
During the 1970s developing countries sought to assert sovereignty over their petroleum resources by pursuing interventionist policies aimed at their oil industries. During the 1980s the balance of power tilted away from the developing countries. The slump in oil prices created a new environment which prompted a review of oil policies. These states are now according higher priority to promoting investment than to affirming the principle of sovereignty. The welcome mat extended to foreign companies by the socialist countries and some of the major oil-exporting countries is a sign of this turnaround. With the rise of free-market policies and the concrete results recently achieved in oil resource management has come a less rigorous application of the sovereignty principle than in the past. This paper presents an analysis of how the principle of sovereignty has been interpreted and applied in the developing countries over the past 20 years.

Les années soixante-dix se sont caractérisées par l'affirmation de la souveraineté des pays sous-développés sur leurs ressources pétrolières. Ils ont appliqués les politiques volontaristes visant à gérer leur industries pétrolières avec des critères et objectifs de souveraineté nationale. Dans la décennie quatre-vingt le rapport de forces n'a plus été à leur avantage. La chute des prix de pétrole a crée un nouvel environnement qui les a conduit à réexaminer leurs politiques pétrolières. Désormais les Etats font passer la promotion des investissements avant l'application du principe de souveraineté. L'ouverture des pays socialistes et de certains pays gros exportateurs aux compagnies étrangères témoigne de l'ampleur du phénomène. La montée du libéralisme économique et les résultats concrets de la gestion des ressources pétrolières dans les dernières années conduisent à un concept de souveraineté plus nuancé que par le passé. Cet article présente une analyse rétrospective des formes d'interprétation et d'application du principe de souveraineté dans les pays sous-développés au cours des vingt dernières années.

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Sovereignty Over Petroleum Resources: The End of an Era?

VICTOR RODRIGUEZ-PADILLA

1. Introduction

The petroleum industry is in the throes of a profound transformation. The changes that occurred in the latter half of the 1980s are seen by some experts (Bergesen, 1990) as heralding a new order in the industry, characterized by closer cooperation between the multinational oil companies and exporting countries, particularly those that earlier nationalized their petroleum industry. After two decades of stormy relations, the trend seems to have turned around. The parties concerned are interested in reconciliation. What is more, they are ready to take concrete steps to make such cooperation a reality.

In this light, will there be an outright denationalization of the petroleum industry? What remains of the concept of sovereignty over petroleum resources? What role will the sovereignty principle play in the future? In responding to these questions, this paper presents an analytical look back at how the principle of sovereignty has been interpreted and applied in the developing countries over the past 20 years. To understand the reasons for policy decisions taken by national governments, one must also examine the interaction among domestic policies, the stage of maturity of the local petroleum industry, and developments in the international oil market.

2. Sovereignty Over Petroleum Resources and the Transformation of the International Oil Industry, 1970-1980

During the mid-1960s, there was a surge in nationalist sentiment in many developing countries, leading them to assert sovereignty over their natural resources. The basic principles of natural-resource sovereignty were enshrined in resolutions 3201 and 3202 of the United Nations General Assembly (Declaration and Programme of Action on the Establishment of a New International Economic Order), enacted on May 1, 1974, which recognized the right of states to nationalize or assume control and operation of mining projects:

In order to safeguard these resources, each state is entitled to exercise effective control over them and their exploitation with means suitable to its own situation, including the right to nationalization or transfer of ownership to its nationals, this right being an expression of the full permanent sovereignty of the state. No state may be subjected to economic, political or any other type of coercion to prevent the free and full exercise of this inalienable right (Zorn, 1983, p.322).

Application of the sovereignty principle was expressed through the total or partial nationalization of assets and ownership rights, the renegotiation of existing agreements, the establishment or consolidation of state-owned corporations, state participation in companies' activities, and higher tax rates. The swiftest and most far-reaching steps were taken in the hydrocarbons sector, but other non-renewable resources were not spared (Wälde, 1983). In fact, the changes that took place in this sector led to instabilities in the other resource extraction industries.¹

The implementation of resource sovereignty ushered in new relationships between the host countries and the multinational oil companies. In most cases, the nature of these relationships was largely determined by the behaviour of the countries belonging to the Organization of Petroleum Exporting Countries (OPEC). Certain OPEC countries set the example and other developing countries followed their lead in taking

steps to achieve effective control over their local petroleum industries, to extend their ownership rights over hydrocarbons and to recover more oil rents. They took advantage of the new balance of power favouring OPEC countries to impose these new policies on the companies.

Eight developing countries (Argentina, Bolivia, Brazil, Chile, India, Mexico, Peru, and Syria) nationalized their petroleum industries prior to 1970, but the volume of production involved (1.29 million barrels/day) accounted for only 4.6% of 1970 world crude production outside the United States and the socialist countries (45 million b/d). These nationalizations, especially the failed attempt by Mossadegh in Iran in 1958, influenced the other developing countries. But it was the actions of the major OPEC countries that had the greatest impact.

The pace and extent to which each country followed OPEC's lead depended on the degree of economic control it had over petroleum resources (its role as operator, producer, merchant, and exporter of crude), its level of economic development, and its particular technical, political, economic, and financial constraints, e.g., the local demand for petroleum and the extent of the shortage of foreign currency. These factors determined each country's negotiating power vis-à-vis the foreign companies and its room to manoeuvre in applying the principle of sovereignty.

The institutional framework in which exploration-production activities were carried out was restructured in accordance with this principle. The changes were in both form and content. Some notable changes in form were: 1) in the domain of legislation, the separation of petroleum legislation from that governing mining, and a preference for succinct legislation and highly detailed contracts; 2) in the domain of

1/ Gillis (1982) refers at the international level to a "tax demonstration effect." The "innovations in taxation of oil in one group of countries appears to lead, with only short lags, to similar changes in oil and even coal taxes in other LDCs, but not on uranium, another energy resource." Sometimes changes in the tax treatment of one resource affect another resource. In other cases the "tax demonstration effect" has a strong impact in one region but none at all at the international level.

contractual arrangements, a profusion of different types of agreements and a clear trend towards a discretionary approach in granting mineral rights; and finally, 3) in relation to fiscal arrangements, the appearance of new, enhanced revenue-producing mechanisms. The changes that were most significant for the development of the industry were changes in content; these will be examined later.

Ownership of Resources

Permanent and total sovereignty over petroleum resources meant, first of all, a change in ownership. In most host countries, the authorities decided to change the basis of petroleum legislation from the Regalian Law system to the Domanial Law system. Very few countries opted for the "occupation" system, used in the US, whereby the land owner automatically also owns the underground rights.²

Under the Regalian Law system, the state sets the conditions governing prospecting and extraction of oil deposits and selects which firms will be granted underground rights. Regalian Law is based on the principle that mineral resources belong to no one until they are discovered. The state uses its Regalian power, formerly an attribute of royal sovereignty, to grant extraction rights. In this system, the way mineral rights are awarded is clearly defined by law. It is used in France and in many other developed countries.

In the Domanial Law system, oil-bearing deposits and the oil they contain belong to the state and are part of its "realm." The state is entitled to create a state monopoly to develop them. If the resources are already being exploited by another entity, they can be nationalized. If the government decides to grant a concession to a third party, it decides what conditions are most appropriate, on an ad hoc basis. The developing countries were quick to adopt this system because it was best suited to the new objectives of sovereignty and development.

Monopoly Over Petroleum Activities

Sovereignty over petroleum and gas meant, next, establishing a state monopoly over petroleum activities: exploration, development, production, transportation, refining, marketing, and export of hydrocarbons and refined products. This responsibility was often delegated entirely to the state-owned company or to a specialized government agency. The introduction of monopoly rights had widely varying results. Even where state objectives were identical, there were significant differences in the means used and the vigour with which they were pursued.

Accordingly, certain major producers proceeded to nationalize their industries: Algeria, Saudi Arabia, Iran, Iraq, Kuwait, and Venezuela, which together accounted for 54.5% of world oil production outside the US and the socialist countries in 1974. They nationalized all upstream and downstream petroleum assets in the hands of private oil companies — either gradually or at one stroke. Although some of these countries are now reconsidering such decisions, in the 1970s they decided to exclude private firms entirely. Their relationships with these companies was limited to service contracts to perform specific functions on an "as-required" basis.

For the other producing countries, on the other hand, the principle of sovereignty did not involve evicting private companies entirely. Countries which lacked the means to proceed with total nationalization elected simply to acquire a stake in the former concessions and/or an equity interest in the producing companies, leaving the state enterprise free to associate or subcontract with private firms in future agreements. Participation was — and still is — considered the best way to achieve state objectives in the petroleum field (Sims, 1985). The percentages taken by governments have varied widely, from 5% to 60%, depending primarily on the country's importance as a petroleum producer. Crude oil ownership rights held by the state enterprises of producing countries rose, on average, from 6% in

2/ For a discussion of the various ownership rights systems, see Devaux-Charbonnel (1990) and Blinn et al. (1986).

Table 1: Crude Oil Ownership Rights

	1970	1979	1987
Production (Mb/d)	40.0	51.3	44.3
Ownership rights(%)			
- Majors	61	25	19
- Other Multinationals	33	20	29
- Producing Countries' State Enterprises	6	55	52

Source: Bourgeois and Martin (1989, p.3)

1970 to 55% in 1979 (Table 1).

Finally, in some cases smaller producing countries nationalized the downstream sector, which was easier to master and entailed no geological risk.

Establishment of State Enterprises

Monopoly over oil activity meant establishing or consolidating state petroleum enterprises. The objectives of oil policy demanded strong state enterprises capable of assuming control of nationalized assets and maintaining the pace of operations; companies capable of conducting petroleum prospecting and research on their own and of marketing their product on international markets; companies capable of negotiating agreements with private firms when the necessary technology, experience or knowledge of petroleum affairs was lacking; in short, companies capable of controlling and fostering the development of the petroleum industry. Many countries pursued this path: 38 state enterprises were established after 1970, 22 after 1974. Counting the 19 companies set up earlier, there are currently some 60 state enterprises in the developing countries.

The mere existence of a state enterprise has not, however, been enough to enable these countries to undertake hydrocarbon prospecting and production on an independent basis. Lack of capital, know-how, technology, and experience in oil affairs have forced most state enterprises to collaborate with foreign firms.

Contractual Relations

For those countries that did not nationalize their petroleum industry, sovereignty over resources led to changed contractual relations between the developing countries and the multinational oil companies. Replacing concessions with a different kind of contractual arrangement became a matter of principle. The concessions system had become politically unacceptable — in fact, the symbol of under-development and capitalist exploitation. Under the concession system the state had no control over resources. The company was entitled to appropriate all output and became, in practice, the owner of both surface and underground rights for the entire period of the agreement. National sovereignty was nullified. This situation had to be corrected, either by making radical changes in the system or by devising new agreements to better reflect the economic and political aspirations of the developing countries. Production-sharing contracts and risk service contracts were adopted as an alternative solution. These contracts enabled foreign companies to continue their activities while appeasing national pride.

An analysis of a sample of 47 developing countries (Rodriguez, 1990b) indicates that concessions were replaced mainly by production-sharing contracts (62% of cases between 1970 and 1987). Moreover, of a total of 106 developing countries that had oil legislation or agreements in force in 1987, 48% proposed production-sharing contracts for new exploration permits, 38% concessions, and only 7% risk service contracts. The remaining countries developed and exploited their resources directly or had standard contracts in preparation (Table 2).

It should be noted that changing the type of agreement with oil companies did not mean that larger profits automatically accrued to the host country. The changeover from one type of contractual arrangement to another was primarily a political choice (Rodriguez, 1990a). The actual form of the contract makes little difference, since the same amount of oil rent may be recovered with a concession as with a production-sharing contract or a service contract. If the objective is

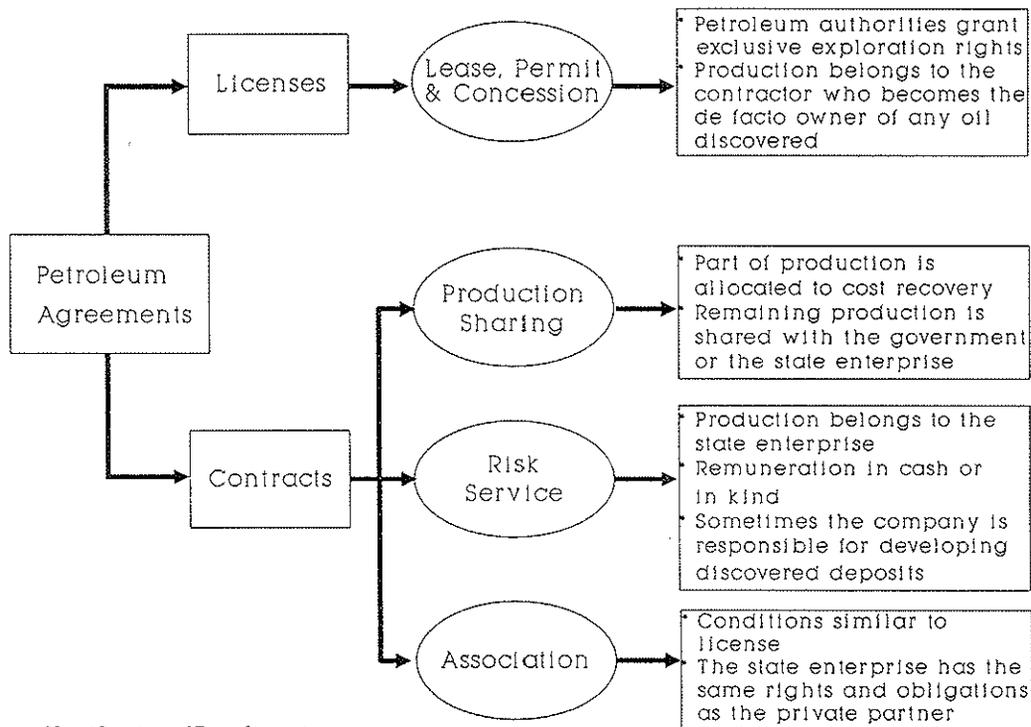


Figure 1: Classification of Petroleum Agreements

Note: In all cases: 1) the contract is between a company and the host country's government (or state enterprise); and 2) the exploration risk is assumed by the company, which is also responsible for financing the operations. In the case of licenses and production-sharing contracts, the state or the state enterprise has the option of acquiring a stake in any commercial discovery.

Source: Based on *Finding Oil and Gas*, The Shell Briefing Service, No. 1, 1988 and Rodriguez (1990a).

to attract investors, the fiscal arrangements in either type of agreement may be adjusted to achieve the same result. If the objective is to eliminate exploration risks, in both contracts it is the company that assumes the risks.

Petroleum agreements are often characterized as a series of steps through which the host countries obtain increasing financial benefits and control (Figure 1). For example, according to Fee (1985), direct development contracts are the goal of all countries as they move from a concessions system to production-sharing contracts, and ultimately service contracts. Other experts, such as Touscoz (1985), disagree with this view, considering it simplistic and even erroneous.

This debate aside, a link is increasingly becoming

Table 2: Type of Mineral Rights Proposed for New Exploration Permits (1987)

Type of Rights	Number of Countries	1987 Production (Mb/d)
Concessions	39	2,435
Production-sharing contracts	52	6,498
Risk service contracts	7	3,098
Direct development contracts	6	14,384
Undefined (standard contract in preparation)	2	0
Total (excluding planned-economy developing countries)	106	26,414

Source: Based on data from *World Petroleum Arrangements 1987* and *Oil and Gas Journal (OGJ)* 1988

ing apparent between, on the one hand, the type of agreement used and, on the other, the country's geological potential and degree of economic control over the resource. The most geologically disadvantaged countries, whose territory is small or relatively unexplored, continue to grant concessions in order to attract the attention of oil companies. Countries with significant petroleum potential or existing operations use production-sharing contracts or association contracts (concessions with state participation). Lastly, countries with a significant degree of economic control over their petroleum resources, or with strongly nationalistic tendencies, opt for risk service contracts.

The oil companies were initially quite reluctant to accept the contract system. But once they realized that the process was irreversible and that substantial opportunities remained for profit and risk diversification, they quickly adapted to the new system. While some contracts were very onerous, others were more favourable to the oil companies and entailed fewer risks than concessions. International organizations (such as the World Bank) faced a similar situation. They eventually came to accept the contract system because, from their standpoint, production-sharing contracts, as long as they were properly drawn up, offered risk distribution characteristics more in keeping with the trend towards decentralization in the oil industry.

Risk-Sharing

Sovereignty over hydrocarbons meant a new way of sharing risks. Countries that nationalize their petroleum industry assume all the risks (geological, economic, industrial, market, etc.). Instead of granting mineral rights to foreign companies in exchange for exploration risk, these countries elect to assume these risks with their own resources. In direct development, the state receives any profits from discoveries and absorbs any losses stemming from dry wells.

But this frequently proved too onerous a commitment, particularly for those importing countries that had nationalized their petroleum in-

dustry in the 1950s and 1960s. Faced with exorbitant oil bills, they turned to the multinationals in order to avoid having to assume the geological risk alone. They allowed oil companies to operate on the condition that they assume all the exploration risk and accept the right to purchase part of the production as their only remuneration. These risk service contracts were the ideal legal instrument for authorizing foreign investment without infringing on the monopoly of the state, or of powerful state enterprises, over petroleum operations, and for striking the right balance between the principle of sovereignty and balance of payments considerations. This new kind of contract rapidly became very popular in the producing countries of South America, which have a long history of petroleum operations, solid and experienced state enterprises, and strong nationalist tendencies.

The main reason most governments preferred to let the oil companies continue operating, rather than relying on their own resources for exploration, was the geological risks involved. A risky investment poses the same problem for a government as for a company: the capital that they are able to invest is directly related to the size of the government's annual capital budget. A project costing \$50 million or \$200 million, that may not produce results, is something not every country can afford.

Since losing control of the industry, meanwhile, the oil companies have developed a strategy of shifting risk to the other party. From their point of view, increasing government interference in their activities, and the growing share of rents accruing to the state relative to the share accruing to the company, had to be offset in some way. If the state wished to participate in decision-making and receive a greater share of profits, it would also have to assume some of the risks.

This strategy, which may be described as the nationalization of risk and the privatization of profit, was supported and promoted by international agencies, especially in high-risk situations. Rate of return-based profit sharing contracts are the concrete expression of this strategy. The purpose of these contracts, introduced by the World

Bank in the late 1970s, is to maintain a constant level of corporate profitability in a variety of circumstances: if prices fall, if costs rise, or if the geology is poor, the state bears the cost. The company is protected against the unforeseeable, since its profitability is guaranteed by fiscal mechanisms. Under these conditions, the companies could hardly refuse. Many countries that had remained relatively unexplored by the multinationals prior to the first oil price shock experienced a substantial increase in activity.

Fiscal Mechanisms

Sovereignty over petroleum and gas meant a thorough overhaul of tax systems. Full sovereignty could not be achieved without higher-yielding fiscal mechanisms. Thus there was a transition from the royalty/profits tax approach to other more complex mechanisms designed to directly tax the rents associated with the natural resource.

The former, more "primitive," fiscal approach had sought to recover a larger share of the petroleum rent accruing to the company, but it failed to take into consideration the source of the profit. The balance of power was not sufficiently favourable to the host countries to allow them to tax the specific rents associated with petroleum development: differential rents, positional rents, quality rents, monopoly rents, etc. The new fiscal instruments attempted to take into account the structure of oil rents and the company's profit. This led to the introduction of cost stops, price caps, windfall profit taxes — in general, rent-skimming taxes. These mechanisms were intended primarily to make the state, rather than the company, the main beneficiary of high-profit situations, especially in the event of sharp or successive price increases.

Profit-Sharing

Sovereignty over petroleum resources also meant attempting to maximize the economic and industrial benefits to the host country of its commercial relations with the multinational oil companies (Fee, 1988). The state used every available

means to retain the largest possible share of oil rents and to maintain control of the production process. Royalties, taxes, currency exchange regulations, customs duties, etc. were all designed to prevent oil rents from flowing out of the country. Provisions regarding operating control, technology transfer, training programs, etc. were designed to retain the technology and know-how required by petroleum operations.

The desire to maximize oil revenues prompted governments to increase the tax burden. During this period there was an increase in royalties and profit taxes, a reduction in the share of production allocated to cost recovery, a decrease in the share of crude allotted to the companies, a decrease in the depreciation rate for tax purposes, an increase in the overall tax burden through indirect taxes, an increase in participation by the state enterprise, a reduction in the percentage of oil earmarked to reimburse the state enterprise's investments, elimination of the provision for production enhancement techniques, the introduction of special rules governing what currency was used, the repatriation of profits, etc.

Similarly, the desire for quick, effective, and complete prospecting of their territories led governments to impose more stringent conditions on exploration access: substantial reduction in the duration of contracts, more extensive exploration obligations in both monetary terms and work volume, shorter exploration and expenditure timetables, faster profitability on the contracted zones, increases in bonuses, rentals, etc.

Lastly, since the main objective was eventually to achieve total control over the local petroleum industry, governments included mandatory provisions in contracts concerning technology transfer and the training of technicians and local managers. They expanded systems for controlling and monitoring company activities. The objective was to foster exploration, development and production in accordance with state-of-the-art technology and sound industry practices, and to ensure that the development of the industry was consistent with the rest of the country. Lastly, governments made stipulations regarding the development of local infrastructure, purchase of domestic products, use of local services,

and protection of the environment and other industries that might be neglected or affected as a result of petroleum projects.

The toughest fiscal stance was adopted by the large and middle-ranking non-OPEC producers — the countries to whom the oil companies turned after losing their concessions in the Middle East and reaching the saturation point in their investments in the developed countries — and the importing countries that had taken the nationalist path despite the sharp increase in the oil bill (Côte d'Ivoire, Zaïre, Sri Lanka, etc.). A more subtle approach to revenue enhancement was taken by governments that adopted a pragmatic position (Argentina, India, Turkey). Feeling that economic survival was more important than nationalism, they sought to find common ground with the companies in order to increase production and/or discover and develop their country's hydrocarbon resources.

It should be noted that a further round of tax increases occurred after the second oil shock. This second wave of higher taxes was led by the non-OPEC producers (Malaysia, Colombia, Egypt, etc.) and by certain OPEC countries that had previously taken a more moderate stance (Ecuador, Indonesia, Gabon).

3. The Decline of Sovereignty and the Rise of Economic Realism, 1981-1990

The substantial increase in taxation levels and restrictions on access to exploration during the 1970s were linked to a very favourable set of circumstances. This stemmed, first of all, from the desire of governments to reduce the gap between OPEC taxation and national taxation and to transfer the surplus oil rents acquired by companies, on fields either in production or under development, as a result of sharp price increases. A second factor was fierce competition among oil companies in response to the new perception of petroleum resource scarcity (Eckbo, 1987). One need only recall the catastrophic predictions made by the Club of Rome not so long before this time. The prospect of expensive oil led the companies to accept unfavourable conditions and the principle of "in-

vest-now-or-go-away" (Foliguet, 1984).

It was only a matter of time, however, before circumstances turned against the producing countries. The implementation of state sovereignty over oil resources ushered in not only new relationships between producing countries and multinational oil companies, but also a restructuring of the international petroleum industry. Following the "OPEC revolt," the industry underwent a process of decentralization, as new crude oil markets emerged and the number of agents and actors on the international petroleum scene increased (Ayoub, 1987). The majors' loss of control over the setting of oil prices, posted prices and production volumes made relations between host countries and oil companies highly dependent on developments in the market.

However, OPEC's control of the market could not last. The organization's pricing policy led to changes in both oil supply and demand. Worldwide recession, energy conservation, the development of alternative forms of energy, and an increase in the number of producing countries made a decline in oil prices inevitable. After the second oil shock, crude prices continued to slide until 1985, when prices plummeted again as a result of the 1986 price war waged by exporting countries. Finally, oil prices stagnated when OPEC was forced to shift from a pricing strategy to a market share strategy, allowing prices to reflect the free interaction of supply and demand.

The environment of the 1980s was quite different from the previous decade. The balance of power was no longer tilted in favour of the producing countries. The international petroleum industry was experiencing a shortage of funds for exploration and production. The drop in prices directly affected the ability of both public and private companies to finance their operations. Exploration programs were scaled back and development projects revamped or shelved. The meagre budgets of private companies were channelled into politically "safe" countries or toward stock-market purchases (Bourgeois and Perrin, 1987). In addition, the World Bank cut back its loans, forcing developing countries to get along without the Bank's assistance, and in

general little funding was available from international organizations and private banks.

The new economic environment gave rise to fierce competition among developing countries, which embarked on a search for private partners to sustain their exploration and production efforts — the reverse of the situation in the 1970s, when companies were lining up at the doors of host countries to obtain mineral rights and service contracts.

The host countries were thus forced to introduce or expand measures designed to adapt their petroleum sector to the new conditions. They were now more concerned with promoting and encouraging investment than with strengthening the principle of sovereignty over resources.

Petroleum Policy Changes

The competition among producers characteristic of a buyers' market led many countries to turn to the multinational oil companies and increasingly to ease restrictions on access to exploration and reduce levels of taxation. Rigid application of the principle of sovereignty gave way to flexibility.

The 1980s were a time of widespread petroleum policy adjustment, but the manner in which this was done and the perceived pressure to do so were not the same in all countries. Those countries with substantial petroleum potential, large reserves, and state enterprises with genuine economic control over their resources were slower to perceive the need for change. The particular technical and economic factors of the petroleum industry as discussed above, plus the weight of economic and social constraints, affected these countries' reliance on foreign firms and their negotiating strength.

These variations in the policy of openness can be seen more easily by distinguishing three types of situations according to the degree of economic control over petroleum resources.

The first type consists of small producers with low petroleum potential, who are completely dependent on the multinational companies to develop their upstream activities. Their heavy

reliance on foreign funding, experience, and technology leave them in a vulnerable position when negotiating with the transnational firms. They are extremely sensitive to the economic environment and petroleum market conditions. New Guinea, Zaïre, Guatemala, and the Philippines belong to this category.

The second group consists of countries that have assumed majority control over local oil industries, but whose state enterprises have not yet fully mastered exploration and production techniques. These countries have been forced to enter into partnership agreements with companies, or to grant mineral rights in the form of production-sharing contracts or risk service contracts, in order to stem declines in production. Included are exporting countries with moderate petroleum potential (Indonesia, Oman, Nigeria, Qatar, Ecuador, Egypt, etc.) and importing countries with less promising geological potential but healthy state enterprises (Argentina, Brazil, and India). Brazil, which has perhaps the most powerful petroleum corporation of the developing countries after Kuwait, practised a policy of limited openness in the 1976-1987 period, before finally closing its territory to foreign companies.

The third group is composed of countries that have significant geological potential and complete control over their local petroleum industries. The state enterprises of these countries are capable of conducting their own exploration campaigns and have managed to secure the capital, know-how, and technology needed to find and develop petroleum reserves without outside assistance. Any agreements with foreign companies are limited to service contracts. These state-owned enterprises know the marketing channels well, and so are able to market their production on favourable terms. They are also capable of internationalizing their operations when market conditions warrant. Countries that have completely nationalized their petroleum industry belong to this category, including Saudi Arabia, Kuwait, Iran, Iraq, Venezuela, Mexico and, until 1986, Algeria.

In terms of the sovereign management of resources, the conditions surrounding the development of countries in the first and second

groups are fairly similar; the multinational oil companies have always maintained a presence in these countries. In order to analyze their reactions to the crisis, the two groups can be combined. Because of the nationalization and internationalization of their petroleum companies, however, the countries in the third group developed under considerably different conditions; they will be examined in a separate section.

The Erosion of Sovereignty Among Small and Medium-sized Producers

The characteristics of these groups of countries determine the extent, scope and timing of petroleum policy changes, as well as how far the countries have retreated from the objectives of sovereign management of resources.

The countries in the first group introduced the swiftest and most far-reaching changes in access restrictions and taxation levels. They made substantial concessions by reducing the obligations of companies as much as possible. For non-producing countries, the principle of sovereignty remained confined to ideological debate. For them, discovering resources and maximizing exploration efforts had to take precedence over the goal of maximizing profits or control over the industry.

With few exceptions, the countries in the second group, despite their great dependence on oil revenues and their precarious economic situation, reacted slowly and cautiously. They began with fairly minor changes, but the process accelerated as the market situation deteriorated.

Despite the differences among these countries, the thrust and main features of the policy changes made by small and medium-sized producers are similar. According to a study conducted by the Barrows Company (1987), among 41 countries which relaxed their tax regimes, the most important incentives to encourage companies to invest in exploration and production were as follows: a) an increase in the share of *cost oil* and *profit oil*³ going to the company (one-third of the incentives, as identified by Barrows' comparative analysis); b) a reduction in, or outright elimination of, participation by the state or na-

tional company; c) lower tax rates on corporate profits; d) abolition of oil price controls and liberalization of exchange rate controls; e) reduction or outright elimination of proportional royalties; f) awarding of seismic option contracts;⁴ g) elimination of financially onerous contractual obligations, such as training requirements for local staff; and h) introduction of new stipulations regarding the use of gas.

The measures considered most attractive were increasing the company's share of production, lowering royalties and taxes, seismic option contracts, and eliminating price and exchange rate controls. These incentives were successful in attracting companies because they had a direct impact on either the operator's *cash flow* or exposure to risk. Experience has shown that the best way to stimulate investment is to introduce incentives tailored to each country's particular situation (Le Leuch, 1988).

However, this period of adverse economic conditions also produced some excesses. Some countries not only took a step backward in terms of the sovereign management of resources but went even further and made sweeping concessions. In order to attract the multinational oil companies, they offered contracts with clauses that severely restricted their own sovereignty over hydrocarbons, such as renouncing the right to renegotiate contracts in the event of a rise in oil prices, offering the same advantages that another company has been granted, guaranteeing a high minimum profit, granting tax exemptions, etc.

Yet, in terms of legislation and contractual arrangements, the trends begun in the early

3/ In production-sharing contracts, production is divided into two: *cost oil* is earmarked for recovering costs, while *profit oil* is shared between the state and the company in accordance with contractual provisions.

4/ In seismic option contracts, the company conducts seismic studies and, depending on the results, may choose to conduct exploratory drilling, withdraw from the contract without penalty, or cede its rights to another company. In some contracts, this arrangement operates for all phases of exploration; the company can decide whether to commit to each phase based on the results of the previous phase.

1970s continued. First, countries that adopted new legislation or a new petroleum code instituted state ownership of hydrocarbons. Second, production-sharing contracts continued to replace concessions.

It can therefore be concluded that for small and medium-sized producers, the erosion of sovereignty over resources primarily affected profit maximization. They preferred to make economic rather than legal concessions.

Erosion of Sovereignty in Major Exporting Countries

Achieving significant economic control over hydrocarbons does not, by itself, guarantee stable petroleum revenues. The laws of the marketplace have a major impact on the management of resources. It was inevitable that the major exporting countries would eventually have to adjust their oil policies.

Following the reversal in market conditions, particularly the oil price backlash in 1986, these countries faced a deteriorating macroeconomic picture and acute financial problems, which served to eliminate any freedom of choice in setting their petroleum policy. A series of factors and constraints forced them gradually to reduce their nationalist demands and seek a rapprochement with foreign companies.⁵

Falling revenues forced crude exporting countries to introduce or accelerate economic adjustment policies that, while often very rigorous, reflected various degrees of constraints. The need for adjustment and change was felt much later in countries with large reserves and easily tapped foreign assets (Chatelus, 1988). Their level of indebtedness and their petroleum potential (production, capacity, reserves) determined their borrowing and negotiating power with their creditors.

In the major oil exporting countries, virtually all tax revenue derives from petroleum. A decrease in petroleum revenues automatically affects cash flow for public capital spending programs. The petroleum industry was not spared, particularly in countries where the amount of investment in the sector is determined by the

state. Given that cash-starved governments tend to increase the tax burden on their state-owned oil companies, it is not surprising that these companies have acute financial problems, particularly in heavily indebted countries (Mexico, Venezuela, Algeria).

Since financial constraints may place hard-won market shares at risk by jeopardizing the development of production capacity, downstream integration projects and the modernization of facilities, the multinational companies represented a source of capital that was increasingly seen as politically acceptable. The need for new capital has forced exporting countries to moderate their nationalist fervour.

These countries need capital to sustain and increase their production capacities in order to meet the steady growth in demand since 1987. According to Mr. Subroto, OPEC now needs \$100 billion to increase its production capacity by 5 Mb/d, whereas before the Gulf War, the figure was estimated at \$60 billion (*Le Pétrole et le Gaz Arabes*, 1991a).

They also need capital to finance their downstream integration in consuming countries and to bring their refining facilities into compliance with increasingly strict environmental policies. After recovering ownership of their deposits, most of these countries became involved in the downstream sector of the petroleum industry (refining and distribution). They started by building refineries on their own territory, then moved on to direct investment in importing countries (Angelier, 1990). The first of these strategies is more advantageous in a sellers' market, the second in a buyers' market. The first makes it possible to supply the domestic market directly and to export refined products, and the second provides guaranteed outlets in consumer markets, particularly when competition for markets is intense.

The need for expertise and modern technology is a compelling argument for economic realism.

5/ The "new cooperation" between major producing countries and international petroleum companies is currently being examined by the IEPE (Bourgeois and Rodriguez, 1991).

Through nationalization, the producing countries hoped to develop their petroleum resources effectively on their own. However, they did not have sufficient expertise to operate independently and continued to rely to a large extent on foreign oil companies. Owning a deposit is one thing; having the necessary technical know-how to develop it efficiently is another. With only a few exceptions, state-owned petroleum companies have not succeeded in becoming technology-oriented (Bourgeois and Perrin, 1989). The Gulf War showed that even the most advanced producers are obliged to fill the technology gap (Parra, 1991). Advanced technology should enable producing countries to lower production and development costs and to reduce risks.

As might be expected, the weakest link in the chain was the first to snap. Such was the case in Algeria. Sonatrach's lack of success in renewing reserves, in addition to the factors cited above, forced the Algerian government to turn to the multinational companies in 1986.⁶ Now, in mid-1991 Algerian Prime Minister Sid Ahmed Ghonzalie has indicated that he is ready to sell 20-25% of the Hassi Messaoud oilfield, one of the biggest oil reserves in the world, "if that were to permit us to escape the infernal circle of international debt" (Pétrostratégies, 1991b). Iran and Iraq, which have a tremendous need for capital to rebuild their economies, began negotiating with companies in 1989 to restructure their production capacities. Venezuela went even further. In early 1990, legislation was amended to allow PDVSA to enter into partnerships with foreign companies (OGJ, 1990a). So far, not all countries have adopted an open-door policy. Despite some signs that might be interpreted as indicating a desire to reopen their industry, Saudi Arabia, Kuwait and Mexico still exclude private companies from their upstream activities (see Table 3).

What kind of changes have taken place in the major producing countries in terms of national sovereignty? First, it must be pointed out that no country has renounced its ownership rights to oil and gas in the ground. Apart from Algeria, which has signed production-sharing contracts and which is currently negotiating the sale of

Table 3: Re-Opening of Countries to Exploration

	Potential Petroleum Resources (Mb)	Proven Reserves (1/1/91) (Mb)	Petroleum Production 1990 (b/d)	Date of Reopening
China	48 000	24 000	2 755 000	1979
Vietnam	4 000	500	40 000	1986
Cuba	900-1700	100	15 000	1990
Mongolia	400-1200	0	0	1991
Cambodia	2000-6100	0	0	1991
Laos	800-2200	0	0	1991
USSR	101 000	57 000	11 500 000	1985
Bulgaria	na	193	27 700	1989
Romania	na	1231	160 000	1991
Hungary	na	280	35 600	1991
Albania	na	193	27 500	1991
Czechoslovakia	na	19	2 700	1991
Poland	na	12	2 700	1991
Algeria	2 000	9 200	797 000	1986
Venezuela	20 000	59 040	2 118 000	1990
Iraq ¹	45 000	100 000	2 083 000	1990
Iran	22 000	92 850	3 120 000	1991
Saudi Arabia	41 000	257 504	6 215 000	?
Kuwait	3 000	94 525	1 080 000	?
Mexico	37 000	51 983	2 633 000	?
Brazil	5 000	2 840	633 000	?
World	542 000	999 113	60 317 000	

Notes: na = not available

1. Negotiations suspended after the Gulf War.

Sources: For potential reserves — Masters et al., 1990 (average estimate); *Oil and Gas Journal*; Grossling and Nielsen, 1985. For proved reserves and production — *Oil and Gas Journal*, September 3, 1990 and December 27, 1990. For date of opening up to exploration — *Bulletin de l'Industrie Pétrolière*, *Oil and Gas Journal*, *Petroleum Intelligence Weekly*, *Le Pétrole et le Gaz Arabes*.

"production rights" in oil reserves already in production, no country has indicated a desire to change its petroleum legislation, or to grant companies mineral rights, let alone return to the concessions system. The approach has been to reinterpret the law to allow state enterprises to collaborate with multinational companies in

6/ For a summary of contracts signed since the re-opening of national petroleum industries to foreign multinational oil companies, see *Le Pétrole et le Gaz Arabes* (1991).

particular areas of activity. In essence, it is a matter of finding politically acceptable ways of encouraging an infusion of private capital into the petroleum sector.

Erosion of Sovereignty in the Planned Economies

An overview of the application of the principle of sovereignty would be incomplete without an analysis of the countries which, until recently, had planned economies. The opening up of the Soviet petroleum sector to foreign investment is currently the most spectacular reversal of petroleum nationalism in the past 20 years. In order to halt and eventually reverse the decline in production, Moscow, which nationalized its petroleum industry nearly 75 years ago, has finally reopened its territory to foreign firms.

While the new policy of openness introduced in 1985 was initially aimed mainly at technical assistance and technology transfer, the Soviet authorities were forced by a combination of circumstances to make more and more concessions. Five years after the initial negotiations, and after signing numerous agreements in principle, the authorities are now willing to grant genuine mineral rights to western companies, although always in association with state bodies. Moscow's new strategy is apparently to award contracts in zones where discoveries have been made but which have not been developed because of lack of capital or advanced technology.

The situation has changed so much that the first public auction of mineral rights for the exploration and production of petroleum is scheduled by the Soviet authorities for September 1991 (OGJ, 1991). Until now, agreements, or agreements in principle, have been negotiated on a case-by-case basis. The precedent to this auction was the signing of three exploration agreements in 1990 with Elf, Chevron and Total, respectively (Petroleum Economist, 1990 and Bulletin de l'Industrie Pétrolière, 1990).

In the other socialist countries of Eastern Europe, the return to a market economy and the changes in the petroleum industry in the USSR (particularly with regard to petroleum supplies and technical cooperation) made the reopening

of their territory to private petroleum capital inevitable. In 1989, Bulgaria became the first country to open its doors to foreign companies. By mid-1991, all the other countries had already signed, or were in the process of negotiating, agreements with western companies.

In the planned-economy developing countries, whose economic and political situations differ in many respects from East European countries, an open-door policy sometimes appeared much earlier. This was the case of China in 1979 and Vietnam in 1986. Although the decision to turn to western companies was made within a larger context of increased economic openness, in both cases it was driven by the same need for capital and technology to develop offshore oil. In the case of Vietnam, a large offshore deposit was discovered in co-operation with the USSR, but its joint development foundered on a dispute (Bulletin de l'Industrie Pétrolière, 1991). Moreover, increasingly frosty relations between Moscow and Havana, which particularly affected the petroleum sector, led the Cuban authorities in 1990 to turn to European companies to develop their offshore resources (OGJ, 1990c). In 1989, Mongolia, exercising its newfound autonomy, established the Mongolian Petroleum Co. to negotiate joint exploration-production ventures with western companies (OGJ, 1990b). Lastly, Laos and Cambodia, countries that are virtually unexplored, recently signed their first contracts (Pétrostratégies, 1991a).

The Open-Door Process

The open-door policies initiated by countries that had earlier nationalized their petroleum industry have certain features in common. Initially, the companies were invited in to handle difficult tasks or to work in difficult environments. Depending on the results achieved — and as the producing country's situation worsened — governments further relaxed restrictions on access and working conditions.

The open-door process involved the easing of restrictions concerning:

- **association with the state enterprise:** private companies are initially accepted as minority

- partners; as time goes by, new or amended legislation permits equal, even majority, participation; finally, the private firm is allowed to obtain mineral rights (this was the sequence followed by Algeria, for example);
- **the geographic zone:** the offshore is usually the first zone to be affected by the open-door policy because the state enterprise lacks experience and technology in this field; the coastal regions are next and, finally, producers open up the interior zones (this scenario is illustrated by China and Brazil); and,
 - **particular industries:** typically, the petrochemical industry is first opened to private capital (as in Mexico) followed by distribution, refining (as in Saudi Arabia) and, eventually, the downstream sector.

Is the process of increasing openness irreversible? While changes in the balance of power or pressure from nationalist groups can slow or even halt the trend towards greater openness, as happened in Brazil, it is still true that the current objectives of exporting countries and the conditions in the international oil industry are not the same as in previous decades.

While there are some similarities among all the open-door policies, it is unlikely that events in the exporting countries will follow the same pattern as the nationalization-denationalization-nationalization process characteristic of the petroleum-importing countries. This process, identified by F. Ghadar (1983), reflected an economic order in which the majors controlled the industry. This is no longer the case today.

Two Decades of Experience in Applying the Sovereignty Principle: a Positive Assessment

Was anything gained through the implementation of the sovereignty principle during the past two decades? At the very least, the application of this principle was a necessary step. A situation clearly unfavourable for the developing countries had to be corrected. However, the exercise of sovereignty proved to be very brief. The international environment changed rapidly, and most countries did not have time to assert economic control over their oil resources. Clearly,

understanding and mastering an industry as complex as the petroleum industry requires a lengthy learning process. Since 1970, the situation has improved, at least for some countries. For others, especially the small producers, little has changed.

The exercise of sovereignty over petroleum resources during the past 20 years suggests the following observations.

- State takeover of the petroleum industry does not automatically confer economic control over the resource; and even when progress was made in this direction, the question of what price was paid for this interventionist policy still remains.
- Nor does the existence of a state petroleum company automatically guarantee economic control over the resource; a long learning process about techniques and petroleum project management is required.
- Contractual and fiscal arrangements are less important than might be thought *a priori*; effective contracts and fiscal arrangements are a necessary, but not sufficient, condition for gaining control of the activities of private companies, ensuring the transfer of technology and expertise, and recovering a substantial share of the oil rents.

However, in order to achieve economic control over the resource, a certain stage of economic development must have been reached. Significant geological potential is a major advantage for this objective.

For the major exporting countries, full sovereignty over petroleum resources can only be achieved by expanding beyond national boundaries. Driven by internal industry forces during the period of depressed prices, the state companies in these countries have therefore had to move beyond resource nationalism and accept internationalization. Paradoxically, state control over public oil companies is eroded through this process.

Managing local oil industries in accordance with sovereignty objectives and criteria is still a valid objective. Past experience does not indicate that this idea was mistaken. But government authorities must ensure that public oil compa-

nies have sufficient autonomy to improve their performance and expand their operations.

4. Conclusion: Toward a New Concept of Sovereignty

Today, there is a new balance of power — one quite different from that of the 1970s. Further moves toward total sovereignty over petroleum resources, as envisaged in the past, are unlikely. In recent years, initiatives have tended in the opposite direction: denationalization, massive sell-off of reserves, limitation or outright elimination of the privileges of the state enterprises.

The prolonged slump in oil prices, the introduction of free-market economic policies and the limited success of state enterprises in achieving economic control over their petroleum resources are all factors that are transforming the concept of sovereignty over resources. Petroleum nationalism seems to have become outdated.

The new open-door policies practised by countries that earlier nationalized their petroleum industry are ushering in a new era in state-company relations. Conciliation is the new watchword. The multinational companies are no longer seen as the villains. They are being invited by former "hardline" countries to participate in developing their petroleum resources. The foreign companies are no longer portrayed as "marauding wolves" but instead as necessary partners.

Given the influence of the major OPEC exporters on the other producing countries, this trend is likely to gather even more momentum. In countries where foreign oil companies have always been present, co-operation will be further strengthened, since these countries are now competing with the major producers for oil company investment.

Despite the period of depressed prices, which necessitated a more or less radical overhaul of oil policies in developing countries, the state continues to be the owner of underground hydrocarbon rights, and to date no country has renounced this principle. But the idea of shared ownership of extracted petroleum is increasingly accepted.

In the end, oil is a scarce resource that is being

inexorably depleted. While prices are depressed at the moment, they will rise again at some point in the future. The balance of power will once again tilt in favour of the resource owners. Will this trigger a resurgence of nationalism? Probably, but it is unlikely to resemble the nationalist fervour of the early 1970s.

The producing countries have had the time to recognize that a complete break with the multinationals was not the best way to build a solid and efficient national petroleum industry, or to achieve economic control over their resources. The events of recent years have shown that the multinational oil companies are needed and that cooperation with them is unavoidable. A new interpretation of the sovereignty principle is emerging — one in which the oil industry is no longer synonymous with the state.

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