The Prospects for a New International Petroleum Order

DOMINIQUE FINON

With OPEC no longer dominating the world oil scene and the ideology of North-South confrontation having been eroded, a new international oil order is emerging. Although its character is not yet well-defined, it rests basically on mutual recognition that a "cooperative game" can be played. The most striking manifestations are a renewal of vertical integration, with the return of multinational oil companies to activities in the exporting countries, and the new involvement of those countries in downstream activities in the importing countries. The result will be greater medium-term stability. Another more subtle aspect could materialize — a regular dialogue between exporting countries, the multinationals, and importing countries, which would encourage a greater degree of common interest and expectations. The institution of such a dialogue depends on the United States and Saudi Arabia, who currently determine the rules which govern the international oil market and who favour bilateralism.

Avec la fin de la domination de l'OPEP et l'érosion de l'idéologie de confrontation Nord-Sud, un nouvel ordre pétrolier international est en train de s'établir. Bien que ses éléments ne soient pas encore bien établis, il repose globalement sur un jeu de type coopératif. La réintégration croisé de l'industrie, avec d'un côté le retour des compagnies dans les pays producteurs et de l'autre côté, la prise de participation de ceux-ci dans l'aval, est l'élément le mieux établi de ce nouvel ordre. Il est en même temps porteur de stabilité à moyen terme. L'autre élément central de ce nouvel ordre pourrait être un dialogue régulier entre pays exportateurs, compagnies et pays importateurs, qui faciliterait l'harmonisation des intérêts et des anticipations. L'instauration de ce dialogue ne dépendrait que du comportement des Etats-Unis et de l'Arabie, qui contrôlent à l'heure actuelle les règles régissant le marché pétrolier en privilégeant la bilateralisme.

Dominique Finon is a Senior CNRS Research Fellow and is Director of IEPE.

The Gulf crisis has rekindled interest in restoring the kind of dialogue that existed between oil producers and consumers until the late 1970s. In light of the negative effects of the surge in prices during the crisis and the probability that further problems will arise over the medium term unless new capacity is developed, many observers believe such a dialogue is necessary, arguing that the interests of producers and consumers converge in the medium term. A number of initiatives have been taken since the end of the armed conflict to afford the various parties, including the multinational oil companies, an opportunity to discuss the merits of a worldwide arrangement designed to limit price volatility and ensure medium-term stability. Prominent among these initiatives were the seminar organized by the Iranian government on May 27-28 for producers and oil companies, and the inter-ministerial conference co-sponsored by France and Venezuela in Paris on July 1-2, which brought together representatives from 25 countries (though it is notable that the United States, Japan, Great Britain and Canada maintained very low profiles at this latter conference).

At the same time, the international oil industry has pursued a process of upstream/downstream reintegration since 1985, suggesting that the long years of confrontation have given way to a new

Energy Studies Review Vol. 3, No. 3, 1991 Printed in Canada

climate in producer-consumer relations.[1] Firms based in the major exporting countries are becoming involved in refining and distribution operations in the major consuming regions. More recently, the multinationals have been invited back to pursue exploration and development in the producing countries.

Do these developments signal that the foundations of a new international petroleum order are being laid, one based on dialogue and a renewed vertical integration in the petroleum industry at the international level? While the confrontational attitudes between oil producers and consumers that marked the previous order seem definitely a thing of the past, the outlines of the new order remain sketchy.

More than any other commodity market, the oil market is plagued by political factors interfering with normal market mechanisms. Both its operation and its development are influenced as much by the strategies of economic and political actors as by the general laws of the market. The idea of an *international petroleum order*, which encompasses the influence of these political and economic factors, refers to *a stable system of economic relations and political rules linking oil companies, exporting countries and importing countries.* The rules of the game governing exploration and production decisions, price levels and the marketing of crude are shaped by the economic and geopolitical power relationships among the actors (Bergensen, 1989). One group of actors emerges to control the operation of the market for an extended period and to dictate rules to the other actors. Under the petroleum order governed by OPEC until 1986, exploration and production companies were virtually excluded from the developing producer countries, most of whose crude was sold outside of the companies' integrated channels, while prices were controlled through coordinated production cuts by OPEC members.

The prerequisite for stability in an international petroleum order is domination of the market over an extended period by one actor or group of actors. This conforms to the theory of "hegemonic stability" developed by Keohane in his analysis of international conventions governing economic relations among states (IMF, GATT, etc.) (Keohane, 1984). While a petroleum order is not really like an international legal system, domination along these lines appears to be a sufficient condition for stability here as well. The domination of the market by the "Majors" from 1928 to 1970, and by OPEC from 1973 to 1986, are good examples. A complementary condition is cohesion within the ranks of the dominant group based on common internal interests or, at least, on a cooperative positive-sum game.

Two essential conditions must be met before a declining petroleum order is supplanted by a newer one: an erosion in the political and economic power of the first order, and the emergence of a new group of dominant actors intent on imposing a new set of rules. OPEC's domination, for instance, clearly began to erode in economic terms around 1980 with the emergence of non-OPEC producers and competitive oil substitutes. OPEC was also weakened by a growing rift between the Gulf states, with their small populations and large oil reserves, and the other members. Because of their geological advantage, the Gulf producers were easily able to double their proven reserves, while countries in the latter group were at best able only to maintain their reserves at the same level (Bourgeois, 1991).

The second condition for the establishment of

1/ When the terms "producing countries" and "consuming countries" are used in this paper they should be understood as a convenient short-hand. They are commonly used in oil policy discussions because they avoid the complexity of a more accurate system of categorization. However, the reader should keep in mind that they suggest a homogeneity of interests and an applicability that does not actually exist. It is more accurate to speak of "exporting countries" and "importing countries" and to make a further distinction between the developing and the developed countries. The "multinational companies" should also be considered a separate category, defined as companies with international operations that enjoy genuine strategic independence from their home country government. That is, they are distinct from the "consuming country" or "importing country" categories. Some authors take this into account in their categorization of political and economic actors and refer to a "trilateral oligopoly," despite the vagueness of the concept of "consuming" or "importing country" in economic terms.

a new order does not appear to be satisfied at the present time. None of the three groups of actors (exporting countries, importing countries, major oil companies) is in a position to gain control of the market in order to stabilize it permanently in accordance with its own interests. A recently proposed alternative is an international stabilization agreement, which would institutionalize the existing balance of economic power and mutual interests between exporting and importing countries. Would the current balance of power be enough to ensure the stability of a new petroleum order? Keohane does not rule out the possibility that viable international arrangements could be established in situations where no one actor or group of actors is clearly dominant (Keohane, 1984).

In order for such arrangements to succeed, the parties involved would have to have common or complementary interests. At the very least, however, the leaders of both groups would have to be favourably disposed towards such an arrangement, which is currently not the case in the petroleum sector.

Since the end of the Gulf war, the oil market has been governed by an agreement between Saudi Arabia and the United States which rejects the principle of a minimum benchmark price. Accordingly, Saudi Arabia and the other "petromonarchies" are ignoring the target price of $21/b set by OPEC in July 1990 just prior to the crisis.[2] In order to work properly, the Saudi-US agreement relies on OPEC continuing to be weak, yet still capable of orchestrating a policy of coordinated cuts by its members. But can the present situation of joint Saudi and US control of the market be maintained? If so, the emerging cooperation-based petroleum order may prove more lasting, since it would be governed by an agreement between the leading producer and the leading consumer.

The purpose of this article is to attempt to answer these questions by examining the most plausible scenario, in which the OPEC nations, primarily the Gulf states, once again become the main source of international oil flows (Criqui, 1991). In this scenario, the OPEC countries could regain their market power once their sales reach 80% of their production capacity (as is generally expected to happen). However, the emergence of a new petroleum order would allow renewed tensions to be avoided, since the quest for mutual advantage revolves largely around this issue.

1. Reintegration of the Oil Industry

It is probably overstating the case to describe what is happening in the international oil industry as a reintegration. This would imply a return to an industrial structure in which oil flows through essentially integrated channels from the producing well to the consumer, as was the case under the petroleum order dominated by the Majors. Markets as presently constituted would play only a limited role. In reality, the developments of the past few years are only a "quasi-integration." They mainly involve the formation of partnerships and associations, rather than the creation of totally integrated structures under the auspices of the multinational oil companies and the companies of the producing countries.

1.1 Upstream Reintegration

The widespread nationalization of their assets almost completely excluded the multinational oil companies from exploration and production activities in the producing countries. Nevertheless, they continued to play the oil game with varying degrees of success. The high profits they reaped temporarily after 1973 thanks to their partial involvement in the division of oil rents by way of their "participation crude" (i.e., payment to the companies in the form of a percentage of the oil it has produced) allowed them to reinvest upstream in safer areas. To increase their reserves, some opted for external expansion through the acquisition of struggling companies with under-valued assets. As well, as their share of oil rents decreased, in order to remain profitable they were forced to concentrate on improving efficiency and rationalizing their downstream operations (converting and closing refineries, selling off their distribution networks) and

2/ Prices in this article are given in US dollars.

on enhancing their technical capabilities in exploration and production by developing expertise in advanced organizational planning and new recovery technology. Innovation and organizational progress, which allowed rapid adjustment in a context of fluctuating prices, became important determinants of profits.

Nevertheless, the multinationals were still interested in returning to producing countries inside and outside OPEC, provided that they were offered sufficiently advantageous fiscal and contractual terms and access to participation crude. In fact, the multinationals had never really completely left the financially, organizationally and technologically less well-endowed countries. In such countries as Ecuador, the United Arab Emirates (UAE), Gabon, Indonesia and Nigeria, they continued to benefit from production-sharing agreements; in 1989, the multinationals enjoyed direct access to 13.5% of OPEC production.[3]

While oil companies do not necessarily need direct access to crude oil resources to be profitable, such access still represents a major competitive advantage. Logically enough, given a choice, companies would always prefer to explore and produce in "easy" areas rather than in their higher-cost home territories or safer regions. The most attractive countries are those with abundant resources and stable governments.

The producing countries, for their part, despite their vast differences in terms of geology, demographics and economics, have essentially the same set of objectives. They want to develop their production capacity and maintain their reserves, while ensuring a good price for their oil by protecting their outlets and seeking stable and adequate prices. As far as their upstream objectives are concerned, virtually all producing countries could use more financing, more technology and more organization, although the need varies. For instance, companies in the leading countries (Venezuela, Saudi Arabia, Kuwait) have succeeded in developing a considerable level of expertise in certain areas.

But, in the most heavily populated nations (Algeria, Nigeria, Indonesia), exploration and production investments by national companies and the development of expertise have been severely hampered by financing needs and serious debt crises. Other producing countries (e.g., Iraq and Iran) have channelled most of the revenues from oil rents into military expenditures. Most of the major fields that are easy to discover and exploit have already been discovered and developed. Thus the development of new oil resources demands a higher level of technology and capital than it did fifteen years ago (Bourgeois and Rodriguez, 1991).

For all these reasons, companies in the producing countries, with the exception of Saudi Aramco and KPC (Kuwait) are no longer restricting their invitations to operate on their territories to service companies, but are also once again inviting the multinationals,[4] since only they are able to provide the requisite capital and organizational know-how. The multinationals are interested in returning to producing countries as long as the contracts involved are not simply service contracts but provide them with direct access to crude petroleum. Thus, relative to the earlier period of confrontation, there has been a complete turnaround.

CONSOLIDATION OF THE UPSTREAM-REINTEGRATION TREND

This trend — the oil companies returning to OPEC and non-OPEC producing countries — does not constitute reintegration in the strict sense of the word, since the agreements involved are completely different from the concession system that existed during the era of domination by the Majors (Bourgeois and Rodriguez, 1991). The current contractual arrangements are quite different (participation contracts with risk sharing,

3/ The relative shares for the countries cited are Ecuador 29%, Indonesia 48%, UAE 51%, and Gabon 75%. See OPEC's *Annual Statistical Bulletin*, 1990.

4/ The trend began in 1983 in the non-OPEC countries with an easing of legislative restrictions and tax reductions. Peru, Mozambique and the Philippines led the way, followed by Argentina, Malaysia and others. A few OPEC countries (Nigeria and Ecuador) followed suit, and Algeria later radically overhauled its legal framework for mineral resources.

contracts to sell crude at special conditions over a long period with pre-payments, contracts linked to downstream cooperation for marketing the crude, etc.). Yet there are a number of obstacles to the continuation of the trend.

They are primarily ideological and political. In many countries, total control over the exploitation and development of national petroleum reserves remains an important nationalist objective in the public's view. This requirement may be entrenched in the constitution or in legislation. Foreign companies are prohibited by law from operating in Algeria, Saudi Arabia, Kuwait, Iran, Mexico and Venezuela, to cite only the most important examples. Yet these obstacles can be overcome, since the governments of producing countries (Algeria and Iran, for example) have been able to ignore or circumvent legal restrictions with innovative solutions, such as advance sales contracts with financial advances and technological support as compensation. The relevant question here is when the Gulf states, which continue to be reluctant to adopt such measures, will change their attitudes. Such a change could have a far-reaching impact on capacity development, since these countries are among the most richly endowed in petroleum resources.

From the companies' standpoint, a particularly important issue is the guarantee of political security that the producing country is willing to offer with respect to investments and new rent-sharing arrangements. (Iran, for example, is perceived as a high-risk country in terms of political stability.) The companies' reluctance is often based on memories of how their assets were nationalized during the 1970s. Producing countries are expected to guarantee that their open-door policies will last, since they could well be tempted to shut the doors again once market conditions swing back in their favour. One way such guarantees may be offered is through the reciprocity involved in parallel downstream integration, whereby companies of the major producing countries become involved in refining and distribution operations in the importing countries.

1.2 Downstream Integration of Producing Country Companies

A second trend that emerged strongly in the 1980s stemmed from the need felt by companies belonging to producing countries for secure market access in the face of strong competition (Bourgeois and Perrin, 1989). This involved two approaches: a new system of formula-based long-term contracts (with prices adjusted to spot prices) and downstream integration. The western companies willing to sell downstream assets were motivated by the financial difficulties they encountered when the need arose to upgrade or convert their refining facilities.

Downstream involvement took various legal forms: minority participation in the assets of refining and distribution companies; majority control of their assets; or the creation of downstream subsidiaries on a joint-venture basis with western corporations. Each of these methods offers greater or lesser latitude in terms of guaranteed market access, allowing crude to be sold on more favourable terms. About ten companies from the producing countries (including Saudi Arabia, Kuwait and Venezuela) are active in the downstream oil sector in the US, Europe and other regions (see Table 1). However, a wide gap has opened between the leading OPEC nations, which have the requisite financial resources to invest abroad, and the other producing countries. Algeria, Indonesia, Iraq, Iran and Nigeria have taken virtually no steps in this direction.

The combined domestic and foreign refining capacity of Saudi Arabia, for example, is now 50% of its oil production capacity. In Kuwait and Venezuela, the figure is 90 to 100% (Terzian, 1991). Seven OPEC producers have a stake in 26 foreign refineries with a total capacity of 3.6 Mb/d and actual production of 2.6 Mb/d. The most dramatic example is the agreement reached in 1988 between Aramco and Texaco, when the latter was facing serious financing problems. This contract creates a pooled refining capacity of 30 Mt/year in the US, worth some $2 billion.

Table 1: Principal Downstream Acquisitions of Petroleum-Exporting Countries

Purchaser	Acquired Capacity (1000b/d)	Country	Seller or Partner	Activity	Share (%)	Investment (mil.$)	Date
Saudi Arabia	600	US	Texaco	Ref/dist	50	2000	1988
Kuwait	75	Benelux	Gulf Oil	Ref/dist	100	150	1983
	70	Denmark/ Sweden	Gulf Oil/BP	Ref/dist	100	310	83/87
	35	Italy	Gulf Oil	Distribution	100	NA	1984
	70	UK	Hays/Ultramar Nafta	Distribution	100	370	86/87
	100	Italy	Mobil	Ref/dist	100	300	1990
Venezuela	145	Germany	Ruhr/Oel/Veba	Ref/dist	50	110	83/86
	305	US	Citgo/Southland	Ref/dist	100	950	86/89
	50	Sweden	Nynas	Refining	50	25	1986
	135	US	Champlin/ U. Pacific	Ref/dist	50	90	1987
	147	US	Unocal	Ref/dist	50	500	1989
	44	US	Sea View	Refining	50	35	1990
Libya	110	Italy	Tamoil/Amoco/ Fintermica	Ref/dist	70	363	83/87
Abu Dhabi	60	Spain	Cepsa	Ref/dist	10	110	1988
Mexico	80	Spain	Petronor	Ref/dist	34	NA	1979
	60	Spain	Repsol	Ref/dist	10	NA	1988
Norway	30	Sweden	Exxon	Ref/chem	100	NA	1985
	45	Denmark	Exxon	Ref/dist	100	20	1986

Source: *Petroleum Intelligence Weekly*, 8 April 1991, 19 March 1990, 15 May 1989 & 14 March, 1988; and *Oil and Gas Journal*, 16 May 1988, p.15.

THE CONDITIONS FOR CONSOLIDATION OF DOWNSTREAM INTEGRATION

The downstream integration trend requires the tacit consent of the importing countries involved, something that cannot always be taken for granted. Governments may perceive foreign involvement in downstream activities as a threat. Such has long been the case in Japan (Ushijima, 1990). If the trend is to continue, a friendly climate must be maintained between the governments of the producing and consuming countries, and western companies must continue to find such joint ventures attractive. They are now much less interested in this approach than in the past, because refining has once again become profitable, following a difficult period from 1980 to 1985 when companies were actively seeking cooperative ventures. Interest can only be rekindled if producing countries offer their potential associates attractive pricing formulas or the possibility of direct access to their resources, and if western companies encounter supply difficulties for one reason or another. Saudi Arabia is reportedly set to conclude a comprehensive agreement of this kind with South Korea in 1992.

From the viewpoint of the producing countries, there are a number of obstacles to downstream integration: the lack of internal consensus in these countries concerning such investments, their limited financial resources during a time of low prices, and the inexperience of some of the oil companies involved. Given the heavy debt loads currently carried by many producing countries, it is unlikely that many other countries will join those already involved in downstream activities. Saudi Arabia and Venezuela will probably continue to buy up foreign assets, while Iran will likely resume its involvement in foreign refining in Greece and in Pakistan. (It had previously been involved in South Africa and South Korea). Iraq will also probably get involved once its situation returns to normal. All the major producers, in fact, will eventually be involved in downstream activities, and the increase in foreign refining capacity may be as high as 1 Mb/d by the year 2000.

These developments will encourage upstream association-integration as companies seek to protect themselves through reciprocity guarantees. As these companies open up their downstream activities to the producing governments, this two-way movement will contribute to stability in several ways. First, it attests to a softening in the confrontational attitude along the North-South producer/consumer divide. The result is a convergence of interests between the most influential producing countries and the consuming countries, a situation that tends to stabilize prices in the medium term (Tahmassebi, 1989). Any producing country resorting to a high-price strategy would find itself exposed to retaliatory measures against its downstream assets in the oil consuming countries. Second, a significant portion of international oil flows will become more secure and more insulated from the uncertainties of the marketplace, to the benefit of the leading producing countries and the multinational oil companies. Third, the return of the multinationals to exploration and production activities in the oil-rich countries will guarantee a certain degree of capacity development, which will in turn reduce the risk of new supply-demand problems.

2. The Quest for a World Market Control Agreement

Between 1973 and 1985, the international oil order was based on OPEC market control. However, OPEC's high-price policy caused a gradual erosion of its market power from 1979 on as competitors entered the market and oil substitutes were developed. In 1982, in order to maintain high prices, OPEC decided on a policy of coordinated quota-imposed production cuts by its members. But this compromise solution was not sustainable, because the burden of adjustment was borne almost entirely by the Gulf states, particularly Saudi Arabia. When the burden became too great for the latter country, it spelled the end of OPEC's domination of the oil market. OPEC was forced to replace its earlier high-price strategy by a quantity-based strategy.

With prices now set by competition on the short-term market, the quota system could still be used to influence traders' perceptions of supply and demand pressures. But since competition among exporters for market outlets was intense, most OPEC nations cheated by circumventing their quotas in a variety of ways. Most market participants (exporting countries, importing countries, companies) did not find this system satisfactory, since their main interest was stability. Market prices were at the mercy of the next OPEC meeting. And, as the sharp price swings during the recent crisis demonstrate, prices are very sensitive to international tension, since speculation is based on the "mood" and "feelings" of traders and buyers attempting to hedge their risks. That is the reason many are willing to consider an international stabilization agreement.

2.1 Components of a Possible Stabilization Agreement

Control could have three objectives at different levels: to improve the operation of futures markets so as to avoid manipulation and geographic disparities; to limit the magnitude and duration of price fluctuations on spot and futures markets, which may have a recessionary impact on importing economies; and to guide prices over the medium term in order to avoid recurring cycles of severe and persistent tension (Morse, 1990 and 1991; Robinson, 1991; Schlesinger, 1991; Yamani, 1991).

The measures used to control price volatility are based either on short-term regulation of the international monetary system or on commodity price stabilization agreements. Short-term crude prices would be regulated through a linkage between a buffer stock and production controls. One solution would be shared management of existing or future stocks.[5] These stocks might include part of the strategic stocks of industrialized countries, which would be increased from 90 to 120 days of consumption. They would be augmented by the stocks that exporting countries would build up close to consuming zones. All governments would be able to quickly buy or sell very large quantities of crude. However, they would become strongly dependent on traders and, worse, would be exposed to possible market manipulation by producers. Another solution would be to create a tax-funded international oil bank. However, producers are concerned about the effect that such a tax might have on the demand for petroleum products.

The agreement would set out rules governing coordination between OPEC and non-OPEC exporters, notably for adjusting quotas to price movements. It would orchestrate on-going cooperation among the major multinational companies to set a target price and a price limit range. A special regulatory role would be assigned to those Middle East countries (Saudi Arabia, Kuwait, UAE, etc.) in a position to manage supply/demand adjustments. OPEC would be relieved of its present regulating role.

Control over medium-term price movements (5-10 years), would arise naturally from ongoing cooperation among the major consumers and exporters, who would set increases in the target price. The price cycle would be controlled by limiting the risk of supply and demand imbalances, and by encouraging upstream investment in order to maintain a minimum level of excess capacity. The main means of controlling the basic conditions of production would be full disclosure of information on reserves, production capacities and forecast consumption growth; this would require at least a minimum degree of cooperation among the major players.

2.2 *Reconciliation of Interests*

To those who favour such an international agreement, the convergence of interests of the producing and consuming countries is crystal clear. They argue that perpetuating the spirit of confrontation and non-intervention will benefit no one. The fact that an international agreement would decrease the probability and the potential magnitude of an oil price shock outweighs any drawbacks it might have. The demands of energy and oil interdependence in the medium and long run should override the natural inclination of all parties to protect their short-term interests.

PRODUCING COUNTRIES

The initiation of discussions between producers and consumers after the Gulf War was made possible by a growing consensus within OPEC around a moderate position. The earlier rift between the hard-liners (Algeria, Libya, Iran and Iraq), who were frequently supported by Indonesia, Nigeria and Venezuela, and the moderates (Saudi Arabia, UAE, Kuwait and others) was healed. For demographic reasons, the former group has traditionally pursued a strategy aimed at maximizing their short-term profits in order to finance economic development and to manage their rising debts. Since most of these countries had only short-term reserves, their primary concern was to secure the maximum financial return from them. The moderates — countries with large reserves and small populations whose financial absorption capacity was limited from the start — were interested primarily in preserving long-term markets for their oil.

The experience of the first two oil shocks, however, had convinced virtually all OPEC members that a strategy aimed at short-term revenue maximization has too many adverse effects: destabilization of their economies; negative impact on the stability of the dollar and economic growth in the industrialized countries, and hence on the security of their markets; greater incentive to

5/ On these first two points, see the report on the "Oil Summit" held in Paris on July 1-2, 1991 in *Bulletin de l'Industrie Pétrolière* 6880 and 6881.

develop oil substitutes; and the possibility of a resurgence in non-OPEC production. Even though many OPEC members were facing major internal economic and social problems and severe debt constraints, the path of moderation now seemed more attractive. This was the case for Indonesia, Venezuela and, most surprisingly, Iran, which had always fallen squarely in the "hard-liner" camp (*Bulletin de l'Industrie Pétrolière*, 1991). Within the other camp, Saudi Arabia's financial difficulties were not enough to cause it to abandon its moderate stance on prices.[6]

Restoring OPEC's former market dominance is no longer the main objective of its members. They have no wish to see renewed pressure on production capacities relative to anticipated future demand. Rather, they want OPEC to maintain a reasonable degree of excess capacity relative to prospective aggregate demand. The objective is to enhance the security of their revenues by guaranteeing market access and promoting price stability. They are more concerned about the consequences of a future price shock than about the consequences of excess capacity. This helps to explain why they are inviting the multinationals back to invest on their territories.

Oil price stabilization and greater openness to multinational companies are also the objectives of non-OPEC producers. They have already demonstrated their willingness to abandon their "free-rider" role in the OPEC-orchestrated oil game. Seven non-OPEC countries (Egypt, Angola, Mexico, Malaysia, Oman, Colombia and China) have entered into negotiations with OPEC aimed at making coordinated production cuts, indicating an acceptance of their common responsibility for supply and price management.

Thus a new climate has developed, one characterized by a growing consensus, particularly regarding price levels. However, the true state of affairs is not so rosy. The leading OPEC country, Saudi Arabia, wishes to preserve its power base within that organization, an objective that runs counter to the interests of other producers, many of which are saddled with debt constraints and acute social problems. In addition, Saudi Arabia's security objectives force it to back US objections to any attempt to stabilize prices.

THE INDUSTRIALIZED COUNTRIES

The interests of the industrialized countries have also changed since the first oil shock; they are now more favourable to the idea of an agreement with the producing countries. First, the political risks associated with oil dependence are not so great as they once were. Most industrialized countries have cooperated in resisting all attempts to turn oil into a political weapon. To this end, in 1974 they formed the International Energy Agency, designed as a mechanism for insurance and solidarity in relation to the risk of supply interruptions affecting its members. This multilateral response has to a large extent disarmed the "oil weapon" (Bull-Berg, 1987).

Second, while nationalist feelings still run strong, the industrialized countries have now decided to let market forces regulate their national oil consumption. The United States is a case in point; after 1985, it allowed its oil dependence to grow without responding with an interventionist energy policy.

Third, the vulnerability of oil-importing economies to increases in their oil bill has diminished. By reducing and stabilizing their oil consumption, these economies have posted substantial growth since the oil shocks. They would now be able to absorb moderate and regular increases in oil prices without difficulty. Nevertheless, most remain vulnerable to any oil price shock that would create major economic disturbances and weaken their industrial structures. Consequently, importing countries generally have little desire for a situation of low prices that would create disincentives to pursue energy conservation policies and develop oil substitutes. Their governments feel that such a situation might set the scene for a new price shock. Thus they would prefer price stabilization at a moderate level, coupled with moderate growth. While many are sceptical about the viability of a

6/ Saudi Arabia's revenues fell dramatically after 1980 (from $119 billion in 1981 to $26 billion in 1985) when it agreed to act as a "swing producer." By 1988, the Saudis had started to borrow. They are currently facing expenses connected with the war.

stabilization agreement, most are favourable to the idea of cooperating with producers, if only to foster a climate of confidence.

2.3 Perceptions and Interests: Still Far Apart

Despite the undeniable reconciliation of interests that has taken place since 1980, it would be a mistake to be overly optimistic; important ideological factors (notably the influence of free-market thinking) and geo-political factors (notably the hegemony of the United States) stand in the way of any such agreement. Establishing an international system would require the support of the leaders of both camps, as well as a strong and widespread conviction that the system is viable. This is far from the case today.[7]

REJECTED BY THE LEADERS

In accordance with its short-term macroeconomic interests and its external constraints, the United States wants to keep the price of oil at a moderate average level of $18/b. While it benefits from the dollar's prestige as the pre-eminent currency of international trade, the US has become concerned about the cost of its oil imports, because both its oil bill and its trade deficit are on the rise (at $55 and $108 billion respectively in 1990). For this reason, the US rejects all international dialogue aimed at discussing price stabilization mechanisms, particularly the possibility of a minimum benchmark price. The memories of the years of confrontation are still fresh, and it is wary of becoming a prisoner of the producing countries. The recent military victory has left the American government in position to impose its point of view, requiring Saudi Arabia and the small petro-monarchies to tailor their production policy to the goal of maintaining prices at the desired level.

With this alliance assured, the US Administration can present the Riyadh-Washington agreement as an effective alternative to a stabilization agreement, even citing free-market principles to counter proposals for international cooperation. A White House statement of May 1991, for example, asserts that oil production and the price of oil must be determined by market mechanisms.[8]

However, rather than pursuing a genuinely free oil market, the US government implicitly supports the way the market now operates, which is based on the continuation of OPEC's quota system under Saudi control. As Adelman has frequently pointed out, in a completely free market the oil price would settle at the lowest level that guarantees supply. If the source of world supply were predominantly the Middle East, prices would fall below current levels, perhaps to around $5/b (Adelman, 1991). When the three Gulf states, including Saudi Arabia, began the price war in 1986 by leaving it to market forces to determine prices, the world price of oil fell to as low as $8/b. At the time, the US pressured Saudi Arabia into restoring OPEC's previous policy. With an oil price above $15/b, US resources in high-cost areas remain profitable to develop and production declines are forestalled.

For its part, Saudi Arabia is also not in favour of multilateral regulation of oil prices, although it continues to express interest in a producer/consumer dialogue (Nazer, 1991a). Even though Saudi Arabia would play a central role in any such mechanism, it would lose its current power over the market.

7/ To these factors must be added the possibility of new fuel taxes in industrialized countries aimed at combatting the greenhouse effect; such measures would tend to further widen the gap between the interests of the two camps. The OPEC nations have been lobbying against such a policy for several months now, feeling that such taxes could reduce the demand for their oil and lead to high excess capacity. Producers may re-examine the basis of the current consensus on the need for price stabilization if such policies become widespread. The existing compromise, involving continued moderate prices in exchange for market access, would be threatened by a carbon tax. Producers will question whether it is worthwhile maintaining a degree of excess capacity to head off a new shock. At the moment, only a few European countries (mostly EEC members) are contemplating the imposition of a graduated tax on the various types of fuel; compared with coal, the fiscal consequences for hydrocarbons in these schemes are relatively mild.

8/ The US government considers "dialogue pursued on a bilateral basis" with Saudi Arabia more useful. The United States has established what is officially termed a "special communication" with that country (White House Press Release, May 3, 1991).

JAPANESE AND GERMAN INDIFFERENCE

While it is recognized as the only true superpower in the international diplomatic/military arena, the United States is now having to adjust to the presence of two increasingly powerful rivals in the economic arena: Japan and Germany. The US can no longer behave as though it were a hegemony, changing the rules of the game to suit its own interests. Its rivals are now strong enough to extract concessions from it, such as the coordinated economic policies aimed at currency stabilization implemented since the Plaza (1985) and Louvre (1987) agreements.

Oil clearly stands at the intersection of these two arenas. It is thus conceivable that Japan and Germany might try to convince the US to participate in multilateral regulation. However, they have two good reasons for letting it continue to impose its form of influence on the market. First, their economies are not overly vulnerable to oil shocks. During the first two shocks, these countries displayed a remarkable capacity for economic adjustment, posting significant trade gains at the expense of the more rigid economies. Thus they emerged as winners. Second, neither country wants (even if it could) to challenge the Americans in the diplomatic/military arena. Thus they have in effect delegated responsibility for maintaining regional order in the Middle East to the US. They have been content simply to make a substantial financial contribution to military operations. Because they do not care much one way or the other about stabilization, Japan and Germany have allowed the US refusal to endorse a minimum level of cooperation between producers and consumers to go unchallenged.

2.4 General Scepticism Concerning the Viability of a Stabilization Agreement

As commodity market experts have pointed out, any price stabilization agreement carries a price (Calabre, 1990; Newbery and Stiglitz, 1981). There are costs involved in maintaining buffer stocks and in financing the bureaucracy and study committees of whatever organization is given the job of managing the system. A stabilization system would necessarily be imperfect, because the intervention rules could never foresee all possible situations, all the ways prices could be manipulated, and all the schemes that could be devised to evade the rules. Furthermore, there could be unpredictable negative effects. The gains from cooperation for the main parties to an agreement would, therefore, have to clearly outweigh its disadvantages.

Experience shows that the main factors in the success of a stabilization agreement are the size of the market and the willingness of the principal producers and buyers to adhere to the agreement and to respect its intent. The fewer the players, the better the chances of finalizing and maintaining an agreement, since the interests and perceptions involved will tend to be more uniform. When national governments are involved, moreover, success in achieving an agreement will depend on the willingness of the parties to restrict the negotiations to issues directly related to the product in question and to renounce its use as an instrument of political pressure. This applies to producers and consumers alike.

Even though there has been a reconciliation of interests in the international oil industry, there are many conditions that are still far from satisfied, given the size of the transactions, the number of economic agents and political actors involved, and the important influence of political factors.

The idea of a stabilization agreement has also met with considerable scepticism from countries that favour international dialogue and from the oil community in general, which question the viability of such an agreement. Even on other commodity markets, which are smaller and involve fewer participants, stabilization agreements tend simply to convert price fluctuations into incremental changes. Control of production and the funding of buffer stocks are frequently a source of conflict, and, because of changing market conditions, the agreement rarely lasts longer than ten years.

In the oil industry, the difficulties OPEC experienced in trying to implement its policy of coordinated production cuts as a result of free-riding and cheating are indicative of the problems that a stabilization agreement would encounter. The agreement's quota system would have to cover all exporting countries, OPEC and non-OPEC alike. This would mean that interests would be very diverse, making it all the more difficult to reach compromises on prices and quotas and to enforce them. Considering the opposition and doubts which the idea invokes, it appears extremely unlikely that the petroleum market will be regulated by an international stabilization agreement in the near future, even though, as we shall see, there is some chance that at least a minimal degree of coordination may be achieved.

3. Saudi-US Control of the Market

The Saudi-US agreement, through the production decisions made by Saudi Arabia, indirectly regulates oil prices. (Since the end of the Gulf War, Saudi Arabia has accounted for 35% of OPEC exports, compared with 25% before.) This arrangement implicitly relies on the continuation of the OPEC quota system. As long as the objectives of the agreement retain some flexibility, regulation of this kind can be maintained for some time.

3.1 The Foundations of the Saudi-US Agreement

The Gulf War has unquestionably strengthened the diplomatic/military position of the United States in relation to Saudi Arabia and the small petro-monarchies. All the Gulf states emerged substantially weakened from the crisis, which revealed their total inability to defend themselves, despite their enormous military outlays in previous years. If they opted to align themselves with the only "friendly" Arab powers in the region, Syria and Egypt, in a joint Arab force, they would run the risk of blackmail and loss of control over their oil rents. Thus Saudi Arabia and the other petro-monarchies had little choice but to seek the protection of the US. This situation strongly conditions the way Saudi Arabia reacts to US representations concerning oil prices, although it would be wrong to see Saudi Arabia as a mere US protectorate.

Saudi Arabia has maintained close, though complex, ties with the US since it first became an independent state in the 1930s as a result of the efforts of an American government that wanted to provide US companies with a foothold in the Middle East. The Saudis have always acted in their own interests (Schemeil, 1988). But they feel a certain affinity with the Americans, whom they regard as the most powerful and independent of their partners. This facilitates coordination and leads to some similarities of viewpoint. Evidence of the independence of the Saudi regime includes its active participation in OPEC since 1973 and its insistence on an oil price of $11/b rather than the famous $7/b advocated by Henry Kissinger. The US government bolstered its co-operative agreements in 1974 in the hopes of opening a crack in the solid front of exporters (Kemeniz and Wilson, 1984; Tréteault, 1985).[9] As well, when the Iranian revolution threatened to boil over, the Saudi regime refused a US request to set up military bases on its territory.

The continuing moderate stance of Saudi Arabia's oil policy within OPEC can be partially attributed to its special relationship with the US. From 1973 on, Saudi Arabia consistently opposed calls by OPEC hard-liners for higher prices and abandonment of the dollar as the currency of settlement. It fought against the formation of a sales cartel as long as it could. After the second shock, it increased its production and sales in 1981 in response to a US request to ease tight market conditions. In 1986 it agreed to end the price war directed against non-OPEC producers at the request of the US, which was concerned about the accelerating decline in US oil production and destabilization in the Gulf region.

However, these Saudi decisions were in accord with its two main objectives: national security and consolidation of the political and religious power deriving from its oil wealth. The first consideration justified its special alliance

9/ In June 1974, the United States signed an economic and military cooperation agreement with Saudi Arabia. Between 1974 and 1980, arms sales worth $34 billion were involved.

with the US, although US military protection came at a price. The halting of the price war in 1986 was, in part, recompense for this protection, which was provided by a strong naval presence in the Gulf and the defensive umbrella of the Rapid Deployment Force, created in 1979. After the Gulf War, Saudi Arabia paid for this protection by pursuing a price target of $18/b despite financial needs stemming from its military spending, and its earlier endorsement of OPEC's $21/b price target.[10] This is the principle of "reciprocal security" announced in November 1989 by the Saudi oil minister — Saudi national security in exchange for US oil security at a moderate price (*Petroleum Intelligence Weekly*, 1989).

The second objective of Saudi Arabia is reflected in its desire to remain in control of the oil game while preserving OPEC's existence and cohesion, thanks to its wide latitude in terms of production capacity and revenue requirements. Saudi Aramco intends to continue the program of capacity expansion it launched prior to the war, aimed at expanding its capacity from 8.4 Mb/d to 10 Mb/d over the next few years (Abi Aad, 1991). Saudi Arabia will thus be able to use the threat of competition to dissuade other OPEC members from exceeding their quotas. In addition, the success of any attempt to put upward pressure on prices depends on its consent. For the moment (Fall 1991), Saudi Arabia refuses any attempt to influence its petroleum production (it now produces 8.4 Mb/d, compared with 5.5 Mb/d before the Gulf conflict) in order to preserve its output level when exports resume from Iraq and Kuwait.[11]

3.2 Limitations of Current Agreement

The current objective of the Saudi-US agreement is to guarantee a moderate and stable price of around $18/b. Sooner or later, however, the United States will be faced with a significant worsening of its external constraints as a result of its rising oil imports. Similarly, Saudi Arabia will eventually have to deal with the concerns of other OPEC members if it is to avoid a break-up of the organization.

GROWING US DEPENDENCE

In the US, moderate oil prices will mean a decline in domestic production and less incentive to pursue voluntary regulation initiatives aimed at stabilizing transportation-related consumption. Oil companies will continue to prefer to invest in exploration and production abroad and will have little inclination to implement secondary and tertiary recovery techniques. The stabilization objective announced in April 1991 as part of the New Energy Strategy will likely not be achieved, because the institutional framework is not in place (Department of Energy, 1991). Low prices might also lead to an earlier recurrence of supply/demand imbalances at the world level. The prospect of such a development and the rapidly mounting oil bill that would likely ensue would probably prompt a reversal in US policy. Should the price of oil rise to $35/b and imports increase to 500 million tonnes as expected by the year 2000, the oil bill will rise from $55 billion in 1990 to $175 billion. This prospect may also induce the other major industrialized countries to abandon their optimistic expectations and bring pressure to bear on the US, within either the IEA or the G-7 group (made up of the richest industrial countries), in light of the implications of the US foreign debt for the international monetary system.

Moreover, while energy security does not carry the weight it once did, the energy security of the US will be significantly affected by these developments (Finon and Perrin, 1990; Morse, 1990). With exploration and production in the more difficult zones made less attractive by moderate price levels, US dependence will grow, primarily with respect to the Middle East. The

---

10/ It is true that moderate prices tend to trigger a feedback effect, permitting a modest rise in the value of the dollar, which in turn helps stabilize oil prices. If, on the other hand, Saudi Arabia decided to resume its former role as swing producer in a bid to increase prices, the dollar would be affected and both phenomena would increase the US oil bill.

11/ "Saudi Arabia requires no one's approval for its production" stated Hicham Nazer, the Saudi oil minister at the OPEC meeting of September 24, 1991 (Nazer, 1991c).

share of total US oil imports from this region will climb gradually from 26% in 1988 to 60% by 2010. Even if US vulnerability is partially offset by the network of economic, diplomatic and military alliances it has built up in the region, its position will nevertheless become increasingly uncomfortable. True, the US enjoys the prospect of assured access to resources in the Americas through the bilateral trade agreements it has signed or is negotiating with Canada, Mexico and (soon) Venezuela.[12] However, the creation of this regional petroleum zone will not alter the importance of the Middle East as a source of supply for US oil needs. A change in American policy seems inevitable in the medium term. It may even occur sooner than expected, however, because experts and officials are far from unanimous on current policy and on the rejection of international dialogue in any form, as evidenced by the rather pro-dialogue opinions of former Energy Secretary Schlesinger and of editorials in specialized oil industry journals (Schlesinger, 1991a and 1991b). It may be that, once peace has been secured in the Middle East, and after the upcoming presidential election, it will be easier for the Washington Administration to engineer a significant change in US energy policy.

SAUDI SPECIAL INTERESTS

For its part, Saudi Arabia cannot indefinitely ignore the interests of other OPEC exporters, particularly once Kuwait and Iraq resume oil export. Since the Saudis also want to avoid renewed tension, Saudi Arabia appears condemned once again to play the role of swing producer along with the other petro-monarchies and to make production cuts, unless it is willing to preside over the dissolution of OPEC. Despite its weakness, OPEC retains a degree of internal cohesion, because all member countries feel that free competition would be even worse than current arrangements in terms of oil revenues.

The other major producers potentially in a position to interfere with Saudi policy have no wish to launch a crusade against that country. Venezuela's oil industry has strong ties to the United States and so is hostile to the principle of a minimum benchmark price in order to preserve markets for its petroleum products. For its part, Iran is leaning towards the idea of a moderate price policy in the hope of restoring its credibility in international petroleum circles and to attract new capital (*Petroleum Economist*, 1991). But a steadfast refusal on the part of Saudi Arabia to abide by collective discipline regarding production would sound OPEC's death knell and usher in a new price collapse; this clearly runs counter to Saudi interests.

US-Saudi management of the market in its present form is unlikely to outlive the resumption of normal exports from Kuwait and Iraq, although this will take a few years yet. In order to avoid jeopardizing its relationship with the other producers, meanwhile, Saudi Arabia defends the principle of dialogue between producers, companies and consumers, arguing that the objective of this dialogue should be to facilitate reintegration-association both upstream and downstream.[13]

3.3 Prospects for Depoliticizing the Oil Industry

The influence of the United States on the petroleum market depends upon continuing political instability in the Middle East. Its influence could be undermined by a conjunction of two factors: a diminished threat of market instability as a result of competition from a major new oil exporting region, and achievement of a more stable regional order in the Arabian Peninsula.

Oil experts agree that Russia may one day be that new competitor. Western technology would improve the productivity of existing sites and can make it economically feasible to tap the presumably huge resources in new high-risk zones

12 / The proposed free-trade agreement with Mexico excludes oil, although this fact does not cancel out the positive effects that this economic alliance will have on oil relations between these two countries.

13 / The Saudi oil minister, Hicham Nazer, recognizes the growing need for cooperation "as part of Saudi Arabia's quest for stability and predictability in the international oil industry and for the inauguration of an international petroleum order that will benefit producers and consumers alike" (Nazer, 1991b).

(Barents Sea, etc.). In addition, lower consumption in the former Soviet Union as a result of industrial restructuring and a gradual rationalization of resource allocation will help maintain export potential. However, despite the clearer situation that may emerge following the breakup of the Soviet Union, Russia will not become a major new exporter overnight — it will take some time to establish new institutions, define new ownership rights that clearly stipulate how oil rents are to be allocated, and gain the confidence of western oil companies.

The prospects for political stability in the Middle East are clearly linked to the resolution of the Arab-Israeli conflict, presumably a peace treaty granting Israel secure borders in exchange for the creation of a Palestinian state in the occupied territories (Halliday, 1990). Progress is now being made towards this goal, although success will depend on the determination and skill of the US in encouraging Israel to adopt a more flexible position. With the receding of the Soviet threat in the Middle East, unconditional American support for Israel has become harder to justify. Yet the road to peace will probably be long and slow, given that the military balance of power remains tilted in Israel's favour. Other risks for regional stabilization have been reduced by the weakening of Iraq's war machine. Still, rivalries between different Islamic fundamentalist groups and between Iran and the Arab states persist. The petromonarchies under US protection remain politically vulnerable, particularly to the possible rise of neo-democracy movements. Some of these regimes could become even more vulnerable should the US decide on a long-term military presence, since their legitimacy could be eroded by the too blatant presence of their American protectors.

As the recent military agreements with Kuwait and Saudi Arabia indicate, however, the US intends to reduce its military presence in the Middle East to pre-crisis levels in order to minimize this risk and curb military spending. The US favours a "remote-control" solution, whereby Egypt could assume responsibility for strategic security under a US mandate in exchange for financial compensation from the monarchies. Washington has also promoted the idea of a supra-regional structure to oversee a partial redistribution of oil rents among the Arab nations (Brady, 1991). However, the monarchies preferred to create their own economic aid fund of several billion dollars, which they could control themselves.

Thus the many remaining sources of tension in the area should be partially defused in the coming years. However, the regional situation will remain deadlocked as long as Saddam Hussein's regime is in power in Iraq. In the interim, the US is free to impose its approach to the oil market through its agreement with Saudi Arabia. When Washington eventually distances itself militarily, Saudi Arabia will be able to reassert its independence in oil policy, which likely explains its reluctance to grant the multinationals renewed access to its resources.

In light of these developments, it is likely that the United States will begin to look more favourably on the idea of some minimal degree of international cooperation once the spoils of victory are gathered. During the 1990s, the market will probably be governed by an implicit linkage between the policy of coordinated production cuts by OPEC and non-OPEC nations, and the Saudi-US price strategy aimed at moderate price growth. This situation may prove tenable if some degree of excess capacity is maintained voluntarily at the national level through investments in exploration and production made possible by reintegration-association.

4. Conclusion

Following the erosion of OPEC domination and an easing of the ideology of North-South confrontation, we are witnessing the emergence of a new petroleum order. Exporting countries, the multinational corporations, and importing countries now perceive a convergence of interests and are ready to work together. For each of these market participants, the expected benefits in terms of stability and reduced uncertainty outweigh the costs involved.

The eventual shape of the new order is still indistinct. The ground rules are still far from clearly established. In any event, there seems to be little likelihood that market prices will be regulated by a multilateral price stabilization agreement. In particular, the "durability" criterion has not been satisfied — a dominant actor or group of actors to buttress and control the international regime, as in the case of the IMF and GATT, does not now exist.

On the other hand, upstream and downstream reintegration-association, based on extensive bilateral cooperation between the multinationals and producing countries, represents a more durable system of relations. In the medium and long terms, the common interest is probably better served by this option than by a stabilization agreement. By ensuring the flow of investment capital into the upstream sector, it will help maintain a degree of excess capacity, and thus stable prices. By reducing the risk of the kind of supply/demand imbalances that would restore OPEC to its position of market dominance, it also ensures the stability of cooperative relations. And, finally, it is more responsive to the mutual interests involved in state-to-state relations.

In the context of these new relations, the international dialogue that has begun in the aftermath of the Gulf War holds out the prospect of defusing lingering hostilities, putting cooperative goodwill to the test, and creating the conditions for the return of the multinational oil companies. Many observers, including Schlesinger and Yamani, have argued that multilateral cooperation is workable if it involves on-going dialogue, particularly to address such issues as production capacity expansion (Schlesinger, 1991c; Yamani, 1991). Despite the IEA's US connections, it is also significant that this body has entered the debate by proposing a meeting of experts from each camp to discuss the issue of market operations (*Pétrostratégies,* 1991). The form that a broader system of regular dialogue would take remains to be determined. Which countries should be involved? What should be the role of the oil companies? This dialogue will be one of the cornerstones of the new petroleum order, helping to harmonize the expectations and plans of the various parties and to reduce speculative risks. This solution will not be incompatible with the domination of the new petroleum order by the US-Saudi agreement, so long as the Americans accept the principle of dialogue.

References

Abi Aad, Naji (1991) 'Oil Production and Export Capacities in the Gulf: Post-War Situation and Prospects to 2000,' *Observatoire Méditerranéen de l'Énergie,* June.

Adelman, M. (1991) 'The 1990 Oil Shock is Like the Others,' *Energy Journal* 11:4:1-11.

Bergensen, H. et al. (1989) *The World Oil Market in the 1990's: Is a New Order Possible?* (Oslo: Fridjof Nansens Institute).

Bourgeois B. and F. Perrin (1989) 'Les compagnies pétrolières des pays producteurs en développement s'internationalisent,' *Énergie Internationale 1989-1990* (Paris: Economica) pp.81-93; translated version in *Energy Studies Review* 1:3:244-57.

Bourgeois, B and V. Rodriguez-Padilla (1991) 'Oil Exploration and Production Between the 1980s and 1990s: Geological Advantage and International Petroleum Orders,' *Energy Studies Review* 3:3:244-259.

Brady, N. (1991) proposals reported in *Pétrole et Gaz Arabes* No.532, May 16.

Bull-Berg, H. (1987) *American International Oil Policy* (London: Frances Pinter) pp.56-79.

Bulletin de l'Industrie Pétrolière (1991) No. 6853, May 30.

Calabre, S. (1990) *Les marchés internationaux des matières premières* (Paris: Economica).

Criqui, P. (1991) 'After the Gulf Crisis: The Third Oil Shock is Yet to Come,' *Energy Studies Review* 3:3:205-216.

Finon, D. and F. Perrin (1991) 'US Energy Policy in the Face of Growing Oil Dependence,' *Energy Studies Review* 2:2-3:79-91.

Halliday, F. (1990) 'The Gulf Crisis and International Relations: Prospects for the Medium Term,' *The Gulf Crisis: Energy and Regional Security Ramifications* (London: Center for Global Energy Studies), pp.159-79.

Kemeniz, P. and E. Wilson (1984) *The Decade of Energy Policy: Policy Analysis in Importing Countries* (New York: Praoger) pp.66-98.

Keohane, R. (1984) *After Hegemony. Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press).
Morse, E. (1990) 'The Coming Oil Revolution,' *Foreign Affairs*, Winter, pp.36-56.
—(1991) 'Search for a New Order Confronts Oil World,' *Petroleum Intelligence Weekly*, February 11, p.8.
Nazer, H. (1991a) speech given at the Harvard Business School on May 6, summarized in *Pétrostratégies*, May 13, p.7.
—(1991b) 'Pétrole et gaz dans les années 1990: Perspectives et coopération,' speech given at a conference in Ispahan on May 27-29, reported in *Pétrole et Gaz Arabes* No.534, June 16.
—(1991c) Comment made at the OPEC meeting of September 24, reported in *Le Monde*, September 26.
Newbery, D.M. and J.E. Stiglitz (1981) *The Theory of Commodity Price Stabilization: A Study in the Economics of Risk* (Oxford: Clarendon Press).
Petroleum Intelligence Weekly (1989) November 6, p.3.
Petroleum Economist (1991) April.
Pétrostratégies (1991) July 8, p.3.
Robinson, S. (1991) 'Energy Implications in the Mid-East Crisis,' *Petroleum Intelligence Weekly*, December 24, p.78.
Schemeil, Y. (1988) 'L'éthique saoudienne et l'esprit de la politique pétrolière,' *Énergie Internationale 1988-1989* (Paris: Economica), pp.93-115.
Schlesinger, J. (1991a) *Petroleum Intelligence Weekly*, February 11.
—(1991b) *Oil and Gas Journal*, April 22.
—(1991c) 'Inherent Difficulties in Producer-Consumer Relations,' *The Energy Journal* 12:9-15.
Tahmassebi, C.H. (1989) 'Structural Changes, Market Concentration and Vertical Integration: Would They Lead to More Stable Markets?,' *8th International Symposium on Petroleum Economics* (Quebec City), September.
Terzian, P. (1991) 'OPEC: L'intégration amont-aval va atteindre 40%,' *Pétrostratégies* April 15, p.242.
Tréteault, M.A. (1985) *Revolution in the World Oil Market* (Westport: Quorum Books), pp.173-76.
US Department of Energy (1991) *The National Energy Strategy* (Washington: DOE), February.
Ushijima, T. (1990) 'Japanese Oil Market and Implications of Downstream Integration by Oil Producers' in D.E. El Mallakh (ed.) *Energy Watchers I: A "Reintegrated" Oil Industry* (Boulder: International Center for Energy and Economic Development), pp.79-82.
Yamani, A.Z. (1991) 'A General Agreement on Oil,' opening address of the 2nd Annual Conference of the Center for Global Energy Studies, September 23.