

66. Charles Oman, *New Forms of International Investment in Developing Countries* (Paris: OECD, 1983).
67. United Nations, *Transnational Corporations: Third Survey*, pp. 102-122.
68. *Ibid.*, p. 229.
69. Lacey and Garza, "Mexico—Are the Rules Really Changing?" pp. 572-573.
70. See, for example, Business International Corporation, *Investment, Licensing and Trading Conditions Abroad: Peru* (New York: Business International, 1973).
71. See, for example, Business International Corporation, *Investment, Licensing and Trading Conditions Abroad: Brazil* (New York: Business International, 1973).
72. Newfarmer and Mueller, *Multinational Corporations in Brazil and Mexico*, pp. 55, 112, 150; Peter Evans, *Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil* (Princeton: Princeton University Press, 1979).
73. Jeffrey Frieden, "Third World Indebted Industrialization: International Finance and State Capitalism in Mexico, Brazil, Algeria and South Korea," *International Organization*, 35, No. 3 (Summer 1981), pp. 407-431.
74. UNCTC, *Transnational Corporations in World Development: Trends and Prospects*, pp. 67-71.
75. *Ibid.*, p. 82.
76. *Ibid.*, p. 76.
77. *Ibid.*, p. 76.
78. *Ibid.*, pp. 82-83.
79. *Ibid.*, p. 269.
80. *Ibid.*, pp. 264-265.
81. *Ibid.*, p. 269.
82. *Ibid.*, p. 76-78.
83. *Ibid.*, pp. 169-173.
84. *Ibid.*, pp. 332-337.
85. *Ibid.*, p. 348.

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Oil and Cartel Power

The most successful effort of Southern countries to alter their dependent relationship with the North was the common action of OPEC (Organization of Petroleum Exporting Countries) in seizing control over the world's oil markets. By acting together in a producer cartel, the Southern oil-exporting states were able to increase not only their economic rewards but also their political power. OPEC's success led to efforts to form other Southern commodity cartels. But the OPEC model would prove difficult to reproduce, and even OPEC eventually confronted the inevitable limitations of a producer cartel.

The Dependency System of International Oil

For most of the twentieth century, the international oil system has been controlled by a producer cartel. Until 1973, that cartel consisted of an oligopoly of international oil companies.¹ The "seven sisters"—five American (Standard Oil of New Jersey, now known as Exxon; Standard Oil of California, now known as Chevron; Gulf, now part of Chevron; Mobil; and Texaco), one British (British Petroleum), and one Anglo-Dutch (Royal Dutch-Shell)—first gained control of their domestic oil industries through vertical integration, that is, by controlling all supply, transportation, refining, and marketing operations as well as by controlling the technology for exploration and refining.

In the late nineteenth century, the oil companies then in existence began to move abroad and obtain control of foreign supplies on extremely favorable terms.² After World War I, the seven formed joint ventures to explore for foreign oil fields, and eventually in the 1920s they began to divide up sources of supply by explicit agreements. They were thus able to divide markets, fix world prices, and discriminate against outsiders.³ Northern political dominance of the oil-producing regions—the Middle East, Indonesia, and Latin America—facilitated the activities of the oil companies. Governments provided a favorable political and military environment and actively supported the oil companies owned by their nationals.

In bargaining with the oil companies, the less-developed countries were confronted by an oil oligopoly supported by powerful Northern governments as well as by uncertainty about the success of oil exploration and the availability of alternative sources of supply. It is not surprising that the seven sisters obtained concession agreements that gave them control over the production and sale of much of the world's oil in return for the payment of a small fixed royalty to their host governments.⁴

Beginning in the late 1920s and continuing through the years of the great depression of the 1930s, oil prices tumbled despite the efforts of the seven sisters to stabilize markets. At that time, the United States was the largest producer in the world and exported oil to Europe and elsewhere. Efforts at the government level (including not only the U.S. federal government but more significantly the largest producer state, Texas) succeeded where the seven sisters could not in regulating production in order to create a price floor. Thus, the Texas Railroad Commission emerged as the single most significant political force in the international oil industry.

Changes in this system began to emerge in the decade following World War II. In the 1950s, relatively inexpensive imported oil became the primary source of energy for the developed world. Western Europe and Japan, with no oil supplies of their own, became significant importers of oil. In 1950, U.S. oil consumption outdistanced its vast domestic production, and the United States became a net importer of oil. In the host countries, growing nationalism combined with the great success of oil exploration led to dissatisfaction with concession agreements and to more aggressive policies. In these years, the host governments succeeded in revising concession agreements negotiated before the war. They redefined the basis for royalty payments and instituted an income tax on foreign oil operations. They also established what at the time was considered a revolutionary principle: the new royalties and taxes combined would yield a fifty-fifty division of profits between the companies and their respective host governments.⁵ As a result, profits accruing to host governments increased significantly. The per-barrel payment to Saudi Arabia, for example, rose from \$0.17 in 1946 to \$0.80 in 1956–1957.⁶

Nonetheless, the seven sisters, also known as the majors, continued to dominate the system. By controlling almost all the world's oil reserves outside the Communist states (e.g., production at the wellhead, refining and transportation, and marketing), they were able to manage the price of oil.

The seven sisters maintained control, in part, by preventing incursions by competitors. The majors blocked other companies from entering upstream operations outside North America, that is, crude oil exploration and production, by locking in concession agreements with many oil-rich areas and by the long lead times required for finding and developing oil in territory unclaimed by the majors. Outsiders were also deterred from competing with the seven sisters downstream, that is, in refining, transporta-

tion, and marketing operations. Not having their own crude oil supplies, independent refiners had to purchase oil from the majors, who were also their competitors. But the majors deliberately took their profits at the less-competitive and lower-taxed upstream level by charging a high price for crude oil as compared with the final product. The small profits for downstream operations discouraged new entrants.

The management of the price of oil was facilitated by the highly inelastic demand for oil. Because there are no readily available substitutes and because it is difficult to decrease consumption, an increase in the price does not greatly decrease the demand for oil in the short run. Thus, if companies can maintain a higher price for oil, they will not lose sales volumes and so will reap high profits.

Thus, in the 1950s and 1960s, the seven sisters controlled supply by keeping out competitors and by a series of cooperative ventures: joint production and refining arrangements, long-term purchase and supply agreements, joint ownership of pipelines, and some joint marketing outside the United States. They also refrained from price competition. Price management by the majors was designed to keep the price of oil economically attractive but also low enough to discourage competing forms of energy including nuclear energy. Developed country governments did not resist this price management. Europeans added a tax on petroleum in order to protect the domestic coal industry, because lower oil prices would have increased oil consumption at the expense of the politically powerful coal companies and coal miners. In the United States, higher oil prices were supported by the domestic oil industry that needed protection from lower international prices to survive and, as we shall discuss, eventually obtained that protection.⁷

Finally, the dominance of the seven sisters was backed by political intervention. One extreme example occurred in the early 1950s when the government of Iran sought a new agreement with the Anglo-Iranian Oil Company, a predecessor of British Petroleum, and nationalized the company's assets in Iran. The British government became actively involved in the negotiations, imposed an economic embargo on Iran, and threatened military intervention. After trying unsuccessfully to mediate between Britain and Iran, the United States worked with opposition parties and the shah to overthrow the Iranian government. A new concession was soon negotiated under which the U.S. companies replaced Anglo-Iranian.⁸

However, as OPEC would later discover, it is difficult to maintain a producer cartel in the long run. Over time, changes in the international oil industry, the oil-producing states, and the oil-consuming developed countries undermined the dominance of the seven sisters.⁹ The oligopolistic structure of the international oil industry was weakened by the entrance of new players. Competition increased both upstream, as new players sought concessions to explore for and produce crude oil, and downstream, as more refineries were built and competition grew in markets for refined oil.

Starting in the mid-1950s, companies previously not active internationally obtained and successfully developed concessions in existing and new oil-producing regions such as Algeria, Libya, and Nigeria. In 1952, the seven majors produced 90 percent of crude oil outside North America and the Communist countries, and by 1968 they still produced 75 percent.¹⁰

As new production by new producers came on line, the seven sisters were no longer able to restrict supply and maintain the price of oil at the old level. By the end of the 1950s, production increases outdistanced the growth in consumption. United States quotas on the import of foreign oil aggravated the problem. Quotas were instituted in 1958 ostensibly for national security reasons: to protect the U.S. market from lower-priced foreign oil in order to ensure domestic production and national self-sufficiency. In fact, quotas also helped domestic U.S. producers that could not have survived without protection.¹¹ The quotas effectively cut off the U.S. market for the absorption of the new supplies produced abroad. As a result, in 1959 and 1960, the international oil companies lowered the posted price of oil, the official price used to calculate taxes. This act was to be a key catalyst for producer-government action against the oil companies.

Changes in the oil-producing states also weakened the power of the oil company cartel. In addition to changing elite attitudes, improved skills, and less uncertainty, the emergence of new competitors was critically important in increasing the bargaining power of the host governments. In negotiations with the oil companies, producer states obtained larger percentages of earnings and provisions for relinquishing unexploited parts of concessions.¹² As a result, the oil-producing governments, especially large producers such as Libya and Saudi Arabia, increased their earnings and began to accumulate significant foreign exchange reserves. Monetary reserves further strengthened the hand of the oil producers by enabling them to absorb any short-term loss of earnings from an embargo or production reduction designed to increase the price of oil or to obtain other concessions.

At the same time, host governments began to cooperate with each other. Enfuriated by the price cuts of 1959 and 1960 that reduced their tax receipts, five of the major petroleum-exporting countries—Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela—met in 1960 to discuss unilateral action by the oil companies. At that meeting, the five decided to form an Organization of Petroleum Exporting Countries to protect the price of oil and the revenues of their governments.¹³ In its first decade, OPEC expanded from five to thirteen members, who accounted for 85 percent of the world's oil exports.¹⁴ Initially, the new organization had little success. OPEC's influence depended on the ability of its members to cooperate to reduce production and thus to force a price increase. Although OPEC tried, it was unable to agree on production reduction schemes. Nevertheless, the individual oil-producing states succeeded in increasing their revenues. The

posted price of oil was never again lowered. And the oil-producing states gradually expanded their experience in cooperation. But not until the 1970s, when other conditions became favorable, would OPEC become an effective tool of the producer states.¹⁵

Finally, the Western consuming countries became vulnerable to the threat of supply interruption or reduction. As oil became the primary source of energy and as U.S. supplies diminished, the developed-market economies became increasingly dependent on foreign oil, especially from the Middle East and North Africa. By 1972, Western Europe derived almost 60 percent of its energy from oil, almost all of which was imported. Oil from abroad supplied 73 percent of Japan's energy needs. And 46 percent of U.S. energy came from oil, almost one-third of which was imported. By 1972, 80 percent of Western European and Japanese oil imports came from the Middle East and North Africa. By 1972, even the United States relied on the Middle East and North Africa for 15 percent of its oil imports.¹⁶ This economic vulnerability was accentuated by declining political influence in the oil-producing regions and by the absence of individual or joint energy policies to counter any manipulation of supply.

The Process of Change: From Negotiation to Unilateral Power

In the 1970s, OPEC took advantage of these changes and asserted its power as a producer cartel. Favorable international economic and political conditions plus internal cooperation enabled the oil-producing states—especially the Arab oil producers—to take control of prices and, then, to assume ownership of oil investments.

The OPEC revolution was triggered by Libya.¹⁷ Libya had definite negotiating advantages: it supplied 25 percent of Western Europe's oil imports¹⁸; certain independent oil companies relied heavily on Libyan oil and were more vulnerable than the majors in Libya; and Libya had large official foreign exchange reserves. After Colonel Muammar al-Qaddafi seized power in 1969, the new radical government demanded an increase in the posted price of and the tax on Libyan oil. When the talks with the companies stalled in 1970, the government threatened nationalization and a cut in oil production. It targeted the vulnerable Occidental Petroleum, which relied totally on Libya to supply its European markets. Shortly after production cuts were imposed, Occidental, having failed to gain the support of the majors, capitulated, and the other companies were forced to follow. The settlement provided for an increase in the posted price of and the income tax on Libyan oil. The Libyan action revealed the vulnerability of the independent oil companies like Occidental and the unwillingness of the Western governments or the majors to take forceful action in their support.

At a meeting in December 1970, OPEC called for an increase in the posted price of and income taxes on oil. The companies, seeking to avoid a producer policy of divide and conquer, agreed to negotiate with all oil-producing countries for a long-term agreement on price and tax increases. The governments of the oil-consuming states, although increasingly concerned, allowed the companies to manage relations with the oil producers.¹⁹ Following threats to enact changes unilaterally and to cut off oil to the companies in February 1971, the companies signed a five-year agreement that provided for an increase in the posted price of Persian Gulf oil from \$1.80 to \$2.29 per barrel, an annual increase in the price to offset inflation, and an increase in government royalties and taxes. In return, the companies received a five-year "commitment" on price and government revenues. In April 1971, a similar agreement, but with a higher price, was reached with Libya. After the devaluation of the dollar in 1971 and 1972 and thus of the real price of oil, the producers demanded and received a new agreement that provided for an increase in the posted price of oil and continuing adjustment to account for exchange rate changes. The price of Persian Gulf oil rose to \$2.48.

No sooner had the issue of price and revenue been settled than OPEC requested a new conference to discuss nationalization, that is, control over production. A December 1972 agreement among Saudi Arabia, Qatar, Abu Dhabi, and the companies provided a framework: government ownership would start at 25 percent and rise gradually to 51 percent by 1982. Individual states then entered into negotiations with the oil concessionaires.

The final negotiation between the oil producers and the oil companies took place in October 1973. Despite their successes, the oil producers were dissatisfied. Although surging demand for oil drove up the market price, the posted price remained fixed by the five-year agreements. Thus, the oil companies, not the oil producers, benefited. Furthermore, the companies were bidding for new government-owned oil at prices above those of the five-year agreements.

Finally, increasing inflation in the West and continuing devaluation of the dollar lowered the real value of earnings from oil production. Economic conditions were favorable to OPEC. Because of rapidly rising demand and shortages of supply, the developed market economies were vulnerable to supply interruption. Thus, when OPEC summoned the oil companies for negotiations, they came. Negotiations began on October 8. The oil producers demanded substantial increases in the price of oil; the companies stalled; and on October 12 the companies requested a two-week adjournment of talks to consult with their home governments.

The adjournment was not for two weeks but forever. Political as well as economic conditions now enhanced the bargaining position and escalated the demands of the most powerful oil producers: the Arab states. The fourth Arab-Israeli war had begun on October 6, just two days before the oil talks

began. A common interest in supporting the Arab cause vis-à-vis Israel and the supporters of Israel in the consuming states was a force for unity of the Arab members of OPEC in their economic confrontation with the companies and the consumers. On October 16, the Organization of Arab Petroleum Exporting Countries (OAPEC) unilaterally increased the price of their crude oil to \$5.12.²⁰ Other oil producers followed. On December 23, OPEC unilaterally raised the price of Persian Gulf oil to \$11.65.

After the autumn of 1973, oil prices were controlled by OPEC. Operating in a market where supplies were limited and demand high, the producers negotiated among themselves to determine the posted price of oil and the production reductions needed to limit supply and maintain price. The key to reducing supply was the role of the major reserve countries and large producers. Saudi Arabia and Kuwait were willing to support the cartel by themselves, absorbing a large part of the production reductions necessary to maintain the price. The role of these two countries was facilitated by the tight oil markets, which meant that price could be managed when necessary by only limited production reductions. Power over price was quickly translated into equity control. All the major oil-producing states signed agreements with the oil companies for immediate majority or total national ownership of subsidiaries located in those states. In the long run, as we shall see, the abrupt movement of control over production from the seven sisters to OPEC would prove to be the real revolution of the 1970s oil crisis.

The monopoly control of oil by OPEC, the unity of the producers, and tight market conditions undermined the position of the oil companies. Furthermore, the companies had little incentive to resist. They were able in most cases to pass the price increases along to consumers and thus did not suffer financially from the loss of control over price. Although no longer either the arbiters of supply and price or the owners of oil concessions, the seven sisters and their many smaller relatives still played a vital role in the international oil scene. As holders of technology and markets, they were needed by the newly powerful producer governments. As their holdings were nationalized, they became vital service contractors to the producer states. Still, it was a far cry from the days when the companies divided up the producing regions among themselves and obtained control of the world's oil for almost nothing.

With the decline of the companies, the Northern consumer governments tried but failed to agree on a common policy toward the producers. The United States urged Western Europe and Japan to form a countercartel that would undermine producer solidarity by presenting a united front and by threatening economic or military retaliation. The Europeans and Japanese—more dependent on foreign sources of oil, less interested in support for Israel, and somewhat fearful of U.S. dominance—instead advised cooperation with the producers. A consumer conference in early 1974 failed to reconcile these opposing views. The only agreement was to estab-

lish an International Energy Agency (IEA) to develop an emergency oil-sharing scheme and a long-term program for the development of alternative forms of energy. France, the strongest opponent of the U.S. approach, refused to join the IEA and urged instead a producer-consumer dialogue.

After the conference, consumer governments went their own ways. The United States tried to destroy producer unity by continuing to press for consumer unity and the development of the IEA. The Europeans sought special bilateral political and economic arrangements with the oil producers and resisted consumer bloc strategies. In late 1974, a compromise was reached between the United States and France. The United States obtained France's grudging acceptance of the IEA, although France still refused to join, and France obtained the grudging support of the United States for a producer-consumer dialogue. The Conference on International Economic Cooperation (CIEC), begun in 1975 (see Chapter 7), constituted a recognition, if not a total acceptance, by the United States and the other consumers that they could not alter the power of the producer states over the price of oil and that what they could seek at best was some conciliation and coordination of common interests. Even that coordination proved elusive. In 1977, the CIEC and the effort to achieve a forum for a producer-consumer dialogue failed.

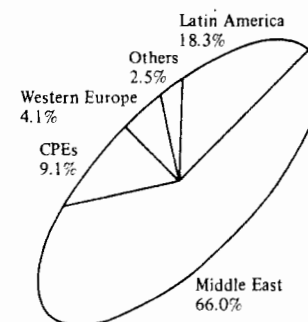
OPEC Management

For five years the management of the international oil system was carried out by OPEC under the leadership of Saudi Arabia. Saudi dominance of OPEC's production and Saudi financial strength enabled that country to manage the oil cartel virtually singlehandedly. Saudi Arabia accounted for close to one-third of OPEC's production and exports, controlled the largest productive capacity and the world's largest reserves of petroleum, and possessed vast financial reserves (see Figure 9-1).

In periods of excess supply, as during the recession of 1975, Saudi Arabia maintained the OPEC price by absorbing a large share of the necessary production reductions. The burden of such reductions was minimal because of the country's huge financial reserves and because even its ambitious economic development and military needs could be more than satisfied at a lower level of oil exports. In periods of tight supply, Saudi Arabia increased its production to prevent excessive price rises. With a small population, limited possibilities of industrial development, and the world's largest oil reserves, Saudi Arabia's future is dependent on oil. Furthermore, with its financial reserves invested largely in the developed countries, it has a stake in the stability of the international economic system.

Figure 9-1 Proved Reserves of Oil at End of 1987.

Oil Reserves Growth, 1967-1987



Total reserves
1967: 418 billion barrels
1987: 896 billion barrels

Proved reserves of oil are generally taken to be those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

Reserves/Production (R/P) ratio. If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at the then current level.

SOURCE OF DATA. The estimates contained in this table are those published by the Oil and Gas Journal in its "Worldwide Oil" issue of 28th December 1987, plus an estimate of natural gas liquids for North America. Reserves of shale oil and tar sands are not included. United Kingdom reserves data are taken from the United Kingdom Department of Energy's Brown Book, published in April 1988; *British Petroleum Statistical Review of World Energy*, June 1988 (The British Petroleum Company p.l.c. 1988).

	Thousand Million Tonnes	Thousand Million Barrels	Share of Total (percentage)	R/P Ratio
North America				
USA	4.2	33.4	3.7	9.0
Canada	1.011	7.7	0.9	11.3
Total North America	5.2	41.1	4.6	9.4
Latin America				
Argentina	0.3	2.3	0.3	14.7
Brazil	0.3	2.3	0.3	11.0
Ecuador	0.2	1.6	0.2	26.4
Mexico	6.8	48.6	5.4	47.9
Venezuela	8.1	56.3	6.3	91.2
Others	0.4	3.2	0.4	11.2
Total Latin America	16.1	114.3	12.9	49.3
Western Europe				
Norway	1.9	14.8	1.6	37.3
United Kingdom	0.7	5.2	0.6	5.5
Others	0.3	2.4	0.3	12.9
Total Western Europe	2.9	22.4	2.5	14.6
Middle East				
Abu Dhabi	12.1	92.2	10.3	*
Dubai	0.5	4.0	0.4	26.5
Iran	12.7	92.9	10.4	*
Iraq	13.4	100.0	11.2	*
Kuwait	12.7	91.9	10.3	*
Neutral Zone	0.7	5.2	0.6	36.8
Oman	0.6	4.0	0.4	19.3
Qatar	0.4	3.2	0.3	25.6
Saudi Arabia	22.7	167.0	18.6	*
Syria	0.3	1.8	0.2	20.7
Others	0.4	2.6	0.3	61.3
Total Middle East	76.5	564.8	63.0	*
Africa				
Algeria	1.1	8.5	0.9	24.6
Angola	0.2	1.1	0.1	8.9
Egypt	0.6	4.3	0.5	12.9
Libya	2.8	21.0	2.3	57.8
Nigeria	2.2	16.0	1.8	34.1
Tunisia	0.2	1.8	0.2	47.0
Others	0.3	2.5	0.3	13.5
Total Africa	7.4	55.2	6.1	29.4
Asia & Australasia				
Japan	†	0.1	†	12.8
Brunei	0.2	1.4	0.2	27.8
Indonesia	1.1	8.4	0.9	17.6
Malaysia	0.4	2.9	0.3	15.3
Other South East Asia	†	0.3	†	19.7
India	0.6	4.3	0.5	18.7
Other South Asia	†	0.2	†	6.5
Australia	0.2	1.7	0.2	7.7
New Zealand	†	0.2	†	21.9
Total Asia & Australasia	2.5	19.5	2.1	15.9
Total NCW	110.6	817.3	91.2	51.6
Centrally Planned Economies (CPEs)				
China	2.4	18.4	2.0	18.2
USSR	8.0	59.0	6.6	12.9
Others	0.2	1.8	0.2	11.0
Total CPEs	10.6	79.2	8.8	13.7
Total World	121.2	896.5	100.0	41.5
Of which OPEC	91.1	670.7	74.8	98.6

*Over 100 years † Less than 0.05

Thus, although the Saudis want a price of oil that is high in terms of Saudi Arabia's cost of production (less than \$1 per barrel), they do not want a price high enough to jeopardize the future of an oil-based energy system and the viability of the world economy. The Saudi view is shared by other Gulf states who, with the Saudis, form the moderate camp in OPEC.

The Saudis were willing and able to threaten or actually to raise production to prevent the price increases desired by other OPEC members favoring a more hawkish strategy on oil prices. These countries, which traditionally include Iran, Iraq, Venezuela, and Nigeria, have large populations, ambitious development plans, and smaller reserves and, therefore, seek to maximize their oil revenues in the short term. For example, in 1975, OPEC, over Saudi opposition, approved an immediate 10-percent and subsequent 15-percent price increase. Saudi Arabia and the United Arab Emirates (UAE) split with the other OPEC members, announced a 5-percent increase, and greater production. By June, they had forced the rest of OPEC to limit the price increase to an acceptable 10 percent. In 1978, when oil markets eased, the Saudis maintained the price by absorbing the majority of reductions of production, exports, and earnings. And in 1979 and 1980, when supplies became tight once again, the Saudis increased production to try to prevent a price explosion (see Table 9-1).

In addition to Saudi policy, a propitious environment contributed to the stability of the international oil system. In the mid-1970s, recession in the OECD countries, combined with conservation efforts arising from the increase in price, led to a stabilization of demand for oil. Indeed, demand was about the same in 1977 as it was in 1973.²¹ At the same time, the supply of oil was steady and even growing. OPEC production as determined by the Saudis was steady: there were no serious efforts to constrict the supply in order to push up the price. And new sources of oil—from the North Sea, Alaska, Mexico—were coming on line (see Table 9-1).

Political conditions in both the producing and the consuming states also enhanced stability. OPEC states, pursuing ambitious economic development programs, were spending their earnings at a rapid rate. Between 1974 and 1978 their combined current-account surpluses actually declined from \$35.0 billion to \$5.2 billion.²² As a result, the oil states had an interest in maintaining production, and therefore earnings, at a high level. In addition, key OPEC states friendly to the West, in particular Saudi Arabia and Iran, were responsive to Western concerns about the dangers of economic disruption from irresponsible management of the price and supply of oil.

The Western countries remained divided and acquiescent and, as time went on, increasingly complacent. Their inability to carry out a major restructuring of energy consumption rapidly was not cause for alarm, because the system seemed to have stabilized at an acceptable level of price and supply. Furthermore, Western foreign policies—the U.S. policy of

developing and relying on special relations with Saudi Arabia and Iran, and the European and Japanese policies of general political support for the oil producers—seemed to promise security of supply and stability of price. The Saudi rulers, safe on their throne, friendly to the United States (except on Arab-Israeli issues), and cognizant of their new responsibilities to the world economy, seemed to have OPEC well in hand. The government of the shah of Iran, also apparently stable and reliable, was more hawkish on price than the Saudis but more reliable on supply because it was not directly involved in the Arab-Israeli dispute.

As a result of the effective and moderate Saudi management and a propitious environment, supplies were adequate, and after the beginning of 1974, the price of oil in real terms actually dropped, as the periodic price increases by OPEC were offset by inflation (see Figure 9-2).

The Second Oil Crisis: A System Out of Control

By 1978, however, the political and economic environment had become highly unstable, and the ability and willingness of the Saudis to manage the price of and to ensure the supply of oil had diminished. By the end of the 1970s, the demand for oil imports increased as Western economies moved out of the 1974-1975 recession, as the initial shock effect of the price rise wore off, and as complacency set in with the real decline in the price of oil. While demand increased, the world's supply of oil fell. Iran had sharply curtailed its production. Saudi Arabia was willing to increase its production in the short run, but it kept output below capacity and suggested that it would not increase production ceilings in the future. And Kuwait announced plans to decrease its production.

By the end of 1978, the international oil system was once again vulnerable to disruption. World oil supplies were only barely adequate; any slight decrease in supply or increase in demand would precipitate a world shortage and put serious upward pressure on prices. If a supply reduction or demand increase were small, Saudi Arabia might be able to fill the gap and stabilize the system. But if the shifts were large, even the Saudis might not be able to control the system.

The event that created a world shortage of oil and disorder in world oil markets was the 1978 revolution in Iran. At the beginning of 1978, Iran exported 5.4 million barrels of oil a day, about 17 percent of total OPEC exports. At the end of 1978, as part of a successful effort to depose the shah, oil workers cut off all oil exports from that country. By the spring of 1979, the loss of Iranian oil had been to a great extent offset by increased production in the other oil-producing states. Saudi Arabia, for example, increased its production from about 8.3 million barrels per day in 1978 to about 9.5 million barrels in 1979.²³ However, the effect on oil markets of the

Table 9-1 Crude Oil Production^a (thousand barrels per day)

	1960	1970	1975	1980	1983	1984	1985	1986	1987
OECD ^b	7,866	11,527	10,756	12,859	13,775	14,300	14,754	14,555	14,257
United States	7,055	9,648	8,375	8,597	8,680	8,735	8,933	8,668	8,297
Canada	526	1,305	1,439	1,424	1,356	1,411	1,457	1,466	1,560
Norway	0	0	189	528	614	700	785	841	943
European Community	223	267	232	1,837	2,617	2,873	2,928	2,952	2,793
United Kingdom	3	2	12	1,619	2,299	2,535	2,533	2,508	2,338
Other countries									
Algeria	183	976	945	1,020	699	638	645	671	635
Indonesia	411	855	1,307	1,576	1,385	1,466	1,235	1,264	1,191
Iran	1,068	3,831	5,350	1,662	2,492	2,187	2,258	1,929	2,451
Iraq	1,004	1,563	2,262	2,514	922	1,203	1,437	1,746	2,076
Kuwait ^c	1,696	2,983	2,085	1,661	1,076	1,117	1,040	1,510	1,230
Libya	0	3,321	1,480	1,830	1,076	1,073	1,069	1,137	972
Mexico	271	420	705	1,936	2,666	2,746	2,733	2,431	2,541
Nigeria	17	1,090	1,783	2,058	1,241	1,393	1,464	1,461	1,286
Saudi Arabia ^c	1,315	3,789	7,075	9,903	5,062	4,649	3,468	5,101	4,262
United Arab Emirates	0	691	1,663	1,702	1,119	1,097	1,146	1,331	1,454
Venezuela	2,846	3,708	2,346	2,165	1,781	1,813	1,621	1,576	1,572
Communist countries									
USSR and Eastern Europe	3,220	7,316	9,933	11,996	12,158	12,019	11,626	12,019	12,197
USSR	2,943	6,976	9,570	11,700	11,864	11,728	11,350	11,754	11,930
Eastern Europe	277	340	363	296	294	291	276	265	267
Bulgaria	4	7	2	3	4	4	4	6	6
Czechoslovakia	3	4	3	2	2	2	2	3	2
East Germany	1	1	1	1	1	1	1	1	1
Hungary	24	39	40	41	40	40	40	40	40

	1960	1970	1975	1980	1983	1984	1985	1986	1987
Poland	4	8	11	7	4	4	4	3	3
Romania	241	281	306	242	243	240	225	212	215
Other									
Albania	15	30	37	NA	NA	NA	NA	NA	NA
China	102	602	1,542	2,113	2,121	2,280	2,496	2,613	2,680
Cuba	1	3	5	5	15	15	17	17	18
Yugoslavia	18	57	74	85	83	83	83	83	78

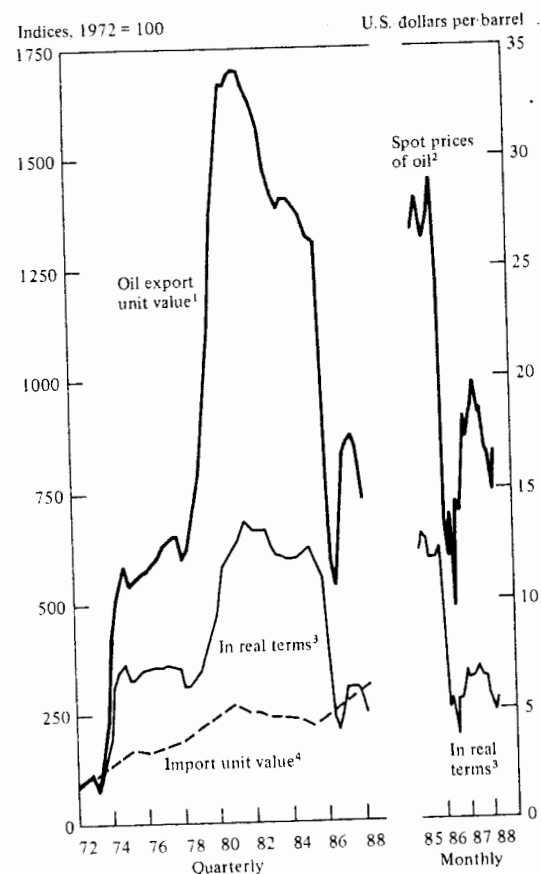
^aUnless otherwise indicated, data are for crude oil and exclude natural gas liquids, shale oil, natural gasoline, and synthetic crude oil.

^bIncluding shale oil.

^cIncluding about one-half of Neutral Zone production.

SOURCE: Central Intelligence Agency, *Handbook of Economic Statistics, 1988* (Washington, D.C.: CIA), p. 102.

Figure 9-2 Oil Prices, 1972–April 1988



¹Unit value of the oil exporting countries (according to the former analytical categories) in terms of U.S. dollars.

²Unweighted average of Brent, West Texas Intermediate, and Dubai spot prices in terms of U.S. dollars.

³Oil price deflated by import unit value of oil exporting countries.

⁴Import unit value of the oil exporting countries in terms of U.S. dollars.

SOURCE: International Monetary Fund, *Annual Report 1988* (Washington, D.C.: IMF, 1988), p. 18.

loss of Iranian oil could not be completely offset. The crisis led not only to a shortage of supply during the latter part of 1978 and early part of 1979 but also to a greater demand for oil, as consumers tried to augment stocks to protect against anticipated future shortfalls in supply. The result of this perceived shortage and rapid scrambling for stocks was again escalating prices and turbulence in the world oil markets.

The first signal of that turbulence came at the December 1978 OPEC meeting. At that meeting, OPEC agreed to gradually implement price increases amounting to an effective increase of 10 percent for 1979, a rate above the expected Western inflation rates and therefore the first real increase in the price of oil in five years.

This new price, however, did not hold. The Iranian revolution set off panic in the spot market for oil, which spilled over into the long-term contract markets. Most crude oil was then sold by long-term contract between the oil-producing countries and the oil companies at a price determined by OPEC. Oil not under long-term contract was sold in spot markets where the price fluctuates according to market conditions. In 1978 and 1979, those conditions were very tight, creating severe upward pressure on the spot market prices. In early 1979, spot prices rose as much as \$8.00 above the OPEC price of \$13.34 for Saudi Arabian light crude, their chief traded oil. The differential between the OPEC price under long-term contract and the higher spot price benefited the oil companies, which were able to purchase contract oil at relatively low prices. Many OPEC members, unwilling to allow the companies to benefit from such a situation, put surcharges above the agreed OPEC price on long-term contract oil and even broke long-term contracts in order to sell their oil on the spot markets. Despite its production increases and its refusal to add surcharges, Saudi Arabia was unable by itself to restore order to the world oil markets.

In March 1979, OPEC confirmed that the system was out of control. Instead of gradually implementing the price increase agreed in December 1978, OPEC announced it would immediately implement a 14.5 percent increase. More importantly, OPEC decided that its members would be free to impose surcharges on their oil. The surcharges, which many members immediately instituted, demonstrated that even OPEC and the Saudis were unable to control the price of oil. Furthermore, the OPEC members sought to maintain the tight market, which favored price increases, by agreeing to decrease their production as Iran returned to the oil export market. Despite an agreement by International Energy Agency members to reduce oil consumption by 5 percent for 1979, there was little consumers could do in the short run to stabilize the system. In July 1979, OPEC raised the price again. As the oil minister of Saudi Arabia explained, the world was on the verge of a "free for all" in the international oil system.²⁴

By the middle of 1980, the free for all appeared to be coming to an end. High levels of Saudi production and stable world consumption led to an easing of markets. In this climate, Saudi Arabia and other OPEC moderates sought to regain control over prices, reunify price levels, and develop a long-term OPEC strategy for gradual, steady price increases geared to inflation, exchange rate changes, and growth in the developed countries. In September 1980, OPEC discussed the long-term strategy and planned to continue deliberations at a summit meeting of heads of state in November 1980.

But the plan was destroyed by the outbreak of war between Iraq and Iran. On September 22, 1980, Iraq launched an attack on Iran's oil-producing region, and Iran's air force in turn attacked Iraq's oil facilities. The result was a halt in oil exports from these two countries and a reduction in world supplies by an estimated 3.5 million barrels per day—roughly 10 percent of world oil exports. The war dashed all hopes for stability in world oil markets. The OPEC summit was postponed indefinitely, and pressure began to build in the spot market. In December 1980, OPEC members set a new ceiling price of \$33 a barrel and spot prices reached \$41 a barrel.

The loss of Iraqi and Iranian oil was offset by a high level of world oil stocks, increased production by other Gulf states of an estimated 1 to 1.5 million barrels per day, and the sluggish demand caused by recession and the efforts of members of the International Energy Agency to dissuade companies from entering the spot market in precautionary panic buying, as they had done in 1979. Although such factors prevented panic and chaos, pressure on the spot prices was inevitable, as those countries that had relied on Iraq for oil imports turned to the spot market. As the hostilities continued, spot-market prices gradually rose, thus putting further pressure on long-term prices. Furthermore, damage to the oil production and export facilities in both countries raised questions about oil supplies even after the cessation of hostilities.

As the market conditions disintegrated, the foreign policies of the West, particularly that of the United States, were substantially weakened. The special relationship of the United States with Iran under the shah became one of hostility under the new Islamic government. Even the relationship of the United States with Saudi Arabia seemed threatened. The Camp David agreement between Israel and Egypt had led to a cooling of Saudi-U.S. relations. For the Saudis, the overthrow of the shah, the inability of the United States to keep him in power or even to prevent the holding of U.S. hostages raised doubts about the value and reliability of U.S. support. The events in Iran and an internal insurrection in Mecca in 1980 also raised the specter of internal political instability for both Saudi Arabia and the United States, which Teheran was seeking to foster.

Unstable market conditions and political uncertainty gave rise to widespread pessimistic predictions about the stability of oil prices and the availability of oil in the future. At the height of the second oil shock, experts predicted continuing chronic shortages and periodic interruptions in the supply of oil, at least through the end of the century, by which time alternative energy sources would supposedly be more fully developed. It was also predicted that OPEC market management would keep the price of oil rising approximately 2 percent faster than the rate of inflation.²⁵ Few observers of the international oil situation in the late 1970s foresaw the profound changes that were to take place as the world moved into the 1980s, changes that not only undermined the ability of the oil oligopoly to manage

the price of oil but also threatened the very institutional survival of the OPEC cartel.

OPEC in Decline: The World Oil Glut

OPEC's problems in the 1980s stemmed from its success. The cartel's ability to increase the price of oil eventually transformed the world oil market. The demand for oil fell, non-OPEC production grew, and as a result, a long-term surplus emerged, putting sustained downward pressure on prices. Moreover, the excess supply made it more difficult, if not impossible, for OPEC to manage prices, as it had in the previous decade.

The transformation of the international oil scene was due, in part, to declining demand. Total oil consumption in the industrial countries fell by an estimated 10 percent between 1980 and 1984, after having risen almost continuously for decades (see Table 9-2).²⁶ Worldwide recession and slow rates of growth in the major consuming countries contributed substantially to this decline. There was also a structural change in consumption patterns. Price increases led to a greater substitution of other fuels for oil, especially in the developed market countries, which rapidly expanded their consumption of coal, natural gas, and, in some countries, nuclear energy. Higher oil prices also stimulated energy conservation and structural adjustment, which were reinforced by government regulations and incentives. Price controls had cushioned the U.S. economy from the effects of the oil-price increases, encouraging imports and discouraging domestic exploration. The removal of controls precipitated a reduction in imports and permanently altered the structure of demand in the United States.²⁷ In response to the high oil prices, energy efficiency increased. Automobiles became more fuel efficient and homes were better insulated. It is estimated that industry in the non-communist developed countries improved its energy efficiency by a massive 31.1 percent between 1973 and 1982.²⁸

Along with the fall in demand, higher oil prices also attracted new suppliers to the international market. OPEC's management task became considerably more difficult, as the OPEC countries lost a substantial portion of their share of world production to non-OPEC producers. OPEC's share of the world oil market fell from 63 percent in 1973 to 48 percent in 1979 to 33 percent in 1983.²⁹ Non-OPEC production in the oil-exporting developing countries—especially Mexico and, to a lesser extent, China, Egypt, and Malaysia—rose steadily, from 2.8 million barrels per day in 1973 to 7.5 million barrels per day in 1983 (see Table 9-3). In the developed countries, several large reservoirs of new oil came into full operation, most notably in the North Sea, which made Norway and Britain players in the international oil game. In addition, the Soviet Union increased its production and exports in order to boost its foreign exchange earnings.³⁰