# Power and Politics in World Oil

Like air and gasoline in an automobile engine, economics and politics make a volatile mixture for the world oil market.

## BY NAZLI CHOUCRI

HOUGH there has recently been more oil in the marketplace than anyone knows what to do with, a feeling of apprehension persists. We know that oil is a finite resource upon which the world is profoundly dependent. We remember how a handful of producers shook the market for this critical commodity almost ten years ago, causing a fourfold price increase in a few weeks. We sense that these producers have since 1973 consolidated the position that gave them unprecedented control of the market. Indeed, the 13 producing countries that are now members of the Organization of Petroleum Exporting Countries (OPEC) today provide one-third of the world's oil; half of all exported oil comes from

Reprinted from Technology Review, Volume 85, Number 7, October 1982 Copyright 1982, Alumni Association of the Massachusetts Institute of Technology, Cambridge, Massachusetts 02139 the Middle East. It is easy to believe that industrial countries are increasingly at the mercy of these oilexporting countries, whose political and religious traditions are so vital and different from those of the West.

Yet despite these misgivings, there have been few interruptions of supply and no prolonged oil shortages during the last decade; prices have stabilized and even fallen during the past few years. How can we understand this contradiction between our apprehension and reality? How serious is the possibility of future disruptions?

The world oil market has changed significantly in the past decade. There are more buyers and sellers, more international oil companies, and many more national oil companies in both producing and consuming nations. There are more bidders for exploration and development rights and more sources of capital. More producing nations than ever before are engaged in "downstream" operations—refining, distribution, and even retailing.

These changes are the unlikely result of three political and economic forces-strenuous efforts by the producing nations to gain equality with consumers, efforts by everyone to reduce the market's sensitivity to the persistent political instability of the Middle East, and reduced world oil demand, the result of conservation efforts coupled with recession in many industrial countries. But instead of reducing the producers' viability in the marketplace, these changes have combined to give them far more autonomy. A decade ago OPEC did not even decide how much oil it produced—the international oil companies made all the essential decisions. Now OPEC dictates terms to buyers, and some of its members even control the refining, transport, and final destination of their product. The decline in demand owing to recession and more effective conservation efforts cannot alter that basic reality.

These fundamental changes probably will be permanent. A major result has been that producers and consumers are more dependent on each other, with OPEC emerging as the major tool for assuring future stability. But producers and consumers differ in their definitions of stability: buyers want a small surplus of oil while sellers prefer a slight shortfall, and buyers and sellers have very different views of politics, history, and "justice."

Thus, political and economic affairs are interdependent—interventions that have political ob-

jectives can be made under economic pretexts, and vice versa. But interventions for whatever purpose can be effective only in a seller's market, in which demand is close to available capacity. Only then can political goals be pursued through oil.

## **Conflicts Trigger Market Changes**

The Middle East, prodigiously rich in oil, harbors five robust, persistent, and interdependent political conflicts that frequently threaten violence. Each has its own implications for the oil market.

The Cold War. Though we think of the Cold War as a confrontation between the United States and the Soviet Union, the fact that the West relies heavily on Middle East oil assures that the East-West conflict will spill over into that region. For example, Iran has been an arena of struggle between the United States and the Soviet Union since before the fall of the shah. Fleet and troop movements have accompanied diplomatic threats, with each side trying to prevent interferences by the other. A more dramatic example of the Soviets' efforts to increase their presence in the area was provided in 1979 by the invasion of Afghanistan.

As early as 1970, the Soviet Union took advantage of Libya's disputes with U.S. companies handling "nationalized" Libyan crude to break the monopoly of Western oil companies and establish a relationship with Libya in this strategic region. The Soviet Union has helped develop oil production in Iraq and has provided arms to countries bordering those with U.S. ties, such as the People's Democratic Republic of Yemen and Ethiopia. In turn, the United States has sought to counter Soviet influence by helping Saudi Arabia arm the Yemen Arab Republic, Somalia, and Pakistan. These activities have clearly contributed to tensions in the Middle East.

The Arab-Israeli Conflict. The most obvious destabilizing influence in the Middle East is the conflict between the Arab states and Israel. The 1973 Arab-Israeli war provided the political catalyst for the OPEC oil embargo of the United States and Holland. This episode was a milestone: OPEC showed it could act as a powerful force on the oil market, and Arab producers found in OPEC a unifying cause around which they could rally. Indeed, many Arabs feel that the 1973 embargo was a landmark demonstration of the power of their oil exploited for both political and economic gain. The Arab states' rhetoric on the issue

# The oil weapon has been more an instrument of psychological than of economic or political pressure.

of a Palestinian homeland has since been stronger than their deeds, but the possibility of effective action should not be ruled out. Indeed, Saudi Arabia has made a solution to the Palestinian issue a major policy goal.

Conflict Among the Producers. Though the Arab-Israeli conflict suggests there is harmony among the Arab states, this is illusory; differences among them are a major factor in oil policy. In the 1950s and 1960s, "reactionary" regimes that supported alliance with the West argued with "revolutionary" regimes that championed national independence and tolerated alignment with the Soviet Union. In the 1970s "accommodationist" states such as Egypt and Jordan cooperated with the United States in seeking a peaceful resolution to the Arab-Israeli conflict, while "rejectionist" states such as Iraq and Libya stood firm in their opposition to Israel.

Both sides encouraged political instability for their own purposes. Egypt was deeply engaged in an apparently hopeless conflict in Yemen in the late 1960s; Jordan expelled Palestinians during the infamous "black September" of 1970. Since the 1950s, Libya has intervened in Tunisia, Malta, Chad, and Uganda, provoked a war with Egypt, and antagonized Saudi Arabia to the point of disrupting diplomatic relations. Iraq invaded Kuwait in the 1960s, cut off oil pipeline exports through Syria and Turkey, and has sparred with Iran since 1975.

Ethnic and Religious Conflicts. Many of these conflicts are based on or sharpened by ethnic and religious differences between and within the producing states. Fundamentalist Islamic religious groups (Shiite) spar with the dominant, more secular Moslem groups (Sunni). Arabs are a minority in Iran and Iranians a minority in Arab countries. In addition, other radical political and religious minorities threaten violence.

These difficulties are exacerbated by the presence, in many countries, of foreign workers in numbers so large as to threaten government authority and to make sabotage an ever-present fear. The dangers are enhanced by minorities inside and outside the country who inflame the conflicts and supply weapons or money to the workers. Indeed, the Iranian revolution began in the oil fields, when workers refused to export crude until the shah left the country. The occupation of the Ka'aba, the Grand Mosque of Mecca, Saudi Arabia, by armed insurgents shortly after the Iranian seizure of the U.S. embassy had a blend of religious, political, and ethnic underpinnings. Both episodes had lives of their own: national authorities were unable to exert effective control.

The oil market is a pawn in these conflicts because for the producers, oil is an essential source of funds for military supplies, food, and social benefits—and hence of government power. Iran and Iraq have heavily damaged each others' oil facilities since 1980, each seeking to reduce the productive capacity of the other and with it the ability to acquire expensive military equipment. As a result, Iraq has practically exhausted its foreign monetary reserves, and Iran has had to slash its oil prices to increase sales and avoid bankruptcy. These conflicts have destroyed the political arrangements put in place by the consuming nations in the 1960s to assure vital petroleum supplies.

Oil Producers and Consumers. Middle East conflicts are aggravated by the fundamental differences in the way oil exporters and importers view the world. The sabre-rattling talk of invading the oil fields in some consuming countries after the oil price increases of the early 1970s was but the tip of the iceberg. Consumers tend to view producers as threatening the security of the industrial world. Producers consider consumers arrogant and even colonialist. This conflict profoundly concerns not only oil but power.

None of these conflicts alone causes the oil market to change, but each influences the actions of both buyers and sellers. Producers exert pressure on their OPEC colleagues by shaving prices, threatening to increase production, interfering with oil pipelines, and spending oil revenues for political purposes.

For example, Iraq stopped delivering oil through Syria to pressure the Syrian government in a dispute over transit tariffs. More recently, Iraq halted its oil deliveries through Turkey because Turkey failed to pay for oil it had taken from the pipeline. Syria has interrupted exports of Iraqi oil through its territory to weaken Iraq in its war against Iran. Saudi Arabia flooded the oil market until Iran, Iraq, and Kuwait gave in to Saudi demands for moderating oil prices. Many observers felt that Saudi Arabia's goal was to weaken Iran and Libya by luring their customers away with cheaper Saudi oil.

Efforts of producers to use oil as a weapon against consuming nations have met with only marginal success. For instance, Iran stopped selling oil to the Philippines to protest repression of Moslem minorities seeking autonomy for the island of Min-

# Even the Iran-Iraq war could not stem the flow of surplus oil. The crisis seemed to disappear.

danao in 1979. Iraq stopped selling oil to Canada when Ottawa threatened to move its embassy from Tel Aviv to Jerusalem. Iran suspended deliveries of natural gas to the Soviet Union in 1979, claiming that Soviets had interfered in Iran's internal affairs (but perhaps more significantly protesting the low prices paid by the Soviets). And Libya embargoed oil to Greece for allowing an official Israeli group to visit and for granting asylum to a defecting Libyan pilot.

None of these efforts to use the oil weapon really crippled—or even inconvenienced—the object nation; the effects were mainly psychological.

#### Exploring the Power of Oil

The oil market has responded to this unique combination of tension and conflict by evolving through seven distinct phases of adjustment, a process especially important for its clues as to what we can expect for the remainder of this decade.

The Awakening. The first effort of oil exporters to take advantage of an Arab-Israeli war to raise prices, in 1967, did not work-the United States then had considerable excess petroleum capacity that it could bring to bear on the oil market, and the Arab countries' market leverage was too small. But the war of October 1973 offered an opportunity that some Arab oil-exporting countries were quick to recognize. By then the U.S. was importing oil, and the balance of power had shifted toward the producers. Other factors were also leading producers to make decisions on price and production they had formerly left in the hands of the major international buyers. Furthermore, the major firms that once dominated the market now shared their role with the producing governments and a group of smaller companies.

The Embargo (October 1973 to May 1974). The market had begun to tighten as early as May 1973, signaling the potential for disruption. So when the Arab-Israeli conflict provided a political catalyst, OPEC announced its November oil embargo against the United States and Holland. The embargo was short-lived and incomplete, indicating the frailties of OPEC: Iran (not an Arab state) initiated the price hikes, and Iraq (a radical, often belligerent Arab state) did not honor the embargo. Yet the embargo was a landmark event—for the producers a heady

A decade of change in the world oil market. Top: after the first "crisis" in 1973, oil production, stockpiles, and consumption maintained a fairly constant relationship until 1978, when demand in the industri-

alized nations suddenly turned down. Though OPEC production also decreased, stockpiles were higher than ever before and continued to build through 1981. Now the market is stabilizing again exploration of their newfound power to increase prices, for the consumers a sudden display of OPEC's power to interrupt supplies and raise prices. For the first time, some producers voluntarily slowed production in the name of a political objective, and the West found itself vulnerable. OPEC and the industrial nations recognized themselves as antagonists.

The Recession (June 1974 to October 1975). Production quickly returned to normal levels after 1973. But prices had been ratcheted upward fourfold. In consuming countries, concern for supplies was replaced by economic woes: domestic inflation and balance-of-payments crises. Many of the industrial nations responded with policies designed to constrain economic activity in order to reduce consumption and curb inflation, and there was increasing emphasis on conservation and fuel substitution. As a result, oil consumption and energy use as a percentage of gross national product began to decrease-and have continued to do so ever since. Meanwhile, inflation pushed upward the price of manufactured exports to OPEC at the same time reduced sales pushed downward on oil revenues, and there was modest pressure within OPEC for new price increases. OPEC briefly sought to maintain cohesion in the face of this pressure by recognizing a dual price structure (the socalled "Doha agreement"), but official prices soon stabilized and even declined slightly.

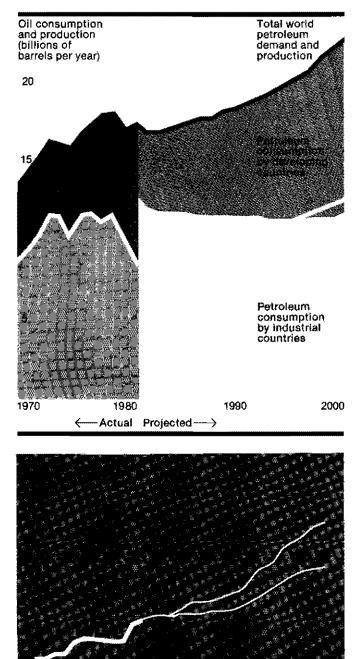
Stability and Readjustment (November 1975 to October 1978). The next three years were relatively stable. Oil consumption leveled off after decades of exponential growth. Oil stocks behaved normally. Through insight or accident, OPEC production corresponded with the needs of the seven largest consuming nations. All the players appeared satisfied.

But this placidity was deceptive, for there was hardly even a facade of cohesion among the producers. Saudi Arabia, Iran, and Iraq played out a threeway rivalry in the oil market. Saudi Arabia and the United Arab Emirates refused to raise prices on the grounds that conservation had reduced demand and the market was saturated. But the Saudis may have also wished to constrain Iran's ability to pay for foreign arms purchases. Meanwhile, Iraq increased its output to finance arms purchases. Everyone in the region had begun to acquire arms on a very large scale, beyond any previous level, for every cause and

in a new era of reduced production. Meanwhile, when the Iranian oil workers struck in late 1978 the first act of the Iranian revolution—the consuming nations' fears of shortages and economic chaos led to sharp increases in prices on the spot market (below). But there was no basis for panic because of large stockpiles in the consuming nations and continued high production by OPEC.

		Em- Recession bargo	n Stability and readjustment	Camp David Accords Shah leaves Iran Iranian oil workers' strike U.S.S.H. embassy seized U.S.S.H. embassy seized I.S.S.H. enters Afghanistan Israel annexes Jerusalem Iran.traq hostilittes begin	lsrael bombs Iraqi reactor bearing sisiro bearing
Oil stocks (millions of barrels)	Oil production and consumption (billions of barrets per day)	1973 19 04 поязиозраст. 19 10545102 1 поязала) 1 поязала)	975. 1977	1979	1981
30	3.5 2.5	Oil production In OPEC	Why	ANSA	
20	1.5	OPEC countries Oil stocks held by industriat countries	$\sim$		$\mathbf{V}$
Price of Arablan light crude oil (U.S. dollars per barrel)		1973 19	975 1977	1979	1981
40		Spot price			F
30					
20		Price in		ممرل/ ممركز	
10		Price in constant (1975) dollars			
0		Official price			

The developing impact of the developing world. According to simulations by the International Petroleum Exchange Model, nearly half of all the petroleum produced by the year 2000 will be required by "developing countries." Meanwhile, because of conservation and fuel substitution, the oil needs of today's industrialized countries will be stabilized through the rest of the century. OPEC countries will supply slightly more than half of the oil world demand.



What price for oil in the year 2000? If no political violance occurs, there will be a steady but modest increase in oil prices during the next 20 years. These projections from the International Petroleum Exchange Model are based on modest economic growth—3 percent per year in the U.S. and Western Europe, 5 percent in Japan, and 5.5 in developing countries. If higher growth rates (4, 6.7, and 7.25 percent, respectively) are postulated, the price advances to \$100 per barrel by 2000. from every supplier. The suppliers in turn encouraged this brisk trade, for their sales of arms went a long way toward offsetting their rising oil bills.

The Iranian Revolution (November 1978 to November 1979). The connection between political instability and the oil market has nowhere been better demonstrated than in the Iranian revolution of 1978-79. In November 1978 oil workers in the Abadan region refused to export oil unless the shah left Iran, and they made good their threat: within one week Iranian oil production fell by half. The United States, incredulous that the Western presence could so easily be shaken, pressured the shah to leave, partly to ensure that oil would flow and partly to improve its position with the new government. When he did, the new government seized the initiative by announcing a production ceiling of 4 million barrels a day, 2.7 million fewer than before the revolution.

The shortfall was not severe, but the psychological effect on the market was profound. Major oil companies canceled sales contracts and began stockpiling supplies as a hedge against the spread of revolution. Spot prices tripled within three months, and OPEC increased its prices ahead of schedule. Sellers found they would be paid practically any price they asked, surcharges became a way of life, and many producers imposed restrictions on the transport and destination of their oil.

Saudi Arabia mounted its own attack by accusing the international oil companies of refusing to release stocks that could reduce market pressure and bring prices under control. The Saudis complained that these companies were penalizing consumers, but the Saudis' real objective was at least in part to depress prices and so reduce the oil revenues collected by Iran's new revolutionary government. Indeed, Saudi Arabia and Iraw boosted production to full capacity, partly to profit from the high prices and partly to undermine Iran. (Saudi Arabia feared that the winds of revolution storming Iran might sweep into the Saudi homeland, and Iraq did not relish having a strong revolutionary government on the other side of its longest inland border.)

In contrast, Kuwait, Libya, and the United Arab Emirates, which had little to lose, reduced their production ceilings further to tighten supplies and push prices higher still.

The Decline of OPEC Hegemony (December 1979 to February 1981). The maneuvers by various producing nations to raise prices ever higher precipitated a struggle within OPEC to regain control over the market. Saudi Arabia took a leadership role in trying to reunify prices, but OPEC seemed in no disposition to accept this policing. Indeed, Kuwait, Qatar, and Iran pressed on with additional premiums. Clearly, OPEC was unable to establish control of the market. At the same time, the major oil companies were losing their power to act as brokers, leaving both producers and consumers increasingly vulnerable to the other's actions.

This vulunerability was soon demonstrated. The demand for oil was sufficiently reduced so that no producers were able to protect their market shares at the high prices they sought. In the spring of 1980, spot price differences between light and heavy crudes narrowed from \$7 to \$2 per barrel, a sign of impending surplus. By summer, spot prices fell below official prices, and the companies began to question the wisdom of their premium contracts. Even the Iran-Iraq war could not stem the flows of surplus oil. Suddenly consumers faced an embarrassment of riches —the oil crisis seemed to disappear.

The Disappearing Crisis (March 1981 to the present). No one was sure what had actually happened to transform shortage into surplus almost overnight, though everyone agreed that the growing worldwide economic recession was an important factor. One theory was that oil companies, unable to stockpile more oil, began to release their supplies. Still another was that consumers had been unexpectedly successful in implementing conservation efforts. Another view was that consumers' investments in petroleum substitutes-such as coal and renewables-had begun to pay off. Another tied the surplus to the expansion of non-OPEC production in the United Kingdom, Norway, Mexico, and elsewhere. Still another argued that suppliers had underestimated the extent to which consuming nations could reduce their purchases by contracting their economies in response to high oil prices.

Each of these theories was true to some extent. The results were more obvious than the causes: in the second half of the 1970s, energy use in Western Europe fell by 8 percent, and energy consumption as a proportion of gross national product declined similarly. For the first time in 25 years, oil supplied less than half the total energy used by the industrial nations, where oil demand fell by 18 percent between 1979 and 1981. By 1981 everyone realized that consumers could actually manipulate oil demand, and the idea of OPEC's invincibility weakened. The crucial question for OPEC and for everyone else became not how to manipulate demand but how to anticipate its behavior.

## New Rules for the Oil Game

The lesson from this history is that the oil market changed significantly—and that OPEC as an organization had some influence on the nature of that change but none on the response of its members. This limited effectiveness itself provided a source of volatility in the market. Neither prices nor production have been controlled or even policed during the past five years. For example, because of desperate needs for revenue, Nigeria in August 1981 and Iran in February 1982 made unilateral price cuts. OPEC's control over the oil market since the late 1970s has hardly been more than chaotic compared with the precise control of the international oil companies from the 1930s until 1973, when they manipulated production and prices with clockwork perfection.

Yet despite this chaotic management, OPEC and its members have come to hold powerful influences on the oil market and throughout the developing world: □ National oil companies of the exporting countries assumed the power lost by the major oil companies. Thus the producers, not the consumers or the international oil companies, now decide how much oil is produced and the terms on which it is supplied to consumers.

□ The producing nations have become refiners and even distributors of refined products, presenting a new arena for conflict with consumers. This competition in refining and distribution—perhaps even retailing—will be the game to watch in the second half of the 1980s.

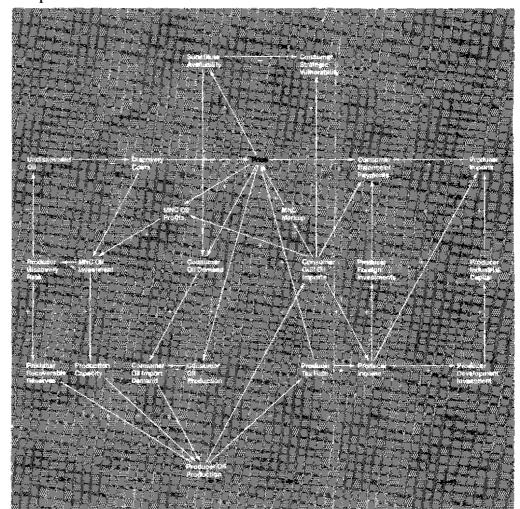
 $\Box$  Through OPEC, the producers give all developing countries a model for exerting economic and political pressure on industrial countries through the control of critical resources. The success of the effort is less important than the attempt itself.

### **Producers Become Consumers**

The behavior of the oil market for the rest of this century depends on the stability of the major producing nations. There will be more actors in the oil market (more countries and companies) and greater diversity among both sellers and buyers than ever before. Capacity will go unused throughout OPEC—and competition and perhaps even conflict will occur

# OPEC's ineffectiveness has been a source of volatility: neither prices nor production have been controlled.

How everything affects everything in determining the price of oil. The au-thor's International Petroleum Exchange Model is designed to represent the dynamic behavior of the world oil market. For example, price forecasts are based on production cost, policies of major oil companies (MNCs) and supply and demand in both producing and consuming nations. Time lags represent periods for market adjustments. Non-OPEC supplies play an important role over the long-term, while OPEC influences the shorter-term dynamics.



among OPEC nations because many will need income from production rates higher than the market can support.

The most important change in demand for oil in the next 20 years will be the increasing needs of developing countries—including the OPEC countries themselves. In many developing regions this growing demand is resulting from two policies: expanded industrialization, and subsidies to keep domestic oil prices low as a social benefit.

We can use the International Petroleum Exchange Model developed at M.I.T. to forecast oil production and prices. We provide the model with initial data on production capacity and demand and verify the model's accuracy by comparing the figures it yields with the market's actual performance from 1970 to 1980. With these adjustments completed, the model can simulate how the market will evolve until the year 2000 under different assumptions of consumer or producer behavior.

The major result is that, whatever the rate of economic growth we assume, the demand for oil in the major consuming countries will decline until about the middle of the 1990s, when it will begin to grow again. Three factors will cause this continuing decline in demand in the industrial countries: slowing economic growth compared to that in the 1960s, continuing conservation measures, and greater use of other energy sources. But demand for oil will grow rapidly in the developing world between now and the year 2000.

The simulations show that OPEC will respond by gradually increasing production until 2000, with supplies adequate into the twenty-first century. But if the developing countries continue to industrialize while subsidizing domestic oil prices, demand may Having learned the lessons of the 1970s, OPEC may become a force for stability and restraint in the 1980s.

well exceed production, with the market tightening once again by 1990 to 1995.

Determining future oil prices is more difficult, but the model suggests no precipitous collapse of the OPEC price structure in the 1980s. What happens to prices depends on the producers: whether they curtail production or continue to meet—or exceed demand. Prices are already stiffening, and growing demand may lead to gradual price increases before 1990. The rate of increase will steepen in the 1990s, principally because demand will increase sharply in the developing countries, with oil reaching \$70 per barrel (1980 dollars) by the year 2000 (see the chart on page 32). Higher economic growth rates, especially in the developing countries, could take the price to as much as \$95 per barrel.

#### Tinder Awaiting a Match

These forecasts do not include the possibility that political conflicts in the Middle East could disrupt the market. Such changes could in fact transform the oil market overnight and plunge customers into serious economic and perhaps political crisis. As we pointed out, the market's vulnerability to political events has increased since the 1970s. The reduced role of the major oil companies means that market give-andtake between consumer and producer will be more difficult in the future. There will be greater competition, more diversified political power, and more market volatility; even the *threat* of a significant disruption could affect prices.

Ethnic conflicts are the most obvious source of such disruption; indeed, ethnic differences in the Middle East are now like tinder awaiting a match. The domino theory is on fertile ground in this region: the rapidity with which the Mecca rebellion in Saudi Arabia and the civil disturbances in Kuwait followed the Iranian seizure of the U.S. embassy in 1979 is grim evidence of how one political event can lead to others. Such disorders are less likely to affect production than distribution. Pipelines are extremely vulnerable, and choke points such as the Straits of Hormuz, Bab el Mandeb, and the Suez Canal are equally unprotected. Other transport systems are almost as pregnable: at one point late in 1978, a handful of Iranian tugboat pilots actually prevented Iran from exporting any oil for about one week. Iraq and Saudi Arabia have been trying to expand pipelines to diversify export networks, but the effort is modest compared with what needs to be done if supplies are to be protected from disruption.

Threats against oil fields could be an effective way for dissidents to pressure governments to support their causes. Perhaps the most difficult conflict is between the Arab states and Israel, a tension much inflamed by Israel's invasion of Lebanon. President Qadhafi of Libya has threatened to make the oil fields the arena, by proxy, for conflict with Israel. Even Saudi Arabia, the most pro-American producer, has explicitly linked continued high production levels to progress toward a "just" solution to the Palestinian dilemma.

The Cold War also continues to hover over the Middle East. This is not to say that the Soviets might invade Iran or any other Middle East country, or that the United States might. The Soviet move into Afghanistan was an "invasion by invitation," not much different from the U.S. military presence in many Persian Gulf states. The real danger lies in miscalculations and overreactions, or both. The sheer magnitude of military resources in the Indian Ocean and the Gulf makes the situation dangerous, and the ethnic and religious differences magnify the danger. Indeed, it will be miraculous if there is no major violence in the next 20 years.

The possible worldwide impact of any disruption or overt conflict in the Middle East depends critically on timing. The West was lucky that the most dramatic political change in the region since 1973—the Iran revolution—came at a time of relatively high oil stockpiles and downward adjustments in demand. For the same reason, the war between Iran and Iraq has hardly been felt by the market. Had the United States known in 1973 that such a war would break out five years later, we could hardly have predicted anything but worldwide crisis with many nations drawn into the maelstrom.

At least for the next 20 years, most of the adjustments on the demand side of the oil market are already underway. Further reductions in oil demand will require fundamental advances in alternative energy sources and large-scale conservation projects that can hardly come before the year 2000. The supply side, with all its political and economic uncertainties, will determine the market situation for the next 20 years. In that fact lie U.S. frustrations—there are simply too many ways supply interruptions could occur. The United States cannot afford complacency: just because political interruptions have not yet brought the West to its knees is no reason to assume that they will not do so. The fact that OPEC lost control of the market in 1978-79 is reason enough to suggest that it might do so again. On the other hand, OPEC clearly has powerful policy instruments at its disposal and there is no reason to expect reluctance in utilizing them.

But there is a very hopeful aspect to OPEC's recent experience. For the 1970s have been a decade of learning for OPEC—of producers finding ways to work together despite political and social conflicts and of OPEC as an organization establishing a measure of confidence and authority in the world oil market. Two facts—that OPEC is surviving a war between two of its prominent members, Iraq and Iran, and that the West is unable to completely control its major ally in OPEC, Saudi Arabia—are testimony to OPEC's success. Having learned these lessons, OPEC may become an increasingly effective force for stability and restraint, at least for the rest of this century.

NAZLI CHOUCRI, professor of political science at M.I.T., was educated at American University in Cairo, and Stanford. Her research has been in international conflict, public policy, and energy resources, especially in developing countries. Her latest book is *Energy and Development in Latin America: Perspectives for Public Policy* (D.C. Heath, 1982):