Is Oil Just Another Commodity? : Six Oil Crises and Oil's Boom and Bust Cycles after the 1991 Gulf War

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1 Introduction

Oil is the most important source of energy for industrial society. It is also a critical factor in war and conflict. History has witnessed several cases of turbulence in which oil played a crucial role in international disputes. For example, the Egyptian-Israeli War of October 1973 triggered the first oil-price shock. When war erupted, Arab nations deliberately reduced crude oil supplies to the West not only as a protest against Western support for Israel but also in an attempt to raise posted oil prices. That was at a time when demand for oil was rapidly increasing throughout the industrialized world and the Organization of Petroleum Exporting Countries (OPEC) accounted for about 60 percent of total world crude oil production. Fear and uncertainty about future supplies caused the consuming countries to seek more oil than normally necessary, sending market prices soaring more than 50 percent in real terms from 1973 to 1974. Consequently, the oil weapon was used effectively for the first time by OPEC member nations to pursue their political and economic goals.

Here it must be noted that the October 1973 war wasn't the first time the Arab world used oil to achieve its political goals. Since its formation in 1960, OPEC talked periodically about using oil as a weapon. And in fact the "Arab oil weapon" was employed at the time of the 1967 Six-Day War, when Saudi Arabia, Kuwait, Iraq, Libya, and Algeria imposed an oil embargo to support Egypt. However, this strategy was to no avail.

In relation to disruptive developments in the Middle East, there have been six oil crises since the end of World War II. They are:

1) the Iranian nationalization of British Petroleum in 1951
(first postwar oil crisis)
2) Egypt's nationalization of the Suez Canal in 1956
(second postwar oil crisis)
3) the Six-Day War of June 1967
(third postwar oil crisis)
4) the Egyptian-Israeli War of October 1973
(fourth postwar oil crisis)
5) the fall of the Shah of Iran in 1979
(fifth postwar oil crisis)
6) Iraq's invasion of Kuwait in 1990
(sixth postwar oil crisis)

In the long term, there were two main leaps in crude-oil prices that caught consuming nations off guard. They took place respectively during the first oil shock of 1973-75 and the second of 1979. The causes and ramifications of these six crises are explained in section 2.

Cartels are generally easy to fail in the long run. An oil cartel is no exception. Cooperation among OPEC members deteriorated in the mid-1980s as they found it more and more difficult to maintain their official posted prices that had become higher than spot prices. They competed to produce more and lost control of the oil market. What followed were cycles of boom and bust, a feature typical of a speculative commodity. A factual account of how volatile oil prices have been is given in later sections.

2 Six Oil Crises

2.1 The Iranian Nationalization of British Petroleum in 1951
(first postwar oil crisis)

After World War II, there was a struggle among oil-exporting countries to set up with foreign oil companies a new set of concession terms that would require fair payment of rents for the host country. (The rents are defined as the difference between the market price, on one hand, and, on the other, the cost of production plus an allowance for transportation, processing, distribution, and some return on capital.) The oil-producing countries felt exploited by the oil companies and argued that the rents were not fairly divided. They demanded a reallocation of rents based on a new principle of "fifty-fifty" — an equal split of profits between landlord and tenant.

The fifty-fifty principle was first introduced in Venezuela in 1943, and seven years later Saudi Arabia asked for its fair share of oil rents in the form of income tax from an oil company and won agreement from Arabian-American Oil Company known as Aramco on introduction of the tax. In essence, this new source of revenues for the Saudis made the division of oil rents fifty-fifty. Naturally this fifty-fifty deal was soon in place in other parts of the Middle East.

The first postwar oil crisis started when the Anglo-Iranian Oil Company (later in 1954 renamed British Petroleum) was nationalized in 1951. The Saudi-Aramco fifty-fifty agreement of December 1950 fueled a nationalistic movement in Iran, and the division of earnings between the host country and the largely British oil company was regarded as being mostly in favor of the latter. Anglo-Iranian was dealt a heavy blow by popular passions for nationalization of the Iranian oil industry. This popular movement resulted in the expulsion of the British oil men from Abadan. Then the British government effectively imposed an embargo on Iranian oil. The removal of this oil from the world market was feared to cause shortages at a crucial time of the Korean War. However, increased production elsewhere soon compensated for the gap.

Now the problem was not with loss of supplies, but with the unstable political situation in Iran. What worried the American and British governments was a possibility of Iran falling into the Soviet camp under a deteriorating economic condition. Without revenues from oil exports, Iran's economy was destined to collapse. This scenario was the last thing the U.S. wanted. One solution to the crisis was creation of a new consortium of Western oil companies to operate in Iran. At the request of the U.S., Anglo-Iranian, the four Aramco partners — Jersey, Socony, Texaco, and Standard of California — plus Gulf, Shell, and the French company CFP agreed to form an Iranian consortium. With this complete, the crisis was over in 1954, and the United States emerged as a major player in the oil of the Middle East.

2.2 Egypt's Nationalization of the Suez Canal in 1956 (second postwar oil crisis)

The Suez Canal was completed in 1869 by the Suez Canal Company, a private concern started by a French diplomat named Ferdinand de Lesseps. In 1875, Britain acquired the company shares owned by Egypt, and the canal fell under the virtual control of Britain and France, with most of the canal company's profits from tolls going to European shareholders.

In 1954, Colonel Gamal Abdel Nasser became the leader of Egypt and called for the rejection of the West and the creation of a new Arab world. He regarded the Suez Canal Company as exploiting his country, citing the fact that it was short-changed while the oil-producing countries were getting 50 percent of the profits from their oil. Finally in 1956, he nationalized the Suez Canal, putting an end to the symbol of British colonialism. This seizure marked the beginning of the second postwar oil crisis since the canal was the way most of Middle Eastern oil reached Europe. In fact, more than two-thirds of Europe's oil passed through it. Threatened, Britain, France, and Israel began their military operations against Egypt. In retaliation, Nasser closed the Suez Canal, bringing the oil traffic to a halt.

The economic impact of the Suez crisis extended beyond the direct effects of the oil shortages. Britain's currency position deteriorated badly, and France's was also in bad shape. They also saw their trade balance seriously disturbed. With the oil crisis over and Nasser winning the complete control of the canal, the oil companies sought safer ways of shipping oil. One practical solution was the introduction of Japanese-made supertankers that would carry Persian Gulf oil economically around the Cape of Good Hope to Europe.

2.3 The Six-Day War of June 1967
(third postwar oil crisis)

A few weeks prior to the Six-Day War of June 1967, Egypt's Nasser closed the Gulf of Aqaba to Israeli shipping and showed his support for Syria, which had been sponsoring terrorist attacks on Israel. Provoked by this move and seeing Egypt and their allies mobilizing troops around, Israel struck Egypt on June 5 and successfully brought the war to an end in only six days. It occupied the Sinai, all of Jerusalem and the West Bank, and the Golan Heights.

Israel's attack motivated Arab oil field workers toward strikes and sabotage. Quickly Saudi Arabia, Kuwait, Iraq, Libya, and Algeria used oil as a political weapon and invoked an oil embargo against the United States, Britain, and West Germany, halting production and shipment. The cutoff posed a great threat to Europe at first, but soon it turned out to be less serious than expected since the West had a substantial oil stockpile and other suppliers like Venezuela and Indonesia increased their production. Also redeployment of oil was not so much a problem thanks to the availability of Japanese-built supertankers.

Though the Arab oil weapon ended in failure, it struck fear into the West, which now recognized "the importance of diversifying sources of supply and of maintaining a large, flexible tanker fleet."(1)

2.4 The Egyptian-Israeli War of October 1973
(fourth postwar oil crisis)

On October 6, 1973, Egypt and Syria launched their surprise attacks against Israel to regain their lost territories. That's when the most sacred Jewish holiday of Yom Kippur began in Israel. The Israelis were caught off guard and immediately thrown on the defensive. It was only after the arrival of supplies from the United States that they stopped the Egyptian offensive and started successful counteroffensives.

In response, the OPEC countries employed their oil weapon, cutting down production, raising the posted price, and decreeing an embargo of crude oil against the U.S. and other countries friendly to Israel. The oil market then was already exceedingly tight, and unlike the 1967 crisis there was no spare oil available in the United States.

On October 26, 1973, just when the risks of military confrontation between the U.S. and the Soviet Union were escalating over how to end the war, the fighting in the Middle East came to a stop. However, the oil embargo remained in place and created a serious energy crisis as uncertainty about available oil supplies triggered panic buying on the spot market, sending prices unreasonably high. Notably, the fears aroused by the embargo caused panic buying of gasoline in the U.S. and of other commodities like toilet paper in Japan. With an increased demand for oil, the exporting countries continued their cutbacks with the result that they were further rewarded with greater returns from the high prices than what they would have received from the normal level of export.

On March 18, 1974, the embargo ended largely owing to the mediation efforts Washington made in the Arab-Israeli peace talk, but the oil weapon proved to be effective and remained a threat to future supplies to the West. The fourth postwar oil crisis often referred to as the First Oil Shock had such a pervasive effect on the world economy that it caused the recession of 1974-75. On the other hand, it restored Egypt's prestige and boosted the exporters' position as players of the global economy.

This First Oil Shock of 1973-75 ended the twenty-year surplus of oil which had contributed to the postwar economic growth of the industrialized nations. From $2.90 a barrel in mid-1973, the official OPEC price of crude petroleum went up to $11.65 in late 1973. Then the high price of oil caused GNP decline and inflation among the consuming nations.

The 1974-75 worldwide recession caused by the First Oil Shock reduced demand for OPEC oil by 12 percent. In 1976 demand picked up, but the devalued dollar and rampant inflation had been eroding the real price of oil. So in 1977 there was wide speculation that OPEC would agree on another price increase despite the soft oil market. Then in December 1978 the Iranian oil supplies were disrupted because of a revolutionary movement that eventually led to the Shah's downfall in January 1979.

2.5 The Fall of the Shah of Iran in 1979

(fifth postwar oil crisis)

The First Oil Shock brought windfall profits to Iran, but its government failed to use the oil revenues for the welfare of the general public. The oil money created inequity and inflation, which encouraged peasants in rural areas to pour into big cities. Corruption and inefficiency were hindering the much needed development of Iran's infrastructure. Fed up with the Shah's way of heavy spending on arms and construction projects that benefited only the privileged, the Iranian people started to call for constitutional government.

Then in late 1978, under the influence of exiled religious leader Ayatollah Ruhollah Khomeini, oil workers took part in an ever intensifying opposition movement and went on strike, halting Iranian oil exports. Losing his grip on the public amid widespread demonstrations and feeling worried about his illness, Reza Shah left for Egypt on January 16, 1979. A few weeks later, Khomeini returned triumphant from exile in France and completed the Iranian revolution by establishing an Islamic government.

Meanwhile, the United States which had been preoccupied with concluding a peace agreement between Egypt and Israel did not fully understand the magnitude of the unrest in Iran. The Shah had been the U.S.-appointed guardian of the Gulf, but did not get enough support from the Carter administration that was critical of his human rights record. His downfall led to the creation of an anti-U.S. government under Khomeini, casting a dark cloud over the process of the Egyptian-Israeli peace talk and the future of oil supplies.

The Iranian revolution set off the fifth postwar oil crisis. The cessation of Iranian exports in the winter of 1978-79 triggered an oil price increase of 120 percent between January 1979 and January 1980. Although Iran resumed production in March 1979, anxiety over future supply shortages caused panic hoarding and encouraged oil companies to build inventories, which left the tight market unchanged. The consuming nations found it hard to carry out an emergency sharing plan, miserably failing in reducing consumption and making an equitable distribution of the available supplies. Hardest hit by the Second Oil Shock was the United States whose allocation system turned out to be defective with stocks running thin, causing gasoline shortages in urban areas.

The Iranian revolution aroused the haunting fear that radical movements would spread throughout the Mideast and bring the Arab oil production to a halt. Driven by the anxiety over further supply interruptions, the oil companies and consuming nations sought to purchase oil in the spot market and started to build inventories in record volumes. The fear-induced stockpiling created a market panic, resulting in sharp increases in the spot prices together with a 14 percent increase in the world oil price for 1979. In response to the changes in the spot market, OPEC's official price was raised from \$13 a barrel in early 1979 to \$34 in late 1981.

The OPEC countries managed to sustain high prices for some time despite signs of surplus in 1980.

However, the world oil market softened as the drive for rebuilding stocks subsided and the world economy turned sluggish in 1981. The oil crisis was followed by a worldwide recession, resulting in a glut and a downward pressure on oil prices. What the West learned from the Iranian revolution was that without political stability in the Middle East the world oil market would remain unstable.

What happened toward the end of the crisis was another worldwide recession and oil glut. The Second Oil Shock proved that a crisis could materialize despite the presence of a significant oil surplus and that an unreasonably high price would not last long.

2.6 Iraq's Invasion of Kuwait in 1990 (sixth postwar oil crisis)

Probably the most dramatic moment to recall would be the January 1991 Gulf War in which the Western Alliance overwhelmingly defeated Iraq and blocked the ambitions of Saddam Hussein. The main purpose of the Desert Storm operation was to drive Iraqi forces out of Kuwait since Iraq's invasion of Kuwait was a direct cause of the Gulf War.

Iraq's dictator Saddam Hussein had been purchasing arms and wanted to achieve hegemony over the Persian Gulf. Iraq had been accusing Kuwait of stealing oil near the border. Then, on August 2, 1990, Iraqi forces invaded Kuwait, and in about six hours took control of its capital Kuwait City. Iraq justified this aggression as a means to regain its original territory. Six days later Saddam announced the annexation of Kuwait and attained his goal of taking its rich oil fields and securing a safe exit to the Persian Gulf. He also used this military move to sway the Iraqi people's attention from their economic difficulties caused by the military build-up and the Iran-Iraq War of 1980-88. With Kuwait under Saddam Hussein's control, Iraq would be a dominant anti-Western oil power, posing a formidable threat to the consuming countries.

The Iraqi invasion brought about a new oil crisis, raising the fear that Hussein would make other dangerous moves including his troops venturing into Saudi Arabia. As in previous crises, oil prices spiked, reaching temporarily as high as $41 a barrel, a level that could easily trigger a global recession. However, the high prices did not last long. The previous crises had boosted the efforts among the developed countries to conserve energy. Given large stocks and weak demand, consuming nations were restrained from panic buying while the U.S. economy was turning sluggish. Also Saddam's ambitious move threw cold water on other oil producers. They were not motivated to use oil as a political weapon this time. Instead, they increased production, quickly restoring the supply level before the invasion. With a stable supply of oil secured by December 1990, the focus now shifted from shortages to military confrontation.

On January 17, 1991, the multi-national coalition forces led by the U.S. hit Iraq, starting with five-week air strikes and later executing clever ground battles. Iraqi troops were soon in disarray and fled from Kuwait. In about six weeks, the Gulf War terminated, showing to the world the overwhelming technological superiority of the Western Alliance. Despite the defeat, Saddam Hussein stayed in power as Iraq's President. In the aftermath, the Gulf states were left with a debt of $70 billion to finance the war.

Before and during the war, oil prices were volatile, and uncertainty about future oil supplies prevailed. The North Sea Brent price went up from below $16 in June 1990 to $19 in July 1990. It topped $40 in late September 1990. Then it went down, hovering around $30 in late October to early November. After that it stayed a little below $20. The consuming nations were relieved that the crisis came to an end in such a short time.

The Gulf Crisis proved the importance of an efficient global supply system and of collaboration between producers and consumers. Certainly oil was diminishing its significance, but it was still a decisive factor in the world economy.

3 Middle East Tensions in 1997

When Middle East tensions mounted and worldwide demand for oil surged, another oil crisis was often in order. For example, after the relationship between Iran and Iraq soured again in September 1997, there came a threat to supply from both Iraq and Iran. On September 29 Iran carried out air strikes against an Iranian guerrilla group camping in southern Iraq close to the Iraq-Iran border. The Iranian opposition group Mujahedeen Khalq or People's Warriors had a close relationship with Iraq. On the other hand, Tehran allowed Iraqi opposition groups to hide in Iran. Added to these unstable circumstances was the deployment of the U.S. aircraft carrier Nimitz to the Persian Gulf, a military maneuver suggestive of an imminent conflict. The result was that oil prices spiked from $20 a barrel to $23 amid growing world demand for oil in early October.

The spike was nowhere near the ones witnessed during the past oil crises. It looked as though there wouldn't be any more oil shortages amid tensions in the Middle East. In November 1997 the United States was on the verge of another air strike against Iraq after the Iraqi dictator Saddam Hussein halted the U.N.'s weapons inspections by expelling American inspectors from Iraq. Peace negotiations between Israelis and Palestinians were stalled, following Israel's decision to build a new Jewish settlement in traditionally Arab East Jerusalem and suicide bomb attacks by the radical Islamist group Hamas denouncing the whole peace process as illegitimate. These events, however, did little to cause another hike. Prices remained within the $18-$23 range for the most of 1997 and started to drop again as the stand-off between the U.S. and Iraq eased with both sides compromising. Under the United Nations' oil-for-food program that started in December 1996 and needed to be renewed every 180 days, Iraq was allowed to export oil to buy food and medicine for its citizens. The U.S. showed willingness to increase Iraq's export amount. Besides, in late 1997 OPEC countries decided to boost production quotas, expecting an increase in world oil demand and seeking a better market share. The boost came just as Asia went into recession, which tipped the balance toward an oil glut.

4 OPEC's Price War — Oil's Boom and Bust Cycles after the 1991 Gulf War

4.1 The 1986 Oil Bust

The high oil prices that had been maintained since the Second Oil Shock of 1979-81 led to an increase in non-OPEC production with high-cost oil developments becoming economically feasible. They encouraged energy conservation and use of alternative fuels like coal, natural gas and nuclear power. Also the world economy started to slow down in 1985. The outcome was an inevitable situation of more supply and less demand. The resultant weakness in oil price gave OPEC's 13 members a strong incentive to increase output beyond their quota level to make up for their lost revenues. Now the market started gaining the upper hand over OPEC's cartel and saw the free fall of oil prices in 1986.

Frustrated to see other members cheating on their quotas and expanding their market shares while non-OPEC producers eroding its oil revenues, Saudi Arabia decided to quit being the swing producer and staged a price war. Holding as much as a quarter of the world total proven crude reserves, OPEC's linchpin had been expected to raise output when the prices were too high and to trim production in times of extremely low prices. Its role as a swing producer within the cartel was defined at OPEC's meeting in March 1983. It shouldered the burdens of production cuts to keep sagging oil prices around official OPEC levels of about $28 a barrel in the early 1980s. Although it had a production quota of about 4.4 million BPD,[2] it had reduced production to 2.2 million BPD from late 1984 to mid-1985. At an OPEC meeting in July 1985, Saudi Arabia Oil Minister Ahmed Zaki Yamani threatened to quit being the swing producer.

Saudi Arabia had accumulated a large budget deficit because of its reduced market share and lost revenues. Now it finally took drastic action: The kingdom did away with official posted prices in favor of floating prices. Using what is called a "netback deal," it flooded the market with cheap oil to regain its market share in July 1985. The netback contracts the Saudis signed with the oil majors stipulated that the buyer should be guaranteed a pre-determined profit whatever the price of the final products turned out to be. Consequently, the final selling price of the refined products determined the price of crude oil. Attracted to this lucrative arrangement, refiners flocked to Saudi crude. The ultimate winner was Saudi Arabia, which regained the lost ground.

OPEC's share in world supply had declined from about 50% in 1979 to as low as 30% in 1985. Fearing to lose their grip on the market, the OPEC producers agreed to launch a price war against non-OPEC countries in December 1985. They strove for increased market share by increasing their oil flow to the market through netback deals. Though the level of OPEC's increase was only marginal in comparison with the world total supply, this move triggered the collapse of spot crude-oil prices from around $28 a barrel in December 1985 to below $10 in July 1986.(3)

4.2 The Price Collapse of 1997-98

OPEC's oil ministers met in Jakarta, Indonesia, on November 26, 1997. The decision to put more oil into the marketplace was prompted by financial needs. Most OPEC countries justified their cheating by new quota allocations while only a few such as Saudi Arabia, Kuwait, and the United Arab Emirates with spare capacity made an initial gain in revenues. They had a false idea that world demand was on the rise despite predictions that oil prices would soften in the face of increased levels of crude and heating-oil inventories.

In their previous meeting in June 1997, OPEC ministers agreed to stick to their production quotas. In reality, some two million barrels of oil were being produced per day in excess of the group's ceiling of 25 million barrels. And world oil prices were falling as much as 25% for the first half of 1997. Stressing the need for reduction, OPEC's two biggest producers Saudi Arabia and Iran cooperated to persuade quota-busters such as Venezuela and Nigeria to return to their quotas. The exceptional Saudi-Iran alliance was formed for mutual benefit of price increases of $2 to $4 a barrel that would be possible only after removal of about two million barrels a day from the market in the high-demand second half of the year. All 11 members of OPEC agreed to comply with their quotas at the meeting.

However, Venezuela which needed to export oil for the recovery of its economy increased its exports, seeking to expand its market share. The president of state oil company Petroleos de Venezuela had a rapid expansion plan of boosting the country's output twofold by 2006. Just before the November meeting, Venezuela was exceeding its quota by 900,000 BPD, an increase of 300,000 BPD since June.(4)

As a retaliatory gesture, Saudi Arabia threatened to overproduce. It had its own agenda for quota expansion. The world's largest oil exporter had a new major oil field named Shaybah. The Saudis expected to spend some $2.5 billion to complete the construction. The Shayba field containing high-quality oil would add some 500,000 BPD to its production capacity. With only a few months left before arrival of first oil from there, it proposed to raise OPEC's production ceiling at the Jakarta meeting of November 26, 1997. The kingpin producer was cheating just like other members by producing some 300,000 BPD over its quota of 8 million barrels.[5] The Saudi proposal was approved. The new increase called for 2.5 million BPD in addition to OPEC's previous limit of 25 million barrels.

5 Defending an Oil Cartel

5.1 OPEC's Successive Production Cuts in 1998-99

More oil started to be shipped in early 1998. That's when accumulated stocks of crude oil resulted from overproduction, warm winter weather, and the Asian financial crisis were driving oil prices to below $13 a barrel from the 1997 average of $21. In their attempt to stem a further slide, OPEC countries agreed on a total reduction of 1.25 million BPD at an emergency meeting in Vienna on March 30, 1998. It was OPEC's first cuts in about a decade. However, the scale of decrease fell short of what was needed to change sentiment on the market. Worse, Iraq which had been exempt from the agreement was allowed to add to its exports by 500,000 BPD under the U.N.-administered oil-for-food program. With Asia's recovery nowhere in sight, the world's glut of oil still continued.

OPEC producers met again on June 24 to discuss additional reductions to shore up oil prices that sank to 12-year lows. Iran, which had been critical of Saudi Arabia, refused to commit itself to its share of cut. The pro-American kingdom, which benefited enormously from the 1991 Gulf War by expanding its oil market share, still kept much of the gain. The other members hated to see their oil export revenues declining and hurting their economies. After a difficult negotiation, OPEC ministers reached another agreement to cut production, this time by about 1.4 million BPD. That brought the total cutbacks for 1998 to about 2.6 million BPD. Now OPEC's output ceiling returned to 25 million BPD, a level valid before the November 1997 meeting.

Including cuts by some non-OPEC producing countries like Mexico, Russia, and Oman, the collective amount of reduction reached 3.3 million BPD.[6] That was more than what speculators expected. Yet it had only a marginal effect on oil prices. There still prevailed such negative factors as weak demand in Asia, persistent cheating on the quota agreement, and a gradual increase in Iraq's oil exports. Oil prices remained depressed around $13 a barrel. The price of West Texas crude stood a little above $14 at the time of the June cutback agreement.

The price downturn that began in late 1997 and helped the American economy grow without worries about inflation came to an end in December 1998. That's when crude prices hit lows of around $11 a barrel, a level never reached since the 1986 slide. After adjusting for inflation, they were actually at their lowest level since 1972. The two rounds of production cuts OPEC made in 1998 failed to firm up crude-oil prices after all.

An upward price spiral, which OPEC had unsuccessfully sought to cause, set in in March 1999 when oil producers including some non-OPEC members like Mexico and Norway agreed on a third round of output cuts. This time they showed their willingness to abide by the decision that should remove 2.1 million BPD from the world total production of about 81 million BPD.

One of the driving forces behind OPEC's unity was Venezuelan President Hugo Chavez. Unlike his predecessor, he adopted a pro-OPEC stance when he took office in December 1998. Venezuela, OPEC's third largest producer, was notorious as an influential quota breaker. Amid considerable concern about a growing budget deficit, the Chavez administration tried to keep its quota pledge.

Another was the generous concession Saudi Arabia made in quota allocation. It wanted to ensure Iran's compliance. So the Saudi agreed to a production cut of 585,000 BPD. Meanwhile, Iran, whose output in February 1999 exceeded its June 1998 quota of 3.32 million BPD by about 530,000 BPD, made a pledge to reduce production by 264,000 BPD. The remainder of Iran's excess production was matched by other OPEC members' additional share cuts. Sustained cooperation among producers finally led to a real reduction in supply. At the same time, there came a rebound in demand for oil as Asia, Europe and North America increased oil consumption.

The third round of cuts the 11-member cartel agreed upon in March 1999 succeeded in reducing stocks. Within four months demand was outpacing crude supplies by 1 million to 1.5 million BPD. The gap widened to the maximum of 2.8 million BPD by September. The benchmark price of West Texas Intermediate soared from $12 a barrel in February to $20 a barrel in July. Helped by OPEC's decision in its September 22 meeting to maintain the reductions amid a strong recovery in Asia, front-month crude futures further went up to the $25-a-barrel level on the New York Mercantile Exchange (Nymex) in September 1999.

Making matters worse, Iraq stopped exporting oil on November 23 to protest the nine-year-old economic sanctions against it as the U.N. was discussing the possibility of introducing a new sanctions regime in relation to the extension of the oil-for-food program for another six-month phase. The removal of Iraq's oil from the market translated into a reduction of 2.3 million BPD on the average. The maximum production capacity Baghdad claimed to have was 3 million BPD. Before it invaded Kuwait in 1990, Iraq produced as much oil.[7] Though it resumed exporting on December 17, the Iraqi absence of three weeks raised a concern for a supply shortage and helped introduce $27 oil at Nymex.

5.2 OPEC's Successive Production Increases in 2000

Coupled with the cold winter weather that hit the U.S. Northeast, OPEC's continued output reductions invited criticism from the U.S. and the European Union over a tripling in the price of oil in 15 months. North Sea Brent went up to $31.5 on March 7, 2000, while West Texas Intermediate (WTI) jumped to $34 a barrel. This price was the highest level the U.S. benchmark had reached since the Gulf War. U.S. Energy Secretary Bill Richardson flew again to the Middle East to request production increases, while Presiden Bill Clinton asked Congress to let him tap the Strategic Petroleum Reserve.[8] The European Union expressed concerns over high oil prices causing inflation.

When OPEC met March 27, U.S. light sweet crudes were on their way down around $26 a barrel. Yet it opted for more output by reviving March 1999 quotas in order to appease the U.S. which was concerned about the prospect of high oil prices damaging world economic growth. The actual amount of increase was some 1.7 million BPD. In their effort to prevent another boom-bust cycle, OPEC oil ministers came up with a plan to maintain a price band ranging roughly from $22 to $28 a barrel for North Sea Brent crude.

In May 2000, world crude-oil supplies amounting to about 77 million BPD were already exceeding demand. But oil prices climbed above $30 a barrel before the summer driving season in the U.S. Thus a decision was made to go ahead with a second round of production increases at OPEC's June 21 meeting. The group's decision to raise output by 708,000 BPD did little to bring prices below the upper limit of the target price band. OPEC officials maintained that the high crude prices were due to market speculation and low U.S. gasoline stocks.

In fact, according to the Paris-based International Energy Agency,[9] world crude supplies were outpacing demand by as much as three million BPD.[10] To be sure, the rules of supply and demand should prevail in the long term. But speculative moves on the market subjected oil prices to an upward swing. Citing big profits oil companies earned, U.S. Vice President Al Gore implied that Big Oil was involved in price gouging. Meanwhile, Exxon Mobil explained in a newspaper ad that different formulas for antismog gasoline to meet air-pollution-control regulations contributed to the gasoline price surge.[11]

The United States saw the average price of gasoline per gallon rising more than 65% from $0.98 in December 1998 to $1.62 in June 2000. The hardest hit was the Midwest. The price of regular unleaded rocketed to $2.30 in Chicago. One reason for the high price was the low level of gasoline inventories refiners had built before the high demand summer season. They missed out on cheap oil while expecting crude prices to fall further. The total stocks of crude oil and gasoline had shrunk from 800,000 barrels in the early 1980s to 500,000 barrels then.[12] This was the inevitable consequence of their just-in-time production methods that demand reducing inventories to the absolute minimum. Since refiners had reduced the number of refineries while refraining from building refineries for fear of opposition from environmental protectionists, their capacity to refine crude oil was also limited.

The OPEC kingpin Saudi Arabia felt uneasy to observe spot oil prices hovering around $30 a barrel in spite of OPEC's two rounds of output hikes. On July 3, 2000, it made an announcement that it planned to raise oil production by 500,000 BPD, which caught other members off guard. The announcement was aimed at easing diplomatic pressure from the U.S. and some Asian countries. The world's biggest producer was greatly concerned that the high oil prices would not only dampen the fragile Asian recovery but provide enough incentive to develop alternative energy sources. Now much of the world's capacity to produce more oil was in the hands of Saudi Arabia, which hoped to force prices down toward $25 a barrel for a basket of seven different OPEC crudes.[(13)] The extra Saudi oil started to flow to the world market in August.

With no sign of weakness in oil prices in sight, OPEC ministers reached an agreement to raise output again in their September 10 meeting. Their increase of 800,000 barrels a day was still too insufficient to have a significant impact. Excluding the amount resulting from quota cheating, analysts estimated that only about 300,000 BPD of new oil, mostly from Saudi Arabia, would be added to the world market.

Supply worries intensified as Iraq showed its aggressiveness in accusing Kuwait of stealing Iraqi oil near the border. This accusation was made only a few days after the third OPEC meeting for the year 2000. It was very much similar to the one Iraq brought forward when it invaded Kuwait in 1990. Any large conflict in the Gulf region could prompt Iraq to stop its oil exports totaling about 2.3 million BPD.[(14)] This possibility drove nearby front-month crude futures to $37.20 a barrel, the highest level since the 1991 Gulf War, at Nymex on September 20, 2000.

Two days later, in response to the surging oil prices, U.S. President Bill Clinton finally made a decision to tap the federal strategic reserve. This news contributed to pushing the price of West Texas Intermediate down $1.30 to $31.43 on September 25. Starting November 1, the release of a million barrels of federal oil a day to the market went on for 30 days, which was expected to help Vice President Al Gore in his bid for the presidency.

Meanwhile, on September 27 at OPEC's first summit of heads of state in 25 years, Saudi Crown Prince Abdullah mentioned that his country would provide enough oil to set a limit to high prices. His comment put downward pressure on oil prices. Another news that worked to the same effect was the Security Council's decision to lessen the amount of compensation money Iraq had to pay Kuwait for Gulf War damages. This helped keep Iraq from halting its oil exports.

All these new developments had a cooling effect on market sentiment. Stability seemed to have been established at the New York Mercantile Exchange. However, the oil market soon got heated on news of renewed Israeli-Palestinian violence in mid-October. OPEC's three consecutive increases so far had been ineffective, and crude-oil prices stayed above the upper end of the $22 to $28-a-barrel range.

On October 31, in its efforts to apply downward pressure to prices, OPEC members decided to put more oil into the marketplace. The amount of output increase was 500,000 BPD. At their November 12 meeting, less than two weeks after this fourth output boost, OPEC ministers feared a glut and ruled out the possibility of any further production increases. One concern they had was a slowing global economy that could trigger a price collapse. With heating oil stocks thinning, OECD countries expressed growing concern. On the other hand, with its own target price range in mind, OPEC maintained that the main problem was not with supply but with speculation, shipping blockades,[15] refinery capacity limitation, and high fuel taxes.

Given a gloomy outlook for the U.S. economy, it was no wonder that WTI dipped to $26 a barrel in late December despite snow, ice and wind chills.[16] According to the U.S. Department of Energy,[17] oil inventories started to build up with world supply having constantly outstripped demand by some one million BPD.

6 Is Oil Just Another Commodity?

There are two opposing views on the future of oil. That is, among oil experts are optimists and pessimists whose differences seem to derive from whether or not they think OPEC can exert a great influence on the market as a cartel.

The world energy situation after the Gulf War was supportive of an optimistic scenario saying that an imminent crisis won't materialize anytime soon. The fact that oil prices fluctuated but showed a tendency to stay within the $13-$23 range from 1991 to 1999 seemed to support this view. After all, what happens in Iraq is unlikely to disrupt the oil supply, because what the Iraqi people want most desperately is an uninterrupted supply of daily necessities and an end to the current economic sanctions. They need to sell oil for their survival. Iraq has a vast surplus of oil, which means that if the embargo is lifted oil prices will fall. France and Russia have a high stake in the Iraqi oil business and are opposed to the use of force against Iraq now. The optimists say that despite the conflicts in the Middle East there is little possibility of another Gulf Crisis. The OPEC nations are running big budget deficits, so they don't want their oil money flow to be interrupted too long. They can no longer afford to play around with the idea of using oil as a weapon. Another important factor is that consumers have become smarter and more resilient. Since the Second Oil Shock of 1979-81, a lot of progress has been made in energy conservation and development of alternative sources. For instance, by 1985 Japan had become 51% more oil efficient than in 1973. The same was true of the United States, where the corresponding figure was 32%. Then as the market share competition among the producers escalated, the price of oil collapsed in 1986, resulting in a drop of 45% with the spot-market price briefly plunging below $10 a barrel. Obviously, the OPEC nations have no wish to repeat what happened in 1986 and 1998.

And there's another reason to expect a stable supply of oil for a long time. Thanks to the development of new oil fields and the enhancement of technology, supply growth has been expanding faster than demand growth. In the 1970s, OPEC's control over oil sent the international majors as well as independent oil companies looking for and exploring oil outside OPEC. By the mid-1970s, just a few years before the Second Oil Shock, first oil was coming from newly developed fields in the North Sea, Alaska, and Mexico. As non-OPEC supplies grew, OPEC's dominance weakened, which helped stabilize oil prices. At the same time, advances in technology make it possible both to find more oil and to extract more of it from existing fields. In the 1980s, for example, progress in technology increased proven world oil reserves from 670 billion barrels in 1984 to 1 trillion barrels in 1990 and then to 1.38 trillion barrels in 1998. Of course, it is false to believe that oil can be found infinitely. The point is official figures for proven reserves are subject to chance and can't be taken at face value.

Since major technological innovations drive down the costs of finding, producing, and refining oil, the average cost per barrel of finding and producing oil dropped about 60% in real terms from 1987 to 1997. In the U.S., the oil industry closed 29 refineries from 1990 to 1997 and still increased output by 105,000 barrels a day thanks to efficiency in refining. Small-scale fields used to be unprofitable, but this business makes economic sense now because of efficiency in finding and extracting black gold. The current exploration sensors use magnetic resonance imaging to steer a drill bit intelligently through the ground to oil beds. The use of an air-injection technique doubles the average oil-retrieval rate. Deep-sea oil fields are also profitable with drilling ships and floating rigs constantly adjusted by computer-controlled thrusters. These technological advances lead to more supplies at lower costs.[18]

As memories of the Gulf War are fading and economic matters are assuming a deeper significance, joint ventures with Western oil firms are welcome in oil-rich countries again, largely because of accompanying technology. Iran is working on an offshore oil development with France's oil company Total. Qatar, Indonesia, and Malaysia have partnered with the supermajor Exxon Mobil. Technology is helping oil companies cut deals with OPEC member countries. Joint ventures like these will no doubt expand supply growth and increase downward pressure on prices.

All these developments in the oil industry seem to support the optimistic prediction that oil prices will remain stable or even fall in real terms for the next 5 to 10 years. In fact, the inflation-adjusted price of oil has almost halved from its 1980-81 peak. Currently at $25.58 a barrel,[19] oil is cheaper than bottled water. What's more, oil prices won't rise in the long run even as demand soars, because the surplus of oil and the introduction of new technology are dragging down the cost of the precious stuff. As mentioned in Econ 101 textbooks,[20] supply and demand are more elastic in the long term than in the short term. This implies that OPEC's production cuts are eventually made up for by non-OPEC production, energy conservation and substitution, and that OPEC will lose its effectiveness as a cartel.

On the other hand, there is also a pessimistic scenario saying that another oil price shock can materialize as we run out of oil in the future, say, in 2050. The growth of America's economy and increased sales of gas-guzzling pickups and sports-utility vehicles have added to the demand for oil. With globalization expanding the world economy, cars are becoming affordable to more and more people. So it is only natural to conclude that long-term demand is constantly on the rise.

Given the present world crude reserves and the annual consumption level,(21) oil will last no more than 50 years.(22) The largest importer of oil is the United States, followed by Japan and Germany. While other aspiring countries are trying to catch up on consumption, their incessant thirst for oil not only drives up the rate of depletion but aggravates the problem of environmental destruction. In this regard, the doomsayers have played an important role of stressing the need for energy conservation and awareness of the issues involved. For them, oil is far from being just another commodity.

The International Energy Agency, which was founded in the mid-1970s to protect the West against another oil crisis, predicts that world demand for oil will jump from 75 million BPD in 1997 to 115 million BPD in 2020.(23) With two thirds of the world's proven oil reserves lying in the Middle East, oil-rich countries like Saudi Arabia, Iraq and Iran will continue commanding world attention. And OPEC, which controls 60% of all oil exports,(24) will be tempted to raise oil prices or use oil as a political weapon unless affordable alternative sources of energy are developed soon enough.

[Notes]

(1) Yergin (1991: 558).

(2) Henceforth, BPD is used in this paper to stand for "barrels per day."

(3) Source: IMF's *International Financial Statistics.*

(4) Its OPEC quota was 2.4 million BPD. See Bahree, B. & Fritsch, P. "OPEC Ministers Set Accord to Limit Oil Output," *Wall Street Journal*, June 27, 1997 and Fritsch, P. "OPEC Mulls First Big Rise in Quotas in 4 Years," *Wall Street Journal,* November 27, 1997 (WSJ '97-11-27).

(5) WSJ '97-11-27 and Fritsch, P. "OPEC Accord to Lift Cap on Output May Cut Prices," *Wall Street Journal,* December 1, 1997.

(6) Ewing, T. "Crude-Oil Prices Plunge to Lows of 1980s Bust," *Wall Street Journal,* December 1, 1998.

(7) "Iraq Boosts Oil Production Capacity," *Japan Times,* December 14, 1999.

(8) Fialka, J. J. "U.S. Renews Pressure on OPEC to Raise Output, Seeks Approval to Tap Reserve," *Wall Street Journal,* March 20, 2000.

(9) Bahree, B. "Saudis Lead Plan to Form New OPEC to Boost Price of Oil by Ending Glut," *Wall Street Journal,* June 29, 1998.

(10) Bahree, B. "OPEC Faces Output Puzzle at Meeting, Thanks to Surging U.S. Gasoline Prices," *Wall Street Journal,* June 20, 2000.

(11) VandeHei, J. "Gasoline Prices Become a Major Campaign Issue," *Wall Street Journal,* June 21, 2000.

(12) *Business Week,* July 3, 2000.

(13) The U.S. benchmark WTI costs a few dollars more. See Bahree, B. & Herrick, T. "OPEC Output Cut Should Top Forecasts," *Wall Street Journal,* March 16, 2001.

(14) It was estimated that more than a quarter of Iraq's oil flowed to the U.S. Because of its superior quality, Iraqi crude accounted for about 7% of total U.S. imports. See King, N., Jr., Bahree, B., & Barrionuevo, A. "Iraq Moves to Regain Lost Oil Revenue, Cutting Off Exports over Surcharge Issue," *Wall Street Journal*, December 4, 2000 and Bahree, B., Barrionuevo, A., & Herrick, T. "Iraq Says It Is Moving toward Accord on an Oil-Export Issue, and Prices Ease," *Wall Street Journal*, December 5, 2000.

(15) "Australian Blockade," *Japan Times*, November 21, 2000.

(16) Herrick, T. & King, N., Jr. "Crude Prices Take a Tumble, with Iraqi Exports Seen Resuming," *Wall Street Journal*, December 11, 2000.

(17) Sanchez, M. "Crude Oil Plunges to a Nine-Month Low Amid Talk of Global Economic Slowdown," *Wall Street Journal*, December 21, 2000.

(18) *Business Week*, November 3, 1997.

(19) The spot price is that of WTI as of April 2, 2001.

(20) See Mankiw (1998).

(21) Source: the U.N.'s *Energy Statistics Yearbook*.

(22) Before all the accessible oil is extracted, there will be some cheaper alternative sources of energy replacing oil.

(23) "OPEC Still at Odds with Buyers over Prices at Energy Forum," *Japan Times*, November 21, 2000.

(24) "OPEC Spurns Calls for Production Hike," *Japan Times*, November 14, 2000.

[References]

Adams, W. & Brock, J. W. 1995. *The Structure of American Industry*. Englewood Cliffs, NJ: Prentice-Hall.

Coy, P. & McWilliams, G. "The New Economics of Oil," *Business Week*, November 3, 1997.

Mankiw, N. G. 1998. *Principles of Economics*. Orlando, FL: The Dryden Press.

Palmeri, C. & Forest, S. A. "Who's to Blame," *Business Week*, July 3, 2000.

Reed, S. "Got Those OPEC Blues Again," *Business Week*, December 6, 1999.

Schneider, S. A. 1983. *The Oil Price Revolution*, Baltimore, MD: The Johns Hopkins University Press.

Yergin, D. 1991. *The Prize*. New York: Simon & Schuster.

経済企画庁編 『昭和61年版　世界経済白書』 大蔵省印刷局, 1987年3月。

経済企画庁編 『平成10年版　世界経済白書』 大蔵省印刷局, 1998年11月。

経済企画庁編 『平成11年版　世界経済白書』 大蔵省印刷局, 1999年11月。

藤和彦『石油神話』文藝春秋, 2001年1月。

矢野恒太記念会編 『世界国勢図会 1999/2000年版』 国勢社, 1999年6月。

[Abstract]

Is Oil Just Another Commodity? : Six Oil Crises and Oil's Boom and Bust Cycles after the 1991 Gulf War

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This paper illustrates how oil prices have fluctuated widely ever since the first Oil Shock of 1973-75, briefly touching on six oil crises developed in the Middle East. The causes for these fluctuations included Arab producers' use of oil as a political weapon, consumers' fears about possible future supply shortages, and speculation on major world markets. In its efforts to maximize profits, the Organization of Petroleum Exporting Countries has engaged in establishing a successful cartel, whose effectiveness has often been undermined by the members' surplus production beyond quotas, increased production of oil outside of the group, and technological advances in oil exploration and extraction. Now, with renewed cooperation not only within the group but with non-OPEC producers, OPEC is regaining its grip on the oil market, which raises the question of whether an oil cartel can work in the long run.