976	30,384.3	53.18
1977	30,953.3	51.82
1978	29,741.2	49.36
1979	30,674.3	48.89
1980	26,851.3	44.99
1981	22,553.5	40.25
1982	18,663.4	35.09
1983	17,394.7	32.85
1984	17,438.9	32.15
1985	16,018.4	30.00
1986	18,064.8	32.41
1987	17,786.3	31.80
1988	19,644.2	33.85
1989	22,042.6	36.95
1990	23,356.9	38.77
1991	23,433.0	39.04
1992	24,394.6	40.66
1993	25,020.8	41.90
1994	24,812.0	40.67
1995	25,179.0	40.32
1996	25,826.0	40.35
1997	27,112.0	41.04
1998	28,762.0	43.00
1999	27,769.0	42.29

3.7 Other differences

There are some additional differences between OPEC and other commodity cartels that support the idea of them being closer to the cartel theory than OPEC. The other differences are**:**

(I) the voting process in OPEC is different from other cartels. The vote in OPEC is by country regardless of production and reserves, which means Saudi Arabia, with a much larger estimated reserves and current production than Qatar, has official voting power similar to that of Qatar. But in other commodity cartels things are different and the members with larger production or exports or in other words the dominant producer(s) have the stronger vote and more power in the cartel. We can see this in the tin, coffee, bauxite, rubber, and diamond cartels. For instance, Malaysia was the largest tin producer in the Fifth International Tin Agreement and it held 37.06% of the votes while other producers held much smaller percentages based on their production. Australia and Nigeria held 6.67% and 2.3%, respectively. One could argue that despite the fact that the official voting process in OPEC does not reflect the power of large producers, large producers have tremendous power behind closed doors. Although this has been the case during many historical meetings since 1960, this difference between OPEC and other cartels is significant. The power of large producers in other cartels is official, public, and agreed on, while the ‘behind closed doors' power of large producers can vary from time to time and depends on the country's bargaining power.

(II) Although OPEC established the quota system in 1983 but it did not allocate any quotas to Iraq and Saudi Arabia, on top of that the lack of a monitoring system and a punishment mechanism kept the system of OPEC loose. This was not the case in other commodity cartels. But Saudi Arabia increases

or decreases its production to meet demand based on its needs and estimations, not because of OPEC orders.
(III) The current OPEC quota system is based on reserves and current production capacity and not on current and previous levels of production. These levels and figures are estimated by the members themselves and no method for documenting them that is approved by the cartel. This fact keeps the weakness of the OPEC quota system in tact because the member countries can exaggerate their levels and figures to have a higher quota. The most important thing to keep a cartel alive is accurate information. The existing information system doesn't help the OPEC authority in gathering meaningful quota allocation. Other commodity cartels base their quotas on previous levels of exports, which is monitored by the cartel authority with export licensing or other methods.
(IV) The OPEC's largest producer's market share is much less than the market share of the largest producer in any other commodity cartel. The highest market share of Saudi Arabia was 17% in 1981 and it came down to 6% in 1985. Malaysia controls more than 40% of the world rubber production. In 1995, Australia produced 39% of the world production of Bauxite, while Saudi Arabia produced only 13% of the world oil production. Malaysia controls more than 30% of the world tin production. In 1993, Brazil produced 30% of world coffee production (ICO, 1994), and controls a large portion of the bauxite market.
(V) Unlike other commodity cartels' members, OPEC members are very dependent on their cartel commodity as a source for income. Brazil, Malaysia, Australia, Jamaica, Bolivia, Zaire, South Africa, and Colombia are all countries with other sources of income other than the cartel commodity. Every OPEC members is very highly dependent on oil revenues. Table 2 shows the percentage of fuel exports in the total exports of Saudi Arabia and the percentage of primary goods exports (excluding fuel) in the total exports of Malaysia, Brazil, and Jamaica. The table demonstrates the dependence of Saudi Arabia on oil exports, which represents over 80% of total exports.25 Other leading commodity producers depend less on their primary commodities. For instance, only 50% of Brazilian exports are primary commodities, which include coffee, bauxite and other commodities; only 40% of the total exports of Malaysia and Jamaica represent primary commodities. Therefore, other commodity cartels have larger and more diverse sources of income to fund buffer stock purchase when prices are low.

Table 2
Percentage of oil exports and other primary commodities of total exports. Main producing countries of oil, bauxite, tin, rubber, and coffee, 1970-1988 (Source: The World Bank/ 'World Tables' 1995)

Year	Saudi Arabia, fuel exports	Brazil, exports of primary commodities	Malaysia, exports of primary commodities	Jamaica, exports of primary commodities
1970	99.71	85.25	85.24	51.15
1971	98.62	80.92	80.90	51.54
1972	98.18	79.35	82.00	49.41
1973	98.94	77.09	82.60	47.33
1974	99.78	72.56	77.96	40.11
1975	99.32	70.34	71.20	43.47
1976	99.69	72.84	69.99	40.71
1977	99.66	72.30	70.32	41.53
1978	99.18	64.21	66.86	38.39
1979	99.10	59.96	64.00	43.41
1980	99.19	59.57	56.24	34.62
1981	99.27	54.33	53.27	30.87
1982	98.79	53.39	48.21	36.40
1983	97.97	54.02	46.34	32.36
1984	97.67	50.85	43.35	29.85
1985	97.07	48.87	41.15	32.90
1986	89.82	50.25	39.90	32.33
1987	89.82	50.44	40.61	32.47
1988	82.72	48.06	39.53	39.34

4. OPEC and the Seven Sisters

There were only two studies that mentioned and focused on the comparison between the Seven Sister and OPEC. These studies were: Sampson (1975) and Araim (1991).

After a devastating price war, the oil companies, also known as the Seven Sisters, met in Achnacarry, Scotland in 1928. The oil companies secretly agreed to cartelize the market and drafted a 17-page agreement known as the Achnacarry Agreement. It was followed by the Red Line Agreement and the 'AS IS' Agreement because it divided the market based on the current situation.

The companies' cartel was very effective and the rates of earnings of the Seven Sisters were double to triple that of other industries. For instance, the rates of earnings on US direct investment in foreign industries in 1953 were 30.2% in the petroleum sector, 13.1% in mining and smelting, 13% in manufacturing, and 10.2% in other industries.

There are a lot of differences between the Seven Sisters cartel and OPEC. For example, the Seven Sisters controlled most of the oil in the world. They controlled 87.1% of the world oil production in 1953 and 70.9% in 1972 that is 12 years after the birth of OPEC. They controlled the whole oil industry. OPEC members controlled less than 50% of the market for crude oil sales. In addition, OPEC is not integrated vertically (especially downstream) as were the oil companies. This vertical integration of the companies eliminated the market for crude oil and created some competition for final products but not in crude. OPEC's lack of an integrated oil industry created new markets for crude and increased competition.

If we compare the two, it can be seen what OPEC lacks to be a cartel. The Seven Sisters dominated the world oil market until the 1960s. They kept up non-competitive prices and dominated the industry. The companies created a mechanism to keep their power just like a cartel and the companies had all cartel characteristics. The agreement of Achnacarry in 1928 divided the market and therefore the companies created a monitoring system and a punishment mechanism. The companies agreed that no one would undertake independent operations in Red Line areas such as Saudi Arabia and Bahrain unless the others agreed. The companies also agreed to supply each market from its closest producer to minimize transportation costs and to minimize competition (Sampson, 1975; Yergin, 1992). OPEC members have never followed this way. The two major differences between the Seven Sisters cartel and OPEC are the dominating market share of the companies and the system developed by the companies to prevent the collapse of the market.

The Seven Sisters consulted each other on everything, ranging from prices to relations with host countries. The other important difference is that the Sisters did not let an excess production in one market influence other markets. Excess supply in the Far East may lower the prices there but not in Europe. Companies were allowed to produce over quota as long as the output could be sold without affecting the market of the others. Also, the companies agreed that no new equipment would be installed before the shared usage of all existing equipment reached full capacity.

5. Conclusion

In this study we outlined and reviewed the differences between OPEC and other international commodity cartels. In the Economic literature there are six characteristics mentioned for a cartel which as mentioned and discussed before none of the characteristics existed in OPEC and we can say that OPEC doesn't fit the cartel theory as the other commodity cartels. Although some may argue that some of the characteristics partially exist In OPEC, like undeclared power of some producers i.e. Saudi Arabia, or a quota system or a weak monitoring system but they are not enough to make full functioning cartel. The fact that there is no dominant market share in OPEC, The OPEC's financial dependence on just one commodity and the low elasticity of demand for OPEC's oil compared to other commodities show us that OPEC doesn't fit in the cartel theory. We can even say that the Seven Sisters were a much better cartel than OPEC from 1930 to 1960. The insistence on recognizing OPEC as a cartel may come from politicians and economists fear of the events that resulted in a gigantic increase in oil prices during the 1970s and their inability to distinguish between the power of some members, such as Saudi Arabia, and OPEC as an organization.

Here it is demonstrated that Saudi Arabia is more influential than other member in OPEC. Saudi Arabia has all of the characteristics of a dominant producer because it has a relatively large market share, excess capacity, flexible behavior and the ability to control its price by increasing or decreasing production. No other OPEC member has similar behavior. So, Saudi Arabia must be considered on its own in the OPEC. And we should treat the other members as a small group on their own.
Considering the differences among OPEC members one might ask why hasn't OPEC disintegrated? The answer might be that advantages of being an OPEC member are more than the disadvantages. These advantages may be, OPEC as a diplomatic channel for members, OPEC as a research institution, small less powerful countries can be heard and seen in the world through OPEC. Factors such as, effects of sanctions, foreign investments, imports of petroleum products and small local refineries capacity, make it possible for us to look at OPEC in another way which means putting countries effected by those factors into different sub groups. By doing this then we can investigate or predict the members of the OPEC.
Overall, recent developments and events can be best explained by the idea that Saudi Arabia is continuing its dominant producer role, and that there are capacity limitations in some OPEC and Non-OPEC countries. And that the recent events are not because of OPEC growing into a successful cartel.

References

Adelman, M., 1995. The Genie Out of the Bottle. The MIT Press, MA. Oxford.

Alhajji, A.F., 1997. Why some OPEC members do cheat? The case of the UAE. Journal of Energy and Development 23(1), 59-69.

Brook, J., 1993. A new coffee cartel tries its hand. New York Times October 3, F11.

Brown, C., 1980. The Political and Social Economy of Commodity Control. Praeger, New York.

Elsarafy, S., 1979. The oil price revolution of 1973-1974. The Journal Of Energy and Development 4(2), 273-290.

Freeman, M., 1980. The diamond Book: a Practical Guide for Successful Investing. Dow Jones-Irwin, Homewood, IL.

Fox, W.A., 1974. Tin: the Working of a Commodity Agreement. Mining Journal Books Limited, London.

Gocht, W.R., Zantap, H., Eggert, R.G., 1988. International Mineral Economics. Springer, New York.

Griffin, J., 1985. OPEC behavior: a test of alternative hypotheses. American Economics Review 75(5), 954-963.

Gulen, G., 1996. Is OPEC a cartel? Evidence from Co-integration and Causality Tests. The Energy Journal 17(2), 43-57.

Jacoby, N., 1974. Multinational Oil, A Study in Industrial Dynamics. MacMillan Publishing CO., Inc., New York.

Johany, A.D., 1979. OPEC and the price of oil: cartelization or alteration of property rights. The Journal of Energy and Development 5(1), 72-80.

Jones, C., 1990. OPEC behavior under falling prices: implications for cartel stability. The Energy Journal 11(3), 117-129.

Law, A.D., 1975. International Commodity Agreements: Setting, Performance, and Prospects. Lexington Books, MA.

Loderer, C., 1985. A test of the OPEC cartel hypothesis: 1974-1983. The Journal of Finance 40(3), 991}1006.

Maxey, M., 1996. The impact of coffee retention quotas on Costa Rican coffee marketing: prospect for the future. Working paper, University of Costa Rica, San Jose.

Nappi, C., 1979. Commodity Market Control. Lexington Books, MA.

Plaut, S., 1981. OPEC is not a cartel. Challenge 24(5), 18}24.

Sampson, A., 1975. The Seven Sisters. The Viking Press, New York.

Smith, G.W., Schink, G.R., 1976. The international tin agreement: a reassessment. The Royal Economic Society, December.

Teece, D., 1982. OPEC behavior: an alternative view. In: Griffin, Teece, (Eds.), OPEC Behavior and World Oil Prices. Allen & Unwin, London.

Turner, L., 1980. Oil Companies in the International System. George Allen & Unwin, London.

Yergin, D., 1992. The Prize, The Epic Quest For Oil, Money and Power. Simon & Schuster, New York, NY.