5

The owners of the world's petroleum resources

The Anglo-American oil treaty (1944–7) has been described as an initiative to devise a liberal (Painter's word) system of international control over Middle Eastern oil that would avoid debilitating competition and bring stability to the region. Of the manifold constituents of a liberal system, which I interpret as meaning a fair and just order, the indispensable principle would be full control over this resource by its owners. A liberal international agreement, then, should recognize the rights of ownership. Instead, the treaty validated concessionary contracts and the equal opportunity to acquire exploration and development rights. Nor did the treaty promise full producer state control over the industry in the future. In a vague provision, the treaty assured the safeguarding of producer economic interests.[1]

As it stood when finally rejected in 1947, the treaty offered little more to the producing states than they already possessed. It was not in the perceived interest of the USA or the UK to become parents of a liberal oil order. Nor did developing producer states concern themselves with consumer equity, the less so as most consumers were citizens of states considered hostile to the national goals of producer states. In the absence of a liberal settlement, the adversarial relationship between consumer interests, the MNOCs, and the producers smoldered after the Iranian crisis, flared momentarily in 1959–60, and then flamed uncontrollably by the end of the 1960s.

Violent confrontations during the 1950s in Iran, Egypt, and Syria and radical producer demands combined with the appearance of aggressive new players on the international oil stage to exert intense pressure on the MNOCs. Without warning, the MNOCs unilaterally lowered

posted prices in 1959–60. The uproar over that indiscreet act guaranteed escalated producer demands and further discord.

The forces emerging during the 1950s that, in combination, caused concern among the MNOCs gained momentum during the 1960s. What had been an irritation became a direct threat to MNOC concessionary authority. Extremely nationalistic and assertive new producers such as Libya and Algeria joined with older producers to challenge the concessionary status quo. Individual members of OPEC succeeded in wringing improved terms from the Big Eight firms (see Table 4.7), in part because of the willingness of numerous new international oil companies, such as the Oasis Group (Continental, Marathon, Amerada, and Shell) and Occidental, to offer terms to the host governments far superior to established concessionary agreements with the MNOCs. These and other newcomers sought markets just as the USA imposed import quotas and during a time of rising Soviet oil exports to the non-Communist world. Discounting and other price shaving tactics further alienated producer governments, particularly Venezuela.

The oil crisis of 1973 actually began in 1967 when yet another Arab–Israel war erupted. Between 1968 and 1972, producer demands, backed by potent oil power, emasculated MNOC control over oil. Buoyant western economies that gorged themselves on oil proved vulnerable to the application of producer state power. This chapter pivots on the intensifying confrontation between the MNOCs and members of OPEC; it reveals the evanescent quality of MNOC power.

Old and new sources of oil

During the 1960s, oil production was initiated in the United Arab Emirates (UAE, formed in 1971), Libya, and Nigeria while output from Algerian fields rose quickly (Table 4.6). Iran, Iraq, Saudi Arabia, and Kuwait achieved notable gains in production. By 1970, the above states contributed 39 percent of world oil production (47 percent of non-Communist production), compared with 24 percent in 1960. Simultaneously, Venezuela's global contribution declined by 6 percentage points, mirroring a decline in production growth rates first experienced during the 1950s. The US global share also fell, by 12 percentage points, even though total production rose by 37 percent. But US domestic output fell so far short of satisfying domestic demand that impressive production gains faded to insignificance compared with import requirements. US imports more than doubled from 1960 to 1972, rising from 91,000 metric tons (mt) daily to 237,000 mt daily. By 1970, US imports amounted to about one-half of domestic production. Furthermore, as

American oil demand rose, additions to reserves stagnated so that the reserve to production ratio fell from 12.8 in 1960 to 9.4 in 1969. Alaskan slope reserves reversed that decline only temporarily.[2]

International oil companies rushed into Libya, Algeria, the UAE states, and Nigeria while vast quantities of oil poured from the established fields of the older Persian Gulf producers. Each of the newer producers adopted different exploration and recovery policies. Libya consistently utilized the services of consortia. These consortia, some with a distinct Libyan interest, frequently joined independents with MNOCs. The only firms operating alone were Phillips, Amoco, and the largest single concessionaire, Continental. Libya denied the MNOCs the degree of control over oil production that they possessed in older producing states. In Algeria, independent in 1962, the national firm, Sontrach, replaced the state companies of France as the principal operator. Until 1971, France received a significant portion of domestic demand from Algeria, but on more and more onerous terms. By 1973, Libya and Algeria had essentially cast off dependency upon the larger western oil firms.

For the most part, the UAE and Nigeria relied upon the MNOCs for all phases of oil development. A subsidiary of Iraq Petroleum Company controlled Abu Dhabi's oil industry. Led by an RDS–BP joint venture, each of the Big Eight except SONJ launched exploratory efforts in Nigeria. The location of Nigeria and Libya and the low sulfur content of their oil gained them ready access to markets in Europe and the USA.[3]

Soviet oil production roared ahead during the 1960s as enormous volumes poured from the Volga–Urals fields (Table 4.6 and Map 4.2). The fields located between Kazan in the north and Orensburg in the south accounted for some 70 percent of annual output, drawn chiefly from the Tatar Republic. Beginning in the late 1960s, the Soviets launched an intensive oil and gas exploration program in western Siberia. Proven reserves in those giant but remote fields rose by over fifteen times between the mid-1960s and 1975 while production rose from 31 million metrc tons in 1970 to 148 mmt in 1975. By then, western Siberia contributed some 30 percent of total oil production and 81 percent of natural gas. Siberian oils yielded superior grades of gasoline, naphtha, and middle distillates.[4]

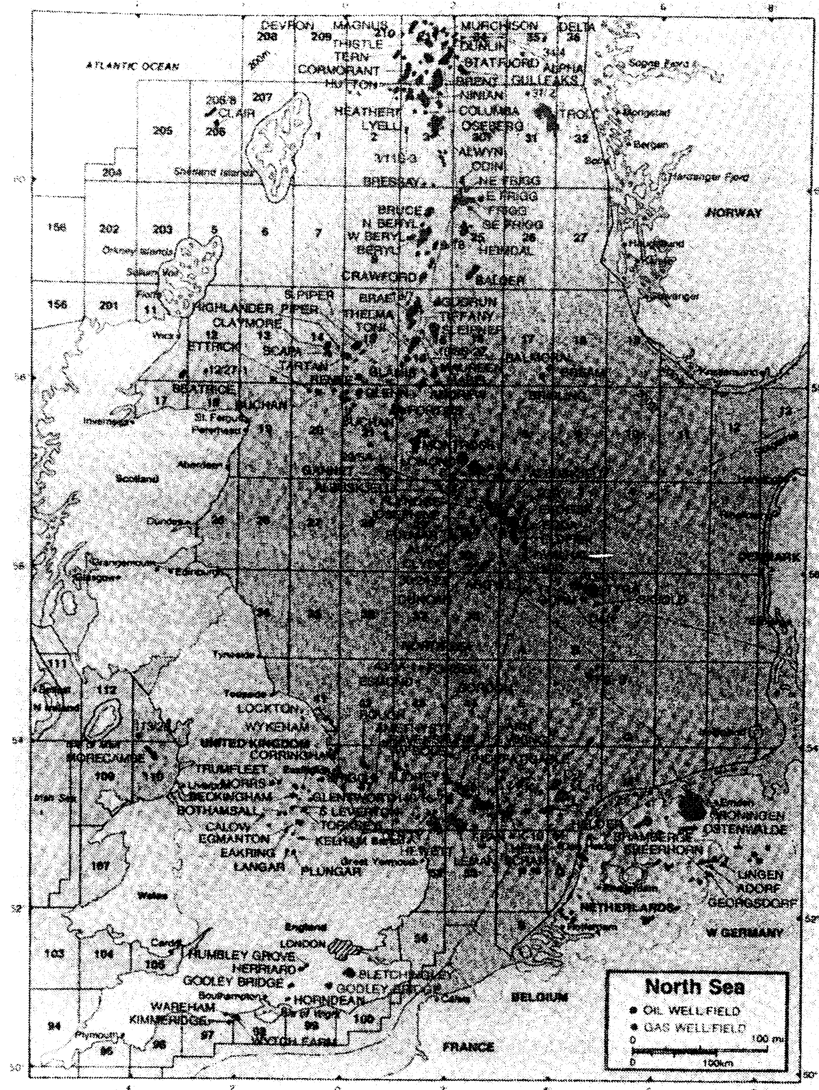
Vast natural gas reserves in western Siberia spurred the Soviets to search for markets in western Europe, an initiative arousing strong opposition from the Reagan administration in the early 1980s. The Soviets pressed forward with a massive pipeline construction program. While falling short of planned goals, the Soviets nonetheless built some 51,000 kilometers of oil and gas trunklines between the late 1960s and 1975. High on their list of priorities were lines from the giant gas fields of Urengoi to the borders of western Europe.[5]

Exploratory efforts in other parts of the world promised short-term benefits. Americans lavished attention on Alaskan fields, but as late as 1976 those distant pools yielded no more than 2 percent of US demand. Closer to the USA, investments in Canada by US firms escalated during the 1950s and garnered payoffs in the following decade, but profits there were by no means as lucrative as in Libya or the older producing states (Table 4.6). Exploration and discovery in Latin America fell afoul of the chameleon-like transformations of national policies toward MNOC investments. Peru's major firm, the International Petroleum Company (SONJ), harassed by the government, ceased drilling during the late 1950s. President Betancourt of Venezuela refused, in 1958, to grant new concessions which led directly to a sharp reduction in recoverable reserves and a level of production that actually fell during the 1970s. Notwithstanding Mexico's exploratory efforts during the 1950s and 1960s, the nation remained dependent upon foreign imports into the 1970s. Oil production in the western hemisphere, then, became ever more marginal to the international oil trade.[6]

In 1962, a number of oil companies initiated negotiations with the UK and Norway to obtain exploratory rights in the North Sea (Map 5.1). Between 1964 and 1972, Norway and Britain approved a number of contracts with various MNOCs, frequently operating in consortia, and reached agreement on partition of the North Sea with the Netherlands, Denmark and West Germany. Both Norway and Britain rejected traditional concessionary contracts, opting for terms that lodged control in the producing country. The licenses issued divided relatively small concessionary tracts among numerous MNOCs, the larger independents, and such state firms as France's Elf Acquitaine. Both states chose firms with successful exploratory records and financial resources capable of underwriting expensive operations.

Numerous oil and gas fields were discovered in the North Sea between 1965 and 1972. Among the joint venturers, Shell and Esso, Amoco and the UK Gas Council, Phillips and Petronord (Statoil, in 1972) led the way along with BP which operated independently. New discoveries by still other firms occurred after 1972. Natural gas production from the British sector commenced in 1967. Four years later, the Norwegian sector produced oil and gas. Oil from the British sector was first landed in 1975. The high risks assumed by these developers paid off in the mid-1970s as liftings rose just as prices ratcheted upward. Prior to the price revolution, Norway and Britain independently had decided to increase the participation of the state and/or national companies. In 1972, Norway created Statoil to manage its oil properties. Britain raised the participatory shares of British oil companies and, in 1976, created the British National Oil Corporation.

During these years, the early tentativeness evinced by the British and



Map 5.1 North Sea oil and gas fields. (*Source: World Oil*, August 1987, p. 51. Reprinted with permission.)

Norwegian governments toward the experienced international oil companies disappeared, replaced by a confident stance that more precisely defined the national interest in North Sea oil and compelled obedience from the licensees, numbering almost 150 by 1972. As Kuczynski points out, by 1972, Norway "had significantly hardened its terms for exploration and discovery," establishing a contractual system that assured Norway fair remuneration from foreign lessees for its oil. Britain's terms were more lenient until 1973, but did have the advantage of quickening development and securing a large British stake in future production. Compared with Norway, Britain had more interests to serve, including British oil companies and American firms with the expertise to open difficult fields. Also, by the time oil flowed from the North Sea, the concessionary terms had been amended in favor of the British government.[7]

Noreng argues that the early and risky decisions and agreements struck between the governments and the firms reflected a dynamic assessment of future oil demand and prices.[8] For my part, I would suggest that the firms, endowed with no particular power of foresight, experienced incredibly good luck, plunging into a physically treacherous but politically secure area during the late 1960s when oil prices hovered around $2 per barrel and, then, reaping a bonanza when unpredictable political events forced oil prices to spectacular levels in 1973 and thereafter.

Splendid natural gas discoveries thrust first the Dutch and then the British into the natural gas business. The Netherland's Groningen field and then North Sea fields in the Dutch, Norwegian, and British sectors supplied northern Europe. The Dutch rapidly converted to natural gas use, a course followed by Britain during the late 1970s, and completed arrangements for export of gas to Germany and elsewhere. By 1970, natural gas provided 33 percent of Dutch TPER while for OECD-Europe that proportion rose from 2 to 10 percent from 1960 to 1970. As with oil exploration and development, the North Sea gas lessors awarded production contracts to MNOCs working in partnership with agents of the host governments; the government owners also participated in transport and sales.[9]

The MNOC hegemony

As in the past, the MNOCs lifted, transported, refined, and marketed most of the oil moving internationally. While their shares declined somewhat as both government-owned and independent firms entered the business, as of 1972 the Big Seven (Table 4.7 minus CFP) still

produced 73 percent of non-Communist oil, refined 56 percent, and marketed 54 percent. State oil companies and independents enjoyed the largest share gains in refining and marketing but purchased a large portion of their crude from the MNOCs. American MNOCs controlled virtually all of Venezuela's oil. Aramco pumped, refined, and distributed just under 100 percent of Saudi oil. The Iranian Consortium shared the area with several NIOC–non-Consortium firms but the latter produced a mere trickle compared with the Consortium. Throughout the Persian Gulf and in Nigeria, the same results obtained. Only in Algeria, where an increasingly tenuous special relationship with France held, and in Libya, where first a traditional monarchy and then a radical revolutionary regime ruled, were the MNOCs denied concessionary hegemony.[10] The crude poor independents relied heavily on Libyan production to meet market requirements. In the mid-1960s, Libya shrewdly exploited this dependence.

World refinery capacity doubled between 1960 and 1970. Of a total increase in throughput of 1.3 bmt, the USSR and the USA added 18 and 13 percent respectively while western Europe added 39 percent and Japan 10 percent. The developed world, then, provided 80 percent of new refinery capacity during the decade. Although producing 39 percent of world oil, Middle Eastern capacity advanced by only 49 mmt. The Caribbean basin, including Venezuela, and South America added a capacity of 109 mmt, or 8 percent of the increase. By far the lion's share of Latin American and Middle Eastern capacity remained under MNOC control. The Iranian Consortium operated Abadan, Aramco owned Ras Tanura, and SONJ, RDS, SOCAL, and Texaco dominated the Latin American industry.

The ambitions of producing LDCs to raise their equity in downstream operations were frustrated. Into the late 1960s, the Big Eight controlled about 80 percent of Middle Eastern refining, a proportion technically reducible by the *de jure* ownership of Abadan by NIOC. In Latin America, new and old state companies carved out somewhat larger shares at the expense of the MNOCs. In Argentina, the Big Eight's share fell from 55 percent in 1955 to under 35 percent by 1970. In Venezuela, however, the share of SONJ and others remained above 95 percent until nationalization in 1975.[11]

A diminution of MNOC shares characterized production. From 1961 to 1971, the portion of state-owned and independent firms rose from 16 to 23 percent while the proven oil reserves of the MNOCs shrank from 92 percent to 67 percent of the total. Formerly, the MNOCs accounted for an overwhelming part of capital investment in foreign oil fields but that decreased from a 75 percent share in 1948 to 35 percent in 1970. Despite these share reductions, less than 20 percent of oil moving internationally during the late 1960s managed to bypass the MNOCs. However aggressively such independents as SOIND, Continental, Marathon, Occidental, or Getty battled for a niche in the industry, they were, more often than not, forced to seek either crude, refinery space and/or products, or transportation from the MNOCs.[12]

Developing pressures on world oil markets

Students of the world oil scene have chronicled during the 1950s and 1960s numerous shifts and turns that cumulatively eroded the dominance of the MNOCs. Maull observes an industry poised on the verge of restructuring by the late 1950s. He cites such catalysts as the intrusion of the independents in the Middle East, accelerated Soviet exports, the aggressive national policies of France, Italy, and Japan, the impact of US oil import quotas in stimulating competition in Europe, further discounting and rebating in the 1960s, and the formation of OPEC. Cowhey, Odell, and Mendershausen acknowledge such pressures while advancing their own priorities and dating significant restructuring to the late 1960s or early 1970s. Odell and Cowhey assign responsibility to the USA for this radical transformation and are of the opinion that the USA successfully defended its oil interests until the 1970s. Cowhey identifies the USA as the initiator and conservator of the postwar oil regime.[13]

These authorities weave masses of informative detail into their multifaceted tapestries. Painter's focus on US foreign oil policy complements the work of Cowhey and Odell but with an emphasis on the central role of the US oil industry in influencing that policy. Depicting an oil regime reflecting government–industry cooperation, Painter follows the older work by Nash. According to Painter, key areas of cooperation included control of Middle Eastern oil, containment of the Russians, and opposition to nationalization. Madelin, Tugenhadt and Hamilton, and Leeman note an earlier erosion of MNOC hegemony, essentially attributing this to the successful entry of state-owned and independent oil companies into Middle Eastern and other fields.[14] Invariably, these excellent studies highlight the same events and trends. Each provides a slightly different focus, no one of which offers a markedly different interpretation.

Competition for markets intensified during the 1960s, particularly in western Europe and Japan and in such developing countries as Argentina and Brazil. The immense American market for imported oil also beckoned to producers but access was somewhat limited by the oil import quotas of 1959. The West's unquenchable thirst for energy

conjured up an image of market forces at work that reflected reality only partially. In 1987, an article by Ernest J. Wilson, III, offered perceptive criticisms of various models of world oil markets that purported to explain the recent and radical structural changes.[15]

One such model, termed "neoclassical economic," is faulted for its indifference to all but market forces. A second construct, the regime model, directs attention to the key institutional and political players that establish the essential rules under which all participants engage. Cowhey, for example, casts the USA as the guarantor of the system into the 1960s. The regime model allows for the introduction of new players and for shifts in power among the participants. According to Wilson, Mendershausen and Noreng[16] have contributed studies that strengthen the regime approach. Penrose's study of the internal institutional needs of the MNOCs exhibits an affinity for the interpretive intent of the regime model.[17] Wilson objects to this model as ignoring "the chaos of the market" and as attributing excessive rationality and purpose to firms and governments.[18] A third model, labeled "policy/political" and associated with such authors as Quandt and Yergin,[19] seems very similar to the regime model with, perhaps, a heightened attention to the role of policy-making elites. It is criticized on the same grounds as the regime model.

Wilson offers his own interpretive framework, the "petro-political cycle," which appears to be an amalgam of the three discarded models.[20] It accommodates the interacting influences of markets, political pressures, and industrial organization within the context of a particular (temporal) demand–supply situation. In a period of rising market expectations, sellers gain an advantage and the politics will differ from periods of falling markets and expanding purchaser power. Buyers and sellers exact maximum advantages when the market turns in their favor. The moment of opportunity for the producers occurred in 1970–71 when Libya and Algeria rode a rising market and changed the rules of the game.

Wilson may attribute excessive significance to that "moment" in 1970–1. The presumed advantages derived from a seller's market that producers had much to do with creating and from a series of past political decisions reaching back to Mexican nationalization in the face of American and British opposition. During the 1950s, producer states persistently upped the ante in the battle for control over oil even though competition was minimal and prices stable. In seeking the causes of structural change, Wilson, Cowhey, and others attribute an aggressive and formative role to the West while assigning a far too passive role to the major producer states. Apposite here are the Six Day War (1967), the second closure of Suez, another partial Arab embargo (including the turning off of Aramco's Tapline), Qadhafi's seizure of power and the subsequent radicalization of Libyan oil policies, the onset of Vietnam-induced inflation in the USA, and the supine response of western governments and MNOCs to the incremental demands of the oil producers, notably Libya.

The producers marched to their own drumbeat. Neither prices nor western policies deterred them. A reduction in price in 1959–60 led to the formation of OPEC as a counterforce to the western core. True the producing states were not prepared, yet, to act in concert; each was locked into financial and technological dependency upon the MNOCs. But their ultimate objective, complete control over their oil with a downstream capability, was not hidden from view. Nationalistic aspirations could be temporarily deflected but not defeated. Anti-Zionism could not be moderated.

Prices remained low during the 1960s; little spot market oil sold at posted prices. The competitiveness of the 1960s was not a manifestation of a suddenly liberated free market but rather a consequence of government policies. Consumer governments in the USA, Europe, Japan, India, and elsewhere fostered high energy use at the cheapest price. Europe and India welcomed cheap Soviet oil while the USA maintained natural gas and electricity prices at low levels. The consumer governments evidenced no intention to develop policies that moderated oil import dependence. The producing states, increasingly incensed at what they perceived as an unfair return on their oil, intensified their pressure on the MNOCs. Led by Iran, Middle Eastern governments invited newcomers to participate in oil development. Libya, then, exploited the absence of oil company unity by establishing new terms by fiat rather than through negotiations. The MNOCs, without support from their governments could only bow to producer demands or pull out.

The initiative, then, began to shift to the producing states well before the critical Tripoli and Teheran negotiations of 1970–1. The well-chronicled impact of the newcomers – consuming state-owned companies and independents – furthered the interests of the producer states but did not dramatically lessen the hold of the MNOCs on Middle Eastern oil. Indeed, only in Libya did the newcomers, mostly American firms, account for a significant portion of the withdrawals. Of the leading US independents only Continental, Marathon, and Occidental (Oxy) in 1973 drew over one-half of their oil from outside the USA, with Oxy, the largest single producer in Libya, obtaining 97 percent of its oil from overseas. Oxy's Libyan withdrawals accounted for 20 percent of Libyan production in 1970. Oxy was especially vulnerable to a Libyan action that threatened a reduction in production. As the

largest Libyan producer, Oxy's exposed position may have weakened other producers.[21]

The importance of the state-owned companies has been somewhat inflated. Excepting the French firms in Algeria and CFP as a member of the Iranian Consortium, they produced miniscule amounts of oil compared even with the larger independents such as Continental. Only for a brief moment during the 1960s did French controlled Algerian oil satisfy a significant part of domestic demand. Italy's ENI obtained most of the its oil from the Libyan concessionaires and from the USSR. The Japanese met with continuous disappointment in pursuing a policy of disengagement from reliance on the MNOCs. By 1974, some 49 Japanese exploration and development companies were operating. From these efforts the Japanese received 13 percent of their total imports in 1965 and 8.5 percent in 1973.[22] The MNOCs ruled the roost. Only one adversary, the producing states, could tumble them from their perch.

Numerous studies have ascribed to the US oil import quotas an extraordinary influence on world oil markets in the 1960s. The following consequences are cited as typical:[23]

1. Quotas burdened US oil independents with surplus oil production from the Middle East (Leeman, Odell, Vietor).
2. This spurred intense competition for western European markets through price cutting and discounting (Longrigg, Odell, Tughenhadt and Hamilton).
3. The market shares of MNOCs were reduced while shares of independents expanded (Vietor).
4. These results antagonized Middle Eastern producers whose revenues were diminished due to price cutting (Al-Otaiba, Mikdashi, Odell, Vietor).
5. Quotas severely damaged Venezuela and precipitated retaliation (Barber, Coronel, Lieuwen, Odell, Rabe).
6. The above led directly to the formation of OPEC (Al-Otaiba).
7. Quotas conferred great price benefits upon western Europe and Japan (Blair, Hartshorn, Hoffman, Odell).
8. Conversely, quotas disadvantaged the USA in its economic competition with western Europe and Japan (Gisselquist, Blair).
9. The above prompted the USA to conspire with MNOCs and OPEC in the early 1970s to raise prices so as to disadvantage the industries of Japan and western Europe (Gisselquist, referred to in Park).
10. Quotas stimulated a Soviet export campaign in western Europe that triggered US anti-Soviet trade policies (Jentleson).

A book would be required to substantiate, qualify, or refute each point. My own view is that all of these assertions require at least modest qualification.

Competition for western European markets (points 1–3) by means of discounting, rebates, and other price shaving devices antedated the mandatory quotas. The unilateral cuts in posted prices of 1959–60 generated such consequences as modestly falling product prices before the quotas could have had an impact. By 1963 or so, the quotas might have reinforced these lower prices. Landed crude in the UK fell to the pre-Suez price in 1959. From 1959 to 1961, the price of crude imports to the UK declined by 10 percent. For the next four years, 1961–4, prices fell by 2 percent. Then, from 1964 to 1966, prices dropped by 12 percent, perhaps partly in response to an additional supply available as a result of the quotas. Landed crude prices to EEC countries displayed a similar pattern. But product prices in EEC nations from 1960 to 1967 did not manifest a pattern that suggests a strong quota influence.[24] Middle Eastern enmity toward the West evolved quite naturally well before the quotas (points 4–6). Neither OPEC, the organization spawned by the price cuts of 1959–60, nor producer disgruntlement over reduced revenues can be attributed to the quotas because posted prices were frozen during the 1960s. However, Venezuela did suffer a diminution of exports to the USA. The effects of the quotas on Venezuelan oil nationalism are unclear. Venezuela occupied an advanced position in the confrontation with the MNOCs (recall the 50:50 split and Betancourt's dedication to the founding of a producer's organization) before the US policy took effect. The quotas only added to the Venezuelan list of grievances against the MNOCs.

US imports from the Middle East continued to increase, as did on a far smaller scale imports of Canadian oil. Venezuela absorbed those losses. But Venezuelan oil cost much more than Middle Eastern oil. Moreover, Venezuela and the MNOCs were engaged in a vituperative controversy over the alleged neglect of the MNOCs to pay past taxes. That issue combined with a niggardly concessionary policy provoked the MNOCs to reduce exploratory efforts and hold production down. Between the two Suez crises, Venezuelan production rose by 21 percent compared with 164 percent in the Middle East.[25]

The quotas hardly staunched American imports. Crude and product import growth rates are shown on Table 5.1. The larger reductions in this chronology occurred in 1957–8 (the Suez Crisis), 1962–3, 1966–7 (Arab–Israel War and Nigerian Civil War), and 1969–70 (unilateral producer cutbacks in production, embargo by Middle Eastern producers, and continued impact of the Nigerian war). Imports

Table 5.1 Annual growth rates of US crude and product imports, 1955–70

	Crude imports annual growth rate %	5-year average %	Product import annual growth rate %	5-year average %
1955–6	20		8	
1956–7	9		10	
1957–8	−6	1.2	35	12.2
1958–9	1		9	
1959–60	6		−1	
1960–1	3		9	
1961–2	8		9	
1962–3	<1	3.8	5	9.6
1963–4	6		7	
1964–5	3		18	
1965–6	<1		10	
1966–7	−8		4	
1967–8	14	1.6	10	11.2
1968–9	9		13	
1969–70	−6		19	

Source: De Golyer and MacNaughton, *Twentieth Century Petroleum Statistics 1984*, Dallas, Texas: De Golyer and MacNaughton (1984), p. 51.

contributed to 18 percent of total US supply in 1959, 21 percent in 1965, and 26 percent in 1971, at which time domestic production peaked and went into decline. Between 1970 and 1976, US production dropped by 13 percent.[26]

As for the prices paid for oil by the USA and her economic competitors (points 7–8), it is not possible to detect any telling advantages for the latter. Crude and product prices declined after the Suez Crisis of 1957. The second Suez Crisis of 1967 jacked prices upward during the final two quarters of the year. In most European markets and in the USA, prices then fell moderately in 1968, thereafter holding steady until the first marked price increases in late 1970 and 1971. Those advances reflected the price agreements concluded at Tripoli and Teheran. Wholesale price indices for all goods closely paralleled those for oil. The landed price of crude oil in Europe exceeded that in Japan but neither price differed significantly from the wellhead price in the USA. During the years, 1962–6, the retail price per gallon of gasoline in Germany exceeded that in the USA by about two times while the French price was over three times higher. The wholesale price of heavy fuel oil in the USA averaged about $15 per barrel for the five years, 1962–6; in six major German cities, prices ranged from a low of $19 to a high of $31. Heavy government taxes in Europe accounted for a major part of

these differentials. It may be true that high cost producers in the USA were buffered from the competition of low cost producers by the quota system as well as by market demand prorationing. These programs may have somewhat inflated oil prices in America. But energy inputs accounted for only a tiny fraction of the cost of manufactured products.[27] Whatever competitive superiority Germany and Japan achieved over the USA during those years did not derive from lower oil costs.

Americans managed to inflate the threat from Soviet oil exports out of all proportion, consistently attributing the most devious motives to their enemy. Competitively priced Soviet oil did win a place in the Italian, Greek, Austrian, and Swedish markets and penetrated Japan and other markets as well. But the Soviets did not leap wildly into the disturbed markets of 1967–8. Soviet exports, at 51 mmt in 1963, rose in the following increments: 1963–4, 5.3 mmt; 1964–5, 7.8 mmt; 1965–6, 9.2 mmt; 1966–7, 5.4 mmt; 1967–8, 7.2 mmt; 1968–9, 4.6 mmt; 1969–70, 5 mmt. These steady advances reflected a gradually widening circle of buyers. But in 1970 OECD-Europe received only 6 percent of total oil imports from Russia. As for dumping, Soviet prices were not always the lowest nor her discounts the highest. To impute to the Soviets an oil policy of purposeful disruptiveness, as Levy does, is untenable, blithely ignoring the benefits to all non-Soviet bloc trading partners and the foreign exchange requirements of the USSR. In any event, Soviet oil exports owed little to US oil import quotas (point 10).[28] The ninth item on this list, a typical example of unproven, if not unprovable, conspiracy, flies in the face of extant evidence and clothes the conspirators with a skill in covert manipulative diplomacy worthy of John le Carré.

India during the 1960s managed to reduce the costs of oil imports by applying pressure on the MNOCs. Soviet oil was imported despite MNOC claims that contracts prohibited such imports. The nationally owned Indian Oil Corporation (1959) launched a refinery construction program that prompted the MNOCs to lower prices modestly.[29] Even a weak nation, with a small market and just commencing the tough journey toward economic development, could extract concessions from the powerful MNOCs.

The grievances of the producing LDCs

The so-called rules of the game, imposed by the West–MNOC coalition, were challenged and fractured well before 1969–73. The oil regime as depicted by Cowhey, or by Roncaglia who packages the MNOCs, producer governments, and major consuming governments

into a "trilateral oligopoly," is difficult to detect by the mid-1960s.[30] Encroachment on the domain of the rule-setters, manifest prior to World War II in Argentina, Bolivia, Mexico, and Spain, gained further ground after the war. The Venezuelan and Saudi Arabian profit sharing agreements represented notable infractions of the rules. So, too, did nationalization in Iran and the creation of NIOC, Brazil's establishment of Petrobras, and the formation of the Indian Oil Corporation, all achieved prior to the organization of OPEC. A well-conceived case against continued MNOC dominance braced these outbreaks of LDC nationalism.

Resource nationalism encompasses more than oil and reflects aspirations far transcending control over resources. The battle for control over oil, however, unleashed its most vigorous expressions. Lax, Maull, and Morse agree on the essential elements that comprise resource nationalism. They stress the enhanced risks to transnational firms and the danger to the national security of the industrial states explicit in the doctrine. For the LDCs, assertion of permanent sovereignty over resources accentuates three basic imperatives: to proclaim the integrity of the nation; to reverse the unfair terms of trade that the West defended, in other words to change the rules of the game; and to speed economic growth by employing the earnings gained by redistributing the take from resource exploitation. Lax views as unsavory the identification of foreign companies as agents of imperialism by the LDCs. He condemns the proclivity of LDC governments to use the firms as scapegoats to divert attention from domestic policy failures and/or political repression.[31] Deplorable though this may be in the abstract, it is a tactic with which developed democracies are familiar.

In drawing attention to Arab proclamations of full soverеignity over their oil wealth, Hurst clearly evokes Arab perceptions of the MNOCs as monopolistic agents of western imperialism. Latin Americans, according to Goodsell and Penrose, never doubted this claim and, as Fatemi demonstrates, the belief transfixed Iranians by 1950. These and other authors, particularly Mikdashi and Salazar-Corrillo, translate nationalist goals into more specific economic development objectives. As Mikdashi suggests relative to the Middle East, by 1960 the earlier demands of kings, shahs, or sheikhs for a larger cash income to distribute as they pleased had metamorphosed into a demand for income for development and to finance the eventual takeover of the oil industry. This requires some qualification: neither Cadillac sheikhs nor elites engorged with wealth disappeared; the military competed effectively for their share of oil revenues. Still, takeover or participatory arrangements that replaced the old concessions would endow the producing state with the authority to adjust production and price to the dictates of the market, a point cogently made by Alnasrawi, Hartshorn, and others. The massive outward flow of oil income to the MNOC-consuming states would be much reduced, with the producers retaining the bulk of the earnings.[32] How producing states employed this augmented income is a separate question from that of their right to that income.

Oil income and LDC economic growth

The leading non-industrial oil exporting countries were essentially single-crop economies, oil constituting by far the largest, if not the only, export. The economy of each nation rested firmly on the value of oil export earnings. As of 1970, for the nations included in Table 5.2, petroleum exports comprised in excess of 90 percent of the value of all exports, except in Nigeria where it accounted for 58 percent but would rise to 93 percent by 1974. Oil was virtually the only export of Saudi Arabia and Libya.

That portion of the export value retained by the producing states as economic rent consisted of payments from the MNOCs in the form of royalties, taxes, and profit sharing. At first royalties were calculated on the basis of a sum per barrel of production, then as a percentage of the value of gross sales, and, increasingly after 1960, as a percentage of the volume sold multiplied by the posted price. Tax rates rose steadily and a profit sharing breakthrough occurred when Venezuela gained a 50:50 split in 1948, a division that producing countries inexorably widened in their favor in subsequent years. This income formed an ever larger share of producer government revenue during the 1950s and 1960s (Table 5.2). For Venezuela, the share never dipped below 50 percent after 1956 and ranged between 65 and 70 percent during the 1960s. In Iran, the portion reached 87 percent in 1971, an advance from 30 percent in 1960. Kuwait's revenues from oil exceeded 95 percent of total revenues in 1954 while Saudi Arabia's oil revenues contributed 75 percent of total revenue in 1953 and over 85 percent by 1972.

Table 5.2 summarizes the substantial revenue gains attained by the leading OPEC states from 1956 to 1972 and the phenomenal addition after 1973. In each nation a greater share of the total value of exports remained at home. For the seven countries listed the proportion of revenues to total export value rose steeply: 33 percent in 1961; 49 percent in 1970; 60 percent in 1972; and 73 percent in 1974. The ability of the producing governments to recapture an ever greater share of the value of oil exports attests to the radical tilt of the balance of oil power in favor of the producers.[33]

Table 5.2 Producing country oil revenues and value of exports in parentheses, 1958–75 ($ million)

	1956	1961	1965	1970	1972	1975
Iran*	98	291 (900)	514	1 109 (2 600)	2 396	17 821 (21 600)
Iraq*	169	265 (500)	368	521 (800)	575	5 700 (5 600)
Kuwait*	194	461 (1 000)	598	820 (1 700)	1 403	6 542 (9 900)
Saudi Arabia*	362	378 (1 000)	664	1 214 (2 400)	2 745	22 575 (31 200)
Libya	<1	3 (na)	351	1 351 (2 800)	1 563	5 999 (7 100)
Venezuela*	na	843 (2 200)	1 097	1 378 (2 600)	1 902	9 270 (11 100)
Nigeria		19 (na)	36	247 (1 200)	1 117	6 654 (9 900)
Total above	843	2 439 (7 500)	3 906	7 526 (15 458)	13 673	87 197 (119 400)

* Founding members of OPEC in 1960

Sources: G. Lenczowski, *Oil and State in the Middle East*, Ithaca, N.Y.: Cornell University Press (1960), pp. 37–9; A. Al-Sowayegh, *Arab Petropolitics*, London: Croom Helm (1984), p. 47; J.W. Mullen, *Energy in Latin America: The Historical Record*, Santiago de Chile: CEPAL (1978), p. 40; A. Alnasrawi, *OPEC in a Changing World Economy*, Baltimore: Johns Hopkins University Press (1985), p. 108.

The producing governments, then, depended to an extraordinary degree on the revenues and foreign exchange earnings from oil sales. However, they were not alike in their revenue requirements. Saudi Arabia and Kuwait, with small populations and no resources other than oil, possessed much less capital absorptive capacity than Venezuela or Iran. The latter two, while quite different, ambitiously embarked upon costly modernization programs that required more capital than oil earnings provided. Iraq, Syria, and Libya, with considerably less economic potential than Iran or Algeria, espoused a radical brand of anti-Zionism. Iraq and Syria, as front line states, required huge sums for military purposes. Colonel Qadhafi of Libya also planned expensive adventures supported by a costly armaments program. Iran's hegemonic ambitions in the Persian Gulf and its role as a US surrogate against Soviet aggression encouraged the Shah to create a massive war machine while simultaneously launching a gigantic economic modernization effort. Both objectives were to be funded from oil revenues. In Iran, Iraq, Syria, and Libya, political goals based on military power increased the capacity to absorb capital far above the investment required for economic development.

The so-called low absorbers, too, sought to maximize income prior to the price and revenue explosion of 1973. The direct investments of MNOCs and other oil companies were but a fraction of the total foreign investments of the industrialized states. Earnings from oil investments as a share of all foreign investment earnings were substantially greater than oil investments as a proportion of total foreign investments. The direct investments of OECD members in the Middle East accounted for 9 to 10 percent of the OECD total in 1967 and in 1973. While the Middle East received between 10 and 15 percent of US investments in foreign oil, the region contributed one-third of all foreign investment earnings. US investments in Latin America dropped off sharply as a proportion of global investments. Venezuela, in particular, felt the pinch. MNOCs retaliated against Venezuelan tax and concessionary policies by reducing investments in exploration just as the initial impact of the US import quotas was being recorded.[34]

The West and the MNOCs were investing elsewhere, were disinterested in financing producer state projects, and were positively hostile toward the emergence of downstream capabilities among the producers. To raise oil income by revising concessionary agreements, increasing tax rates, tying royalties and profit sharing to posted prices, and opting for nationalization would resolve, producers argued, foreign exchange and indebtedness difficulties and would provide funding for defense and development. Many of the producer states, however, were sorely disappointed during the 1960s in their efforts to transform the oil industry into the leading sector of industrial growth.

The challenge was to stimulate growth in other economic sectors through the direct investment of oil incomes. Obviously, the circumstances of individual countries dramatically affected performance. Algeria, independent in 1962, determined to force oil revenues to serve national development. Through Sonatrach, Algeria controlled all oil operations. Algeria received substantial aid from the USA but the critical factor was the annual investment of a large part—over 30 percent—of oil earnings in natural gas pipelines and liquefication plants, petrochemicals, refining, light industry, and infrastructure. By the early 1970s, Algeria's import substitution tactics were progressing rapidly and would, or so planners believed, reduce dependence upon oil earnings and provide a firm economic base when the nation's relatively small oil reserves were depleted.

On a far larger scale, Iran moved along a parallel path, but one which tied her very closely to the strategic interests of the USA in the Middle East. Prior to 1973, inadequate revenues and a political structure that, in effect, rested on personal rule constrained both modernization and militarization. NIOC did improve forward and backward linkages to the national economy. Iran ranked as among the more assertive states in demanding a larger share of oil earnings, a posture exaggerated with the price ratcheting of 1973, and after, when Iran always supported prices that maximized oil revenues. Enormous revenues after 1973 fed the Shah's ambitions and the combined costs of economic modernization and militarization escalated wildly. The value of Iranian arms imports from the USA, under $500 million annually prior to 1973, climbed to $1 billion by 1975 and peaked at almost $4.5 billion in 1977. Iran's dependence upon oil earnings intensified. Unlike Algeria, Iran lacked the ability to employ import substitution to save foreign exchange. Virtually all oil industry and other equipment was imported, along with military hardware. These huge imports necessitated substantial borrowing with oil earnings serving as collateral, thus binding Iran ever more tightly to oil. Modernization's psychological shocks spawned increasing political dissent and threatening socio-economic factionalism, neither of which the Shah accepted passively.[35]

Both Iran and Algeria owned and operated their oil and gas industries, and during the 1960s they implemented policies to improve their share of downstream activities, aiming at independent sales of both crude and products and, in Algeria's case, liquefied natural gas. Nigeria and Venezuela had not nationalized their oil industries. While they expanded oil revenues by imposing more exacting terms on the MNOCs, the linkages between oil and the economy remained more tenuous than in Algeria or Iran. Nigeria's colonial experience left behind a small commercial agricultural sector, a vast multitude of subsistence farmers, and very few trained and technologically sophisticated people. Tribalism and deep-rooted cultural differences between the north and the south led to the Biafran rebellion against the central government in 1967, a tragedy that took many lives and severely stunted economic and oil industry growth. Nigeria had no option but to turn over the oil industry to the MNOCs, albeit on terms more and more advantageous to the government.

Prior to the Biafran conflict, Nigerian authorities committed the nation to rapid economic growth financed by oil revenues. But no miracle occurred then, or after Biafra. *Per capita* GDP and *per capita* energy consumption in Nigeria remained very low (see Table 8.7, p. 300). As late as 1982, non-commercial fuels provided 71 percent of TPER. Connections failed to evolve between the economy and oil revenues that rose by thirteen times between 1961 and 1970 (Table 5.2). The absence of a large consumer market frustrated the implementation of import substitution policies. A developmental focus on large-scale industrial and urban projects obstructed the emergence of economic self-reliance. Lagos, Port Harcourt, and Bonny, for instance, benefited from investments in infrastructure and petrochemicals while the rural–agricultural sector suffered from egregious neglect. True, Nigeria had just gained its independence. Much more time was required. But time alone would not suffice. Balanced political and economic policies were required before oil wealth could be transformed into broadly shared national wealth.[36]

Venezuela, with a more advanced economy, a far less volatile society, and long experience with oil, worked no magic in turning oil income into balanced economic growth. An in-depth analysis of petroleum's contribution to Venezuelan economic development by Salazaar-Carrillo argues that from 1945 to 1973 revenue from oil exports spurred growth in other economic sectors through the creation of a modern infrastructure. Missing from this economic evaluation is attention to such critical political and social factors as the shifts between dictatorial and democratic governments that happened between 1947 and 1958, Venezuelan–MNOC relationships, economic nationalism, oil market weaknesses, and slackening oil exploration during the 1960s.

Rabe portrays Venezuela as a petroleum factory during the 1950s, controlled politically by the Jiminez dictatorship and economically by the MNOCs favored by Jiminez. Venezuela entered and emerged from the 1960s a very poor country. Betancourt's democratic government did confront the MNOCs over taxes and concessions but this resulted in diminished MNOC investments just as US import quotas and cheaper Middle Eastern oil undermined Venezuela's market position. Petroleum induced growth rained benefits upon economic sectors—steel and

urban electric services—that meant little to the vast majority of the population. Agriculture received minimal notice from the developers. Rural migrants fled to the cities from stagnating rural areas. By the 1970s, with one-third of the population in Caracas, the nation was 75 percent urban. But wages remained very low and urban employment absorbed but a small portion of the new city dwellers. Urban elites emulated the lifestyles of the affluent in New York and Paris. To the extent that such populous LDC producers as Nigeria, Venezuela, and Indonesia neglected agricultural development and emphasized industrial development over the construction of a basic national infrastructure, to that extent oil wealth was misused. The mistaken belief that a solid industrial structure could be quickly developed produced an exacerbated maldistribution of income and created festering concentrations of urban poor and deepening rural poverty.[37]

For the producing nations, expansion into downstream operations promised a means of retaining a larger share of oil earnings while cashing in on the rising market of the 1960s. As noted earlier, however, the industrialized nations accounted for the greater part of new refining construction during the 1960s. In Latin America, for example, oil refining capacity more than doubled from 1954 to 1970, with Argentina and Venezuela responsible for most of the increase, but as a percentage of world capacity the region's share fell from 6 to 5 percent. Moreover, outside of Mexico and Argentina, MNOCs operated the refineries. In Iran, nationally owned refineries supplied only the domestic market. A Kuwait plan to foster downstream capabilities with the cooperation of the Kuwait Oil Co. (BP–Gulf) was rebuffed by the latter. Kuwait proceeded on its own; the Kuwait National Petroleum Co. (1960) opened its first refinery in 1968. During the 1960s, the MNOCs had every reason to discourage producer entry into downstream activities. MNOC power flowed from their command over necessary technologies. World Bank policies aided and abetted the MNOCs by refusing credits for oil and gas development and by denying funding to nationally owned ventures.[38]

More forceful producer government policies toward the MNOCs and more purposeful development strategies were imperative if producer economies were to improve. Nigeria advanced a step with the Petroleum Decrees of 1969 which mandated a great increase in the employment and training of Nigerians in managerial and technical jobs. But during the 1960s, a thin strand bound large oil sectors to national economies. Oil wealth was well-integrated in the economies of the industrialized states, but in the producer states that wealth generated little sound economic progress. In Indonesia, the successive dictatorships of Sukarno and Suharto turned Pertamina into a fief, unconnected with

the economy. As in Nigeria and Venezuela, Indonesia's oil and other resources favored a few, widening already gross income disparities. The government ignored most farmers and encouraged the start-up of inefficient heavy industries. Clearly, the MNOCs were but one obstacle to LDC advancement. LDC political instability, corruption, and embedded structural inequity proved more intractable, seemingly impervious to remedy, than powerful foreign corporations.[39]

The transfer of oil power to host governments

The structure of the international oil industry underwent striking transformations during the 1960s. In the face of unrelenting pressure, the MNOCs, by 1972, were stripped of their hegemonic authority over production and price. Leeman, in 1962, accurately predicted the steady movement toward nationalization by Arab producers.[40] Each host cleared its own path and not all chose immediate or total nationalization. Each state did compel the abandonment of the old concessionary system. The vaunted solidarity of the MNOCs, manifest in their stand against Iranian nationalization, crumbled like an empty wasp's nest.

Such was the success of the producers that Sheikh Yamani, Saudi Arabia's oil minister, observed in 1971 that "the role being played by the oil companies is now properly that of purchaser, refiner, and provider of technology."[41] Of the major producers, the states of the Arabian Peninsula viewed total nationalization as a step to be taken very cautiously. Saudi Arabia and Kuwait felt no immediate need to threaten their MNOC-operated consortia with expropriation. Venezuela eschewed nationalization until 1975 largely because of the lack of sufficient capital to undertake independent exploration and development. In impoverished and populous Nigeria, the government also approached nationalization warily until the second price shock of 1978–9 precipitated a flurry of expropriations. Algeria, Libya, Iraq, Peru, Bolivia, and Indonesia all nationalized, at least partly, prior to 1973.

Nationalization represented the final step in asserting full producer sovereignty over their valuable resource. But whether taken or not, the host states effectively diluted MNOC control by first winning a larger than 50:50 share of the profits from concessions and then by upgrading their role from lessor to that of full partner in the working of established concessions. Saudi Arabia achieved this in 1959 when it seated two nationals on Aramco's board of directors and participated, as did Kuwait, in the management of the Japanese-owned Arabian Oil Co. Iran's NIOC negotiated similar arrangements with ENI and SOIND. New concessions of the traditional type were offered less and less frequently.

Table 5.3 Producing government national companies

Argentina	Yacimentos Petroliferos Fiscales	1922
Peru	Empresa Petrolera Fiscal	1934
Bolivia	Yacimentos Petroliferos Fiscales Bolivianos	1936
Mexico	Petroleos Mexicanos	1938
Colombia	Empresa Colombiana de Petroleos	1951
Brazil	Petroleo Brasileiro	1953
Iran	National Iranian Oil Company	1954
Kuwait	Kuwait National Petroleum Company	1960
Venezuela	Corporación Venezolana del Petroleo	1960
Saudi Arabia	Petromin	1962
Algeria	Sonatrach	1963
Iraq	Iraq National Oil Company	1965
Indonesia	Pertimina	1965
Libya	Libyan National Oil Company	1969
Nigeria	Nigerian National Oil Company	1971

Sources: H. Madelin, *Oil and Politics*, translated by M. Totman, Farnborough: Saxon House (1975), pp. 16–17; A. Al-Sowayegh, *Arab Petropolitics*, London: Croom Helm (1984), p. 42.

The new contracts also designated a date for the relinquishment of concessions to the host government. Most dramatically, in 1961 Iraq wrested from IPC 99 percent of the concessionary area. Quietly, Qatar and Kuwait reclaimed one-third and one-half, respectively, of their concessionary areas in the same year. Libya's contracts with oil companies contained relinquishment provisions as did virtually all Middle Eastern contracts by 1973.[42]

In a striking departure from the norm, several host states replaced old style concessions with joint-venture contracts between the producer's national oil company (Table 5.3) and foreign firms in which the former shared fully in management and profits while the foreigners provided most of the capital and technology. In contracts of this type negotiated by the state companies of Algeria, Libya, and Nigeria, the foreign firms held equal rights of ownership. The terms of these cooperative enterprises were considerably less favorable to the oil companies than the joint-venture arrangements pioneered by Iran in 1957 and 1958. The new versions bound the producer governments for a shorter period of time, tied royalty payments and other bonuses to actual production, and linked all payments to posted prices. Contracts frequently bound the foreign partners to purchase at posted prices all of the host's share of production. Such buy-back provisions were necessary only until the producer governments developed their own marketing networks.[43]

Participation in the management of older concessions and joint-ventures in the development of new fields were not considered as permanent alternatives to nationalization. Such contracts normally vested the foreign firms with property rights in the oil fields. Second, even though the hosts shared in management decisions, the MNOCs retained control over the introduction and operation of technologies and, thus, over most production decisions. Also, the hosts as yet lacked refining, transportation, and marketing facilities and expertise. The oil had to be sold and only the MNOCs possessed worldwide distribution networks. Still, joint venture operations emerged as a favored form of participation. These arrangements promised full sharing of information between the expert — the firm — and the learner — the host government — minimizing the likelihood that the less competent partner would be exploited. Gradually, participation and the initiation of direct government-to-government sales diminished historical MNOC advantages.

Iran and Indonesia, among the major producers, and Brazil, Latin America's third largest producer and largest oil market, adopted policies that further attenuated the MNOC role. Brazil's Petrobras, formed in 1953, was a well-capitalized and financially independent firm that monopolized all phases of the oil industry. While Petrobras's production fell far short of meeting national demand, its record was impressive, advancing from a mere 127,000 metric tons in 1953 to 8.3 million metric tons in 1970. Refining profits financed exploration and paid for a large tanker fleet. The firm's refining capacity substantially reduced oil product imports. Unfortunately, production in Brazil leveled-off during the 1970s just as prices soared. Trade imbalances and debts plagued the nation into the 1980s. As of 1973, however, Brazil had successfully consolidated its control over the national oil industry.[44]

Total nationalization threatened negative consequences, among which were the flight of the larger firms and their expertise and technology. Reasonable contractual commitments led to retention of the MNOCs without vesting in them any property rights. Iran and Indonesia pioneered contractual arrangements that avoided the disadvantages of total nationalization without diminishing national authority.

Into the 1960s, Caltex (SOCAL and Texaco) and RDS controlled 90 percent of Indonesian oil production. In 1963, the MNOCs rejected Indonesian demands that the split in profits be raised to something above the 60:40 division agreeable to the companies. In 1965, the state seized British and American oil properties. RDS sold out to Indonesia which created Pertimina as an integrated state company. Caltex hung on, but no longer as an autonomous operator. Pertimina assumed full legal control over all operations. To retain Caltex and to attract other foreign firms, Pertimina then negotiated a series of contracts with Caltex, Japanese, French, and Italian firms, and with several American independents.

Caltex, the leading producer and responsible for at least one-half of

production, functioned under a work (service) contract. The firm provided all the financing and technology for exploration and development and received about 60 percent of all production as reimbursement for expenses and as buy-back oil. Pertimina received title to all production equipment. Management was legally vested in Pertimina but, recognizing its lack of expertise, the firm rarely exercised that prerogative. The service contract framework persisted into the 1980s, although by then Pertimina's share had risen to 85 percent, a division still considered advantageous to the foreign firms.[45]

Iran and other producers utilized variations of the Indonesian model. Iran often required guaranteed loans to finance further exploration by NIOC. In a 1966 contract with ERAP, Iran received 90 percent of all profits. Gradually, joint-ventures with various foreign firms were transformed into service contracts. In Iran's case, the service contracts covered a much smaller proportion of national production than in Indonesia. Consortium wells yielded 93 percent of Iran's oil in 1973. Using the leverage of the work contracts, improved terms were pried from the Consortium. Venezuela, too, through its Corporacion Venezolana del Petroleo (CVP; Petroven since 1975) concluded long-term service contracts with foreign firms to work the national oil reserves. CVP, however, did not develop a strong national presence. Prior to 1975, the year in which Venezuela nationalized oil, the MNOCs dominated the industry.[46]

Work contracts endowed state firms with flexibility in managing their oil domain without relinquishing any rights. Complementary to nationalization, these arrangements turned the oil companies into hired hands. Joint-venture operations required mixed management. A service contract might stipulate foreign management but on terms that suited the employer. Service contract incentives could be frequently changed. They might even provide for sales that bypassed the MNOC networks, as was the case in a sales contract negotiated in 1965 between Pertimina and Japan's Far East Trading Company, endowed with the exclusive right to import Indonesian oil. By then, Japan was committed to a ten year investment program in North Sumatra from which Japan would receive 40 percent of withdrawals.[47] For the LDC producer, work contracts kept an avenue clear for foreign capital and expertise, regularized relationships with large oil companies or government agencies, commonly stipulated a training program for LDC personnel, and could embrace any or all phases of operations. Once the LDC firms developed marketing strengths, the old style arrangements with the MNOCs were doomed. Direct sales between Indonesia and Japan presaged the future.

Algeria, Iraq, Libya, and Peru nationalized their oil industries prior to 1973. In each case a successful revolution had replaced an old regime during the 1960s. The new governments quickly struck at the vulnerable concessionary companies. Algeria followed its own development rhythms in expropriating French and other firms between 1967 and 1971. Rapid improvement in Sonatrach's proficiency, Algeria's less intense dependence upon oil earnings, and a potentially valuable foreign trade in natural gas offered some economic justification for nationalization at that time.[48]

Iraq and Peru were veterans of oil wars against a single large concessionaire. When Iraq, in 1972, decided to nationalize a portion of IPC, consortium members imposed a boycott against Iraqi oil and drastically reduced production. This, in addition to antagonism toward US support of Israel in the Yom Kippur War of 1973, led to the expropriation of Exxon and Mobil, both partners in IPC, and the effective termination of the consortium.[49] Peruvian politics rather than economics explains the nationalization of SONJ's subsidiary in 1968–9. As part of a campaign to drive foreign businesses from the country, Peru, in a series of acts, struck at the USA and at multinational enterprise while simultaneously broadcasting its independence from foreign control. Pinelo claims that Peruvian self-assertiveness reflected political maturity and the ability to confront injustice, an astounding conclusion. He offers no evidence, nor does Goodsell, that the International Petroleum Company during the 1960s acted as an agent of imperialism or was other than a model employer. The company had long been the political football of the ruling elites that struggled for power in Peru. These wealthy factions had oppressed and exploited the Peruvian people. Nationalization represented nothing more than elite manipulation of anti-foreign sentiments for their own ends. With one of the lowest *per capita* incomes and one of the highest infant mortality rates in South America during the 1970s and 1980s, it appears that Peruvian nationalization spread few benefits among the impoverished population.[50]

In Libya, piecemeal nationalization between 1971 and 1973 garnered few economic benefits that had not already been won by forcing price increases and favorable joint-venture agreements. Nationalization, however, conformed to the dictates of Colonel Qadhafi's eccentric socialist ideas, served anti-Zionist purposes, and enhanced his Pan-Arab reputation. Of the above four nations, only Algeria developed persuasive arguments for nationalization. But, of course, nationalism, wherever expressed, derives little sustenance from logic.

The role of OPEC

Participation in the operation of older concessions and joint ventures and service contracts negotiated by national companies with foreign

firms endowed the hosts with the power to influence the rate of production. While identifying nationalization as the ultimate means of controlling withdrawals, most approached that first step with caution. Libya, in 1971–2, erased the power of the oil companies to fix production rates, but the MNOCs remained entrenched in Iran, the Arabian Peninsula, and Venezuela where they lifted 90 percent of the oil in 1970.

Concurrently with the enhancement of their managerial role, the producers desired to establish the price they received for oil. By the mid-1960s, producer state demands reflected their belief that demand in the West warranted both augmented production and higher crude prices. In pressing relentlessly for both after 1965, the producers benefited from the activities of OPEC. As the most influential voice of producer opinion, OPEC's policy formulations, its consistency, and its organizational competence added substantially to its reputation during the 1960s.

OPEC,* however, did not set policy; individual states did. In its armory, OPEC stockpiled only the weapon of moral suasion. The action of separate states squeezed price hikes from the transnational firms. OPEC emerged as choreographer only in 1970–2. Representing a diverse constituency including non-Arab LDC producers, OPEC's survival required non-entanglement in the Arab–Israel vendetta. The establishment of the Organization of Arab Petroleum Exporting Countries in 1968 provided a vehicle to carry the war to Israel and its supporters. OPEC concentrated on price, production, and management.[51]

Although OPEC achieved an immediate victory in forestalling the further lowering of posted prices after 1960, the organization experienced but modest success until 1970–1. For example, it viewed overproduction as a threat to price stability, but proved unable to generate a consensus in favor of production quotas among members whose revenue needs and proven reserves varied widely. This issue was dropped—for a time. With regard to the price issue, while OPEC contributed strong advocacy, Libya and Algeria, the leading risk-takers after 1965, served as the shock troops. OPEC did intrude forcefully in the Libyan–oil company dispute of 1966 when its members agreed to deny new concessions to operators who refused to accept Libyan terms.

On a very practical level, OPEC developed acceptable positions on income tax rates and the use of posted prices for the payment of taxes,

* Saudi Arabia, Iran, Venezuela, Iraq, and Kuwait in 1960 and Qatar (1961), Libya (1962), Indonesia (1962), UAE (1967), Algeria (1969), Nigeria (1971), Ecuador (1973), Gabon (1975).

the expensing of royalties, and on revenue security in general. It agitated among its members for renegotiation of all revenue-related issues, particularly income tax rates, capitalizing upon the imposition of 60 percent tax rates by Venezuela and Indonesia during the 1960s. Similarly, in 1968, OPEC orchestrated demands for expanded producer participation, already achieved by Iran, Indonesia, and other members.

OPEC's "Declaratory Statement of Petroleum Policy" of 1968 codified its price policies, leaving no doubt as to its objectives. Pointedly, the declaration asserted the right of producer governments to determine the posted (tax reference) price. Reflecting a sensitivity to the erosive impact of inflation on government revenues, OPEC further demanded that the posted price be indexed against the value of imported goods and services. Indexing never became common. Rising spot market prices after 1973 and again after 1978 minimized the advantages of this technique, as did the moderate inflation experienced by the developed countries during the later 1980s. In addition, the statement called for the general extension of producer government control over petroleum policies, for relinquishment, and for expanded participation in established concessions.

The members of OPEC through collective and individual initiatives improved their revenue security after 1960. Demonstrating a sound understanding of political realities, OPEC abandoned discussions of prorationing while pressing ahead on issues conducive to consensus building. Members adopted OPEC's decisions voluntarily, applying them at the opportune moment. Lacking power over price and production, OPEC did not act as a cartel before 1973. The organization did establish itself firmly as the voice of the producers. Trailing in the wake of members during most of the 1960s, OPEC's pronouncement of 1968 strongly influenced the pivotal negotiations at Tripoli and Teheran in 1970–1. OPEC's strategy, fleshed out by Libya and Saudi Arabia, of turning the oil firms against one another and of separating price talks about North African oil from discussions of Persian Gulf prices succeeded spectacularly. In late 1973, the moment arrived to demonstrate producer power now lodged in OPEC.[52]

The producer drive toward full control

A series of strikes against the MNOCs beginning in 1966 undermined the foundations of MNOC power and subverted their will to resist producer demands. The host governments, especially in the Middle East, exploited these openings, playing one firm against another, threatening all with closure, escalating demands for larger shares of profits,

stiffening the terms of service contracts, and colluding in OPEC. Were not the producers nearing a conjunction capable of propelling the incremental process of industry restructuring into a wholly new phase? Producer spokespersons and OPEC did not hide their objectives: total producer power.

A Libyan law of 1965 provided that the assessment of income taxes on oil profits be calculated on the basis of posted prices regardless of the actual price realized on the oil sold. At that time twenty-four companies worked Libyan concessions. SONJ, one of the largest producers, readily agreed to conform to the law but the Oasis group balked. Oasis and other independents lacked international marketing networks and were forced to sell their Libyan oil at discounted prices. Libya had absorbed the discounts as reduced income. To compel acquiescence, Libya's monarchy threatened to halt all exports; the firms gave in.

Hartshorn ascribes pivotal influence to this confrontation. For the first time since the Iranian Revolution, a producer broke a contract. By coercing some companies to accept terms agreed to by other companies, the custom of renegotiation of contracts was abandoned. Alterations in terms were now achievable by command. The fragility of the producing company position was apparent to all. Nor did the hard terms deter a continuing scramble for new concessions in Libya: thirty-seven concessionaires operated in 1968 with an output—150 mmt—only slightly inferior to that of Iran and Saudi Arabia.[53]

Libya exerted pressure on the MNOCs just as an invigorated sellers market emerged and just prior to renewed warfare between Israel and the Arabs. By 1970, World TPER exceeded that of 1961 by 62 percent, reflecting an absolute increase equivalent to total TPER in 1950 (Table 4.1). While the demand for oil in the industrialized nations rose steadily during the years, 1960–5, demand increased even more sharply between 1965 and 1970. Refined product requirements in the USA, OECD-Europe, and Japan advanced by 300 mmt from 1960 to 1965 and by over 500 mmt from 1965 to 1970.[54] For the years, 1960–70, the West accounted for 68 percent of the global increase in demand for refined products.

Less dramatic but no less crucial than the Six-Day War of 1967 was the declining value of the US dollar, the currency used to fix oil prices and, therefore, to determine the value of producer government revenues. Into the late 1980s, the American dollar continued to weaken. The nation's falling dollar fostered the deterioration of its foreign trade account and stimulated the sale of American assets to foreign owners and the flight of American manufacturing capacity to lower cost industrializing nations such as Korea and Brazil. The "deindustrialization" of America attracted much attention but no policies to counter it. The

cost of petroleum imports formed a major component of the burgeoning current accounts deficit from 1970 to 1990.

The falling dollar of the late 1960s reduced producer income. OPEC, articulating the opinion of its members in its "Declaratory Statement" of 1968, demanded the upward adjustment of oil prices as compensation for the dollar's weakness, a weakness made official by US devaluations between 1971 and 1973.[55] The Arab–Israel War of 1967 afforded the opportunity to force higher prices, and to achieve even more.

The Six-Day War of 1967 further radicalized Arab attitudes toward the USA and its western allies. As in 1956–7, Egypt closed the Suez Canal; it remained closed until 1974 at great cost to Egypt. Gradually, the route lost its primacy in oil traffic to supertankers traveling around the Cape of Good Hope. Oil flow through the IPC pipeline was disrupted. The diversion of western hemisphere and Indonesian oil to Europe averted a serious supply crisis. A poorly organized Arab embargo on oil exports to the USA, West Germany, and Britain proved costly and temporarily inconvenient to the latter. As in 1956, prices increased sharply but quickly fell again. Oil from Libya, Algeria, and Nigeria plus unused capacity in Venezuela substituted for embargoed supplies and, after the termination of the political crisis, provided crude that did not require Suez passage. At the peak of the crisis, Saudi Arabia, without enthusiasm, reduced production by 10 percent and threatened to shut down altogether if US aid to Israel persisted. The USA, as Chester observes, ignored this threat.[56]

Remedial steps minimized the war's dislocative effects on oil flow. But the conflict brought the cauldron of Arab nationalism and anti-Zionism to near boiling point and energized the confrontational attitude of the Arab producers. Much had changed since 1965. Greater changes followed at a dizzying pace.

The haphazard use of oil as a political weapon disturbed the conservative regimes of Saudi Arabia, Libya, and Kuwait. In 1968, they created the Organization of Arab Petroleum Exporting Countries (OAPEC) as an instrument to prevent the political use of oil. However, the overthrow in 1969 of the Libyan monarchy, neutral in the war of 1967, by Colonel Qadhafi and the admission of other Arab producers to memberships by 1972 subverted OAPEC's original purpose. Despite Saudi resistance, OAPEC in 1972 thoroughly subscribed to the political exploitation of oil power. It awaited only another war. By 1969, then, Arab and non-Arab producers were prepared to confront the MNOCs through OPEC while OAPEC marshaled its collective power for use against Israel's supporters.[57]

Western MNOCs and governments relinquished control over events

in 1970 and after. Chester's study depicts frequent intervention by the US government in behalf of the American MNOCs.[58] But from 1965 forward, the MNOCs steadily retreated before the host government offensive. The US government, despite its presumed influence in Iran and Saudi Arabia, watched passively as producer states encroached upon the managerial rights of the oil companies. The USA responded hardly at all to OPEC or OAPEC. The Libyan Revolution of 1969 spawned a zealous antagonist in Colonel Qadhafi. As with Castro, US efforts to isolate and neutralize Qadhafi were futile. Without a voice in Libya, the USA offered little protection to American oil investments of over $1 billion. Producer state nationalization of American properties in Peru, Indonesia, and Libya generated no useful response. The USA at this time was preoccupied with Vietnam and inflation. In the Middle East, the USA maintained a presence in the Mediterranean and the Persian Gulf, built up the military power of Iran, guaranteed the security of Saudi Arabia, and honored its commitment to Israel. So imperfectly had the USA assimilated the meaning of past events in the Middle East that a House of Representatives report of 1972 concluded that the states of the Persian Gulf were more concerned with local problems than with the Arab–Israel conflict.[59]

American passivity, the bowing of France before Algerian demands, the non-influence of Britain, and the enormous oil dependence of Japan exposed the MNOCs to attack and defeat *en ensemble* and in detail. As Cowhey perceptively observes, the shared interests of the MNOCs and their hosts vanished after 1967. Algeria and Iran reduced their reliance upon the companies. Iraq, in 1968, disposed of them altogether. The hosts realized that new oil from the North Sea or Alaska would not be forthcoming in sufficient volume to dilute their collective strength.[60]

Qadhafi and the Algerian government first sensed these fissures in the MNOC battlements. French dependence upon Algerian oil, peaking at 35 percent of domestic demand in 1963 and still at 27 percent in 1970, and Algeria's ambitious schedule for economic development encouraged the latter's complete nationalization of oil between 1968 and 1971. Elf withdrew totally while CFP accepted the *fait accompli* and reached an agreement with Sonatrach. But the upward ratcheting of the per-barrel tax on Algerian oil greatly reduced the company's margin of profit and drove French receipts from Algeria down to 7 percent of total imports in 1971. The end of France's preferred position in Algeria forced France into greater oil dependency upon Libya and other Middle Eastern states. This, coupled with the events of 1970–3, greatly enhanced the attractiveness of nuclear power.[61]

Oil production advanced more rapidly in Libya during the 1960s than in other producing countries (Table 4.6). Western Europe looked to Libya as a primary source of supply; in 1970, Italy received 35 percent of crude imports from Libya, Britain, 25 percent, France, 14 percent, and West Germany, 12 percent. The Libyan monarchy had wisely divided the earliest concessions among seven producing groups, of which the Oasis consortium, Oxy, and SONJ accounted for 66 percent of liftings in 1970. Qadhafi, flushed with the success of the 1969 *coup* and ardently anti-Zionist and anti-western, challenged the concessionaires in 1970 over the issue of price and production.

Qadhafi demanded an increase in posted prices. Oxy and others initially refused, whereupon Qadhafi ordered a stringent reduction in Oxy's production from 800,000 barrels daily to 400,000. Completely dependent upon Libyan production, Occidental sought to purchase its requirements from SONJ. According to Roncaglia, Jersey refused, thereby committing a serious blunder, the consequence of a myopic view of Oxy as a competitor rather than as a defender of operator interests. Wall, however, offers a different and better documented account. Oxy sought oil at cost. Jersey demurred, but offered oil at the lowest contract price and, additionally, volunteered to help Oxy obtain similarly priced oil from RDS. Oxy snubbed this offer, later claiming that SONJ's refusal to sell forced the capitulation of all concessionaires to Qadhafi's terms. Jersey, however, insisted that even a sale at cost would not have deterred Qadhafi who was willing to assume great losses to achieve his goal. As he said, "we must show we are the masters here." Roncaglia, then, identifies MNOC disunity as the reason for Libya's success. Wall, adopting Jersey's view, discounts the utility of MNOC cooperation in this instance.[62]

Qadhafi's coercive tactics shattered the current price structure. The Persian Gulf states and Venezuela imposed similar terms. In one rapid assault, the MNOCs were denuded of authority over price and production. With the MNOCs reeling, OPEC seized the opportunity to demand direct producer government negotiations with all the companies. The MNOCs favored a single bargaining encounter but OPEC insisted on regional negotiations, one for North Africa at Tripoli and the other for Persian Gulf states in Teheran. OPEC shrewdly separated the negotiations involving the volatile Qadhafi and the radical Algerians from those of the more conservative Arabian Peninsular states and non-Arab Iran. The MNOCs would not be able to pit those two groups against one another. The companies deferred to OPEC's ultimatum.

The consequences of the Tripoli and Teheran agreements of 1971, soon overshadowed by the Yom Kippur War of 1973, the OAPEC embargo, and the price explosion forced by OPEC, were nonetheless momentous. The producers achieved the power to legislate price increases. Posted prices were jacked up in 1972 and 1973 by over $1 per

barrel. Equally critical, tax rates moved to an average of at least 55 percent for all producers, with escalator clauses adopted to compensate for inflation. The improved bargaining position of the hosts encouraged them to demand larger equity rights in established concessions. When the companies balked at this, Saudi Arabia threatened to reduce Aramco's liftings. Aramco then agreed to sell a 20 percent interest to Saudi Arabia and to grant the latter the option of raising that equity to 51 percent by 1982. In 1973, similar terms were accorded to other Arabian Peninsula states. With the oil industry in Algeria, Iraq, and Iran already nationalized and Libya in process, the remaining producer states now embarked along that path. In Venezuela, new legislation in 1971 and 1972 assigned to the state penultimate control over the industry with the final transfer of ownership completed in 1975.

Finally, guided by Libya's imposition in 1971 of strict production controls, other states recognized oil as a non-replenishable resource. They discovered that income could be raised without increasing production. Libya permitted the withdrawal of 32 percent less crude in 1972 than in 1970 and reduced liftings again in 1973 and 1974. The Kuwait Oil Company's planned increases in production for 1971 were restricted by the government; production stabilized between 1970 and 1973 and actually fell in 1974 and 1975.[63]

Alnasrawi characterizes OPEC as a follower in all of this. However, it did accelerate action, exploiting Libya's successes by orchestrating the Tripoli and Teheran conferences. At the Caracas meeting of 1970, OPEC adopted a minimum 55 percent tax rate. One year later, OPEC urged members to demand greater equity shares. Perhaps, as Odell suggests, the MNOCs accepted the principle of collective bargaining through OPEC, believing that the agreements reached would more likely be honored by individual members. Indisputably, OPEC's status was markedly enhanced between 1960 and 1972.[64]

Conclusion

The producer states seized power from the MNOCs during the 1960s while western governments watched helplessly. A number of Arab producers, first united in the Arab League and then in OAPEC, challenged western support of Israel. The unilateral cut in posted prices in 1959–60 produced OPEC. These producer actions engendered a weak response in the West and no motion toward consumer government cooperation. By 1971, as Levy asserts, the MNOCs were required to act as if they were owned by the host states.

Producers generated the initiatives that shifted power in their favor.

Each MNOC protected its interests as best it could, viewing other firms as adversaries rather than as firms entangled in the same web. Acquiescence to each demand held out the hope that the final demand had been made. Western governments were, in Tugenhadt and Hamilton's view, unwilling to jeopardize supply by taking the side of the MNOCs. Consumer governments were incapable of substantially reducing demand for oil or of stockpiling oil against future contingencies.

Finding the causes of MNOC–western vulnerability in the entry of newcomers in the international oil business, mandatory US import quotas, or, as with Levy, in the machinations of the Soviet Union is less rewarding than charting the consequences of the swollen energy demands of the industrialized states, the subject of the next chapter. It is also essential to understand producer government objectives.[65] Nationalism and anti-Zionism combined with specific development objectives to motivate some producers to confront the MNOCs. Peru, Iran, and Indonesia were no less adversarial toward the domineering MNOCs than the Arab front line states. While often permitting expectations to overreach capabilities, the host nations correctly perceived increasing oil revenues as a prerequisite of autonomous economic growth. Individually and through OPEC, they won not only higher revenues but control over price and production—power.

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London: Allen & Unwin (1980), pp. 33–4, 44–8; D. Park, *Oil & Gas in Comecon Countries*, London: Kegan Paul (1979), pp. 40, 54–6, 61–4, 78–9; E.A. Hewitt, *Energy, Economics, and Foreign Policy in the Soviet Union*, Washington, DC: The Brookings Institution (1984), pp. 65–70. President Reagan's offensive against the Soviet–Western European gas deal is discussed in Chapter 9.

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26. *Ibid.*, p. 51.
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