

UNITED STATES TARIFF COMMISSION

**WORLD OIL DEVELOPMENTS AND U. S.
OIL IMPORT POLICIES**

**A Report Prepared for the Committee On Finance,
United States Senate**



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UNITED STATES TARIFF COMMISSION

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UNITED STATES TARIFF COMMISSION
WASHINGTON, D. C. 20436

THE CHAIRMAN

October 5, 1973

Honorable Russell B. Long
Chairman, Committee on Finance
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I am transmitting herewith 25 copies of the report of the Tariff Commission's study of the considerations, pro and con, which should be weighed in analyzing a tariff approach to control oil imports. The Commission made the study pursuant to a request from the Committee on Finance made in a letter from you dated March 25, 1970. To the extent feasible, the report discusses those considerations specifically mentioned in your letter--cost of production in the major exporting countries, tanker rates, most-favored-nation obligations, and the effect on U.S. revenues and U.S. customers of various tax and royalty adjustments by petroleum exporting countries.

Most of the research for this report was completed at a time when the latest full body of available data had a cut-off point of July 1972. To the extent necessary for completeness and clarity, however, the information base has been updated to account for and describe events through mid-1973. This is the cut-off point for the matters considered in the report, even though rapidly moving developments in the petroleum industry argue for staying current on virtually a daily basis. As a practical matter, it has been necessary to give important developments since June 1973 only superficial treatment--or no treatment at all--in the interest of completing this report.

The Commission would appreciate being advised if the Committee decides to release the report.

Sincerely yours,

Catherine Bedell

Catherine Bedell
Chairman

Enclosures

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Summary and Conclusions

This report responds to a request by the Senate Committee on Finance, dated March 16, 1970, that the Tariff Commission "give a full description of all considerations which should be weighed in reaching a decision" on the question of substituting tariffs for quotas to control oil imports. The committee suggested that the Commission consider costs of production in major exporting countries, tanker rates, most-favored-nation obligations of the United States, and the effect on U.S. revenues and the U.S. consumer of various tax and royalty adjustments by petroleum exporting countries. The committee, however, did not limit the study to a discussion of these matters. The Commission was not asked to study national security issues or to propose a specific system of rates of duty or quotas.

The report consists of four chapters. Chapter I, an introduction, recounts the essentials of the request to which the report responds, briefly highlights recent world oil developments, and summarizes U.S. oil import control programs since the mid-1950's. A final section sets forth the organization of the remainder of the report.

Chapter II covers the supply and demand factors which apply to the world oil market as a whole and to the U.S. oil import situation in particular. Thus, in a broad context, it considers the cost factors suggested in the committee's request. The overall present and projected world demand and supply situation can be simply described. As a group, the industrial countries are prodigious

consumers of crude petroleum, and their consumption can be expected to climb fairly rapidly for the rest of this century. Inasmuch as the United States has been and will continue to be an important crude-oil-producing country, its situation is different from that of the European countries and Japan, which have traditionally relied almost wholly on imported crude oil and which--despite significant discoveries in the North Sea--will continue to do so. The recent change of most significance for the United States consists of its having neared the practicable limits of expansion of production from proven domestic crude oil resources, so that incremental demand in the future will have to be satisfied increasingly by imports. 1/ Thus, by 1985 at least half of the U.S. demand for crude petroleum is projected to be met by imports--and the assumptions upon which this projection is based may be overly conservative.

As the United States moves toward a reliance upon imports that has characterized the energy economies of the other industrial countries for decades, a very large proportion of the nation's import requirements will have to be served by the producer countries of the Middle East, because these nations control well over half of present and projected crude petroleum reserves. The problems which such a reliance poses are not the usual scarcity-related concerns. That is, for the world as a whole, crude petroleum is sufficiently abundant;

1/ This conclusion excludes consideration of presently undeveloped domestic sources of crude oil, such as oil shale deposits, tar sands, and the outer continental shelf.

through the 1980's, reserves will not be depleted to the point where prices will be pushed up by the sheer force of resource scarcity. Put differently, the present and projected real extraction costs of petroleum are but a fraction of the prices at which petroleum is traded in world markets, and, while these real extraction costs may be expected to rise somewhat over the next decade or longer, the rise will not be so precipitous as to cause extraction costs to become a major determinant of price.

Two other factors are more relevant. The first of these is transport cost, which may tend to be fairly low in the long run, but which also can rise in a volatile way over the short run, as is the case at present. At the moment world demand for tanker services exceeds the available supply of tanker bottoms, especially because of the surge in demand for imported petroleum at a time when most U.S. ports cannot accommodate vessels of the deep-draft, supertanker type.

Probably the most important current and long-run determinant of crude petroleum prices, however, is the pricing policy of governments in the major foreign producing countries. Since 1961, these countries have operated more or less in concert through the Organization of Petroleum Exporting Countries (OPEC), whose stated objectives have been both to increase and to harmonize among members the levels of taxes and royalties obtained from the producing firms operating within their borders. Especially since 1970 these policies have led to a rapid, generalized increase in world petroleum prices.

The result is that these prices, once far below the comparable cost of domestic petroleum in the United States, are now virtually the same as domestic cost, and threaten to rise even higher. Among other things, this situation implies that at current rates of production domestic producers can remain competitive with foreign producers for the domestic market. Thus, current world prices insure protection even without quota or tariff controls.

To anticipate part of the discussion of chapter IV, the implications of a detailed analysis of supply and demand factors contained in that chapter are that the present policies of the producing-country governments--policies of steadily increasing the tax and royalty "take" of these governments--will sooner or later have an adverse effect on U.S. revenues and the U.S. consumer. That is, such policies will ultimately push up consumer prices of refined petroleum products, a process which can be only partly offset by a reduction in taxes collected on the U.S. end, and therefore a reduction in U.S. revenues. In the extreme, if U.S. revenues on imported petroleum were reduced to zero, all future price increases would be passed on to consumers in the United States and other consuming countries--even if profits of the major oil companies were to be rigidly controlled.

Chapter III reviews past U.S. oil import control programs in considerable detail. The major program of the postwar era was the Mandatory Oil Import Program (MOIP), which existed from 1959 until April 1973. This program of control by quotas was instituted on grounds of national security at a time when low-price imports were

threatening the desired rates of exploration and production in the domestic oil industry. The history of the MOIP had three broad phases. The first of these, which lasted until about 1965, can be characterized as a period of implementation and adjustment, when various presidential proclamations were issued to set up the program and deal with difficulties which were not foreseen in the original proclamation. From 1963 until about 1965, the program functioned with only minimal change. Then a second phase of about 5 years' duration began, during which the control mechanism was modified to pursue various objectives not directly related to national security--for example, a certain decontrol of imports of low-sulfur fuel oils was initiated in an effort to achieve environmental goals. The third phase of the program, which has characterized its history in the 1970's consisted of a steady series of modifications in favor of increased imports to permit total supplies to meet a growing gap between domestic supplies and demand.

The MOIP was a system of control that subjected imports to fixed quotas. Given the changes in supply-demand conditions in the domestic market described above, it was replaced in April 1973 by an entirely different system, based on relatively unrestricted imports subject to license fees. This new system has some resemblance to the MOIP in that it uses the MOIP's quota allocation scheme as a basis for fee-free allocations of imports. Another point of coincidence between the two programs is the continued existence--in an expanded form--of the Oil Import Appeals Board, which handles cases dealing with exceptions to the proclamations and regulations.

A study of the MOIP reveals a number of problems which it faced throughout its entire life and which may be considered as generic to most systems of U.S. import controls on petroleum and its products. These problems are four in number: (1) product definition, which comes to the fore whenever an attempt is made to control trade in a complex group of products, some of which are full or partial substitutes for one another; (2) the basis for quota allocations, which inevitably give rise to conflicting economic and equity objectives; (3) the distinctions which must be made between overland and over-water imports for a country like the United States, which has other oil producing nations on its northern and southern borders; and (4) the application of special controls to imports into free-trade zones, territories, and possessions. To at least some extent, these four basic sources of difficulty in import control persist under the present system of license fees.

A final section of chapter III considers legal issues raised by the present license-fee program. With respect to the legal nature of the license fee under U.S. law, the conclusion is reached that the license fee is similar if not identical to a tariff. Thus, it should be subject to the uniformity requirements stipulated for tariffs in the U.S. Constitution. Finally, this section considers the legal nature of the license fee with regard to obligations under the General Agreement on Tariffs and Trade (GATT) and concludes that the license fee may conflict with these obligations on several points.

Chapter IV begins by pointing out that oil import controls can serve a number of policy objectives, some of which may conflict. Furthermore, there are several conceivable tools of import control, and the task of designing an efficient import control system ultimately becomes a task of (1) clearly outlining the objectives of control and (2) finding a package of control mechanisms which is probably not ideal but represents the best design possible under the circumstances.

The remainder of chapter IV is based upon the stated objectives of the present system of import control, namely, (1) to prevent crude petroleum production in the United States from falling below its current level and to provide incentives for exploration and development of U.S. oil resources; (2) to encourage an increase in petroleum-refining capacity in the United States; and (3) to meet immediate energy needs by encouraging the importation of foreign oil at the lowest possible cost to consumers.

Although many control mechanisms are available, those in most common use are tariffs and quotas. The discussion contrasts these two principal control mechanisms and shows that, while tariffs and quotas can generally be designed to have equivalent effects in terms of protection of domestic producers, the introduction of changing supply and/or demand conditions to the analysis can introduce serious practical problems. The conclusion is reached that virtually any system that strives for efficiency in meeting the stated objectives of control will have to embody a high degree of flexibility in adjusting tariffs or quotas upward and downward as conditions change.

There are, however, many other sources of practical difficulty in controlling imports of petroleum and petroleum products. For example, increases in the revenues derived by host governments in producing countries, if they are to be offset in the interest of minimizing prices paid by U.S. consumers, would have to involve a reduction in revenues collected officially at the U.S. end. Another difficulty could be created by a restriction of exports by producing host countries--or, in normal conditions of increasing world demand, a failure of those countries to allow supplies to expand as rapidly as market requirements dictate. This would be another factor tending to push prices up. Still other considerations involve problems of adjustment to variations in transport cost, and the effects of duty drawback provisions (or their equivalent, license fee refunds) on domestic markets for crude and refined petroleum.

The final major subject covered in chapter IV is the thorny problem of product definition. It is pointed out that this nomenclature issue is vital, inasmuch as product definition can itself be an instrument of control. There follows a general technical discussion of the characteristics of crude oil and petroleum products, after which the basic principles of product nomenclature are outlined. Finally, suggestions are made for an improvement of petroleum customs nomenclature.

At the end of chapter IV a few concluding remarks briefly highlight the essential characteristics of an oil import control program as well as the essential rules for managing one, whatever its policy objectives. These remarks stress that any oil import control

system, be it based on quotas, tariffs, or a combination thereof, will of necessity be complex. Furthermore, it will likely raise legal issues such as constitutionality and compliance with international agreements. The complexity of any import control system may be reduced, and thus the system's creditability and acceptance enhanced, by several measures, including (1) the holding of public hearings when necessary; (2) the consistent use of clear, unambiguous language in all relevant documents; (3) the publishing of the import control provisions in the Tariff Schedules of the United States; (4) full publication of all relevant regulations and decisions concerning them; (5) the establishment of consistent methods for redress and/or revision within the program; and (6) the use of the program only for protection of national security through the maintenance of a viable domestic oil industry--as well as the use of other programs to accomplish other objectives.

I. Introduction

A. Request for the report

This report is submitted in response to a request by the Senate Committee on Finance, dated March 16, 1970, that the Tariff Commission "give a full description of all considerations which should be weighed in reaching a decision" on the question of substituting tariffs for quotas to control oil imports. The committee suggested consideration of costs of production in major exporting countries, tanker rates, most-favored-nation obligations of the United States, and the effect on U.S. revenues and the U.S. consumer of various tax and royalty adjustments by petroleum exporting countries; but the committee did not limit the study to a discussion of these matters. The Commission was not asked to study national security issues or to propose a specific system of rates of duty or quotas. In light of the active consideration that was being given at the time of the committee's request to the implementation 1/ by the President of the majority recommendation of the Cabinet task force report of February 1970 on oil import control, 2/ which stated a majority preference for tariffs over quotas for managing the oil import program, the Commission was asked to analyze the feasibility of controlling imports by tariffs alone. A photocopy of the committee's letter transmitting the request to the Tariff Commission is attached as an appendix to this report.

1/ Under sec. 232 of the Trade Expansion Act of 1962.

2/ U.S. Cabinet Task Force on Oil Import Control, The Oil Import Question, 1970.

The relevance and utility of the task force report has diminished, owing to the President's decision not to implement it 1/ and to the considerable change the energy environment has since undergone. Nevertheless, the Cabinet task force report still provides some useful insights into the petroleum import area prior to the license-fee system of control. The report of the Tariff Commission which follows analyzes the tariff-quota issue for oil imports in light of the task force report and the present energy environment.

B. Highlights of recent world oil developments

Free-world demand for petroleum 2/ continues to burgeon and has called forth production increases of crude oil that averaged 7.9 percent per year between 1960 and 1970 and 5.5 percent per year in 1971-72. 3/ Nevertheless, an analysis of present worldwide reserves and the prospects for future crude petroleum discoveries suggest that through at least 1985 resource scarcity will not affect the petroleum industry to the point where actual extraction cost for crude oil becomes the predominant determinant of price.

1/ The President, upon receipt of the Cabinet task force report, decided to make no major changes in the Mandatory Oil Import Program, offering no explanation for this inaction except the following: "Reasonable men can and will differ about the information, premises, and conclusions contained in the report." ("Oil Import Policy: Statement by the President Upon Receiving the Report of the Cabinet Task Force on Oil Import Control, February 20, 1970," Weekly Compilation of Presidential Documents, Vol. 6 (1970), pp. 247-248.)

2/ Throughout this report, the term "petroleum" encompasses both crude oil and petroleum products.

3/ The Petroleum Publishing Co., International Petroleum Encyclopedia, 1973, pp. 261-263.

The most important long-run determinant of price in the crude oil market is the large and steadily increasing "take" of producing country governments, in the form of royalties and taxes based on "posted prices," which are purposely set high in relation to production costs and existing world prices to maximize "take," 1/ The most important of the producing nations--Saudi Arabia, Iran, Kuwait, Algeria, Libya, Iraq, Abu Dhabi, Nigeria, Venezuela, Indonesia, and Qatar--have organized themselves, by international agreement, into a classic economic cartel. In recent years, this cartel, the Organization of Petroleum Exporting Countries (OPEC), has shown a solid negotiating front and a penchant for tough dealing, with the result that it has made dramatic progress in moving toward its stated goal of capturing the entire gap between extraction cost and f.o.b. price of crude oil. Furthermore, OPEC's unity is not balanced by comparable cooperation among the consuming countries. The world oil market is confronted by the ever-present possibility that OPEC could embark on a policy of seriously curtailing production in order to generate artificial scarcities and, consequently, higher prices.

C. Brief summary of recent U.S. oil import control programs

The United States has practiced oil import control in one form or another since 1955. 2/ An unsuccessful voluntary scheme formally

1/ The producing countries collect fixed percentages of these arbitrarily fixed posted prices in levies labeled as royalties and taxes on each barrel of crude oil produced.

2/ In that year the President requested that companies importing crude oil voluntarily limit their imports to the 1954 ratio of imports to domestic production.

proclaimed by the President in 1957 was replaced in 1959 by the Mandatory Oil Import Program (MOIP), 1/ a quota-control program which lasted until April 1973. It was superseded then by a system of license fees, which terminates mandatory quotas but employs until 1980 the MOIP quota quantities as the basis for fee-free allotments.

The MOIP was instituted on stated grounds of national security, which is within the exemption of article XXI of the GATT, at a time when world oil prices were low, imports were threatening domestic production, and the domestic crude oil industry was in a position to increase production considerably with only modest protection from foreign competition and to satisfy most domestic crude oil requirements with relative ease. As conditions changed, the MOIP was repeatedly amended in an attempt to alleviate growing strains on the program. Although the attempts were often successful, each change tended to increase the complexity of the program.

The energy environment began to change substantially in 1970. The domestic crude oil industry was reaching the practicable limits of its capacity to produce additional supplies within the existing price structure, even as domestic demand was increasing and world oil prices--owing largely to the efforts of OPEC--were rising. At present, oil import prices for crude and petroleum products landed in the United States are approximately equal to comparable domestic prices, although a short-run increase in fairly volatile tanker rates accounts for part of this development. In any case, changing conditions in

1/ Established by Presidential Proclamation 3279.

the world oil market have largely altered the objectives of oil import control, which now center on permitting sufficient imports to satisfy increasing demand and on stabilizing prices, while another explicit objective of control continues to be the stimulation of domestic refinery expansion and construction. At current price levels, the domestic crude oil industry is automatically protected at its optimum production rates.

The current license-fee system of import control is too new to have had a history. As previously indicated, however, some of the complexities of the former MOIP remain in the fee-free allotments. Furthermore, changing conditions will likely produce further amendments, so that the program as presently outlined may change appreciably, as did its predecessor.

U.S. experience with oil import controls has revealed a number of serious problems which really are generic to controls of any sort in this industry and therefore are worthy of serious study. As the MOIP and its successor have shown, complexity seems inevitable, as do legal complications. The history of MOIP also reveals some of the pitfalls of fragmentation of administrative machinery and understaffing in the administrative bodies. Other, more technical, problems raised by MOIP were (1) problems of product categorization and definition; (2) divergent treatment of overland and overwater imports; (3) difficulties associated with determining the bases for quotas and their allocation; and (4) the application of controls to imports into U.S. territories and possessions. These problems are treated in chapter III of this report.

D. Organization of the report

Three chapters follow this introduction. Chapter II, a survey of the world oil market, is organized around an analysis of present and projected demand and supply conditions as they may affect U.S. oil imports and import control programs in coming years. The chapter contains sections on the role of OPEC and on the various factors-- extraction costs, royalties and taxes, and transport costs--which affect delivered crude oil prices. Chapter III surveys the history of U.S. oil import controls, with special focus on identification of the key problems that were inherent in the controls and that developed with changing conditions.

Chapter IV contrasts possible policy objectives with the administrative tools that could be chosen to achieve them. The chapter then compares tariffs and quotas as instruments of control. A few concluding remarks attempt to distill from the report several principles for import controls, whatever the policy objectives they may be employed to reach.

II. The World Oil Industry: Factors Affecting U.S. Imports

This chapter briefly examines demand and supply conditions in the world oil market, with particular reference to whether growing U.S. import demand can be met in coming years without severe market disruption. It points out that, even as increased dependence on crude petroleum imports becomes a new phenomenon for the United States, the other economically developed oil-consuming countries (chiefly in Europe and Japan) will probably continue to dominate the demand side of world crude oil import trade. However, the risk of a worldwide crude petroleum "crisis"--defined as the inability of producers to meet demand except at sharply higher prices reflective of serious petroleum scarcity--does not appear imminent. Crude petroleum is so abundant relative to world demand, present and projected, that actual extraction cost plays a minor role in price. Yet such natural abundance is not a guarantee of future supplies to the consuming countries because, at present, a few producing countries control most of the world's crude oil. These countries have the ability to threaten and possibly execute a serious withholding of supplies from the market, and their receipt of immense oil revenues points to future balance-of-payments effects that will be difficult for consuming nations (especially the United States) to digest. For both the foregoing reasons, the worldwide energy situation has perforce risen to a level of immediate concern.

The chief long-term influence on price, in fact, has become an institutional one: namely, the Organization of Petroleum Exporting

Countries (OPEC). OPEC is essentially an international cartel of producing nations, with sufficient control over crude oil supplies to be able to determine the official tax-plus-royalty "take" which now is a large multiple of extraction costs. A section of this chapter briefly discusses OPEC's history and present policies, and the subsequent section examines another possibly significant influence on prices, namely transport costs. The concluding section draws together the foregoing material to consider estimated costs of delivering crude oil to U.S. east coast ports.

A. Projected U.S. demand for petroleum imports

At the request of the Assistant Secretary for Mineral Resources of the U.S. Department of the Interior on January 20, 1970, the National Petroleum Council (NPC) ^{1/} undertook a comprehensive study of the outlook for U.S. energy through the year 2000. In its initial appraisal, published July 15, 1971, the Council projected supply and demand relationships for petroleum, as well as for energy in other forms, for the period 1971-85 on the assumption that minimal changes would occur during this period in current policies, practices, and economic conditions. The Council's projections for petroleum are presented in this section, not as forecasts or predictions, but simply as benchmarks indicating possible levels of U.S. demand, supply,

^{1/} The NPC is an industry advisory group to the U.S. Department of the Interior, established in 1946 by the Secretary of the Interior in response to a suggestion by the President of the United States that the Government-industry cooperation successfully developed, during World War II be continued. Its members are appointed to 1-year terms by the Secretary of the Interior.

and imports that could prevail through 1985 given such minimal changes. 1/ More specifically, the Council's projections for petroleum include the assumptions that (1) the real price of U.S. crude oil will remain constant through 1985; (2) a pipeline from the North Slope of Alaska will be operating in 1975 and operating at capacity in 1980; (3) past U.S. trends of exploration and development will continue through 1985; (4) depletion allowances and tax provisions will remain unchanged through 1985; (5) import policy will be modified to the extent necessary for net U.S. petroleum demand in excess of U.S. supply to be satisfied by imports; (6) no political, economic, or logistic constraints will restrict foreign supply; and (7) projected supply-demand levels for other energy sources, such as natural gas, coal, and nuclear fuels, will be met.

In the context of these minimal-change assumptions, the Council projected that U.S. energy consumption would increase at an annual rate of 4.2 percent and that the derived demand for crude petroleum would increase at an annual rate of 3.8 percent through 1985; thus U.S. demand for crude petroleum would nearly double, rising to 26.4 million barrels per day in 1985 from 14.7 million barrels per day in 1970. Supply from domestic sources, including that from the North Slope of Alaska and that from oil shale, was projected to increase only slightly during this time, from 11.3 million barrels per day in 1970 to 11.6 million barrels per day in 1985. To meet the projected excess of U.S. demand over supply, imports were projected to increase

1/ Developments since 1971 suggest that the NPC projections may be rapidly passing out of date.

more than threefold by 1985, from 3.4 million barrels per day in 1970 to 14.7 million barrels per day in 1985. The ratio of imports to U.S. demand computed from the Council's projections will increase from 23 percent in 1970 to 39 percent in 1975, 47 percent in 1980, and 57 percent in 1985. The main elements of these projections are indicated in table 1.

Table 1.--Actual and projected U.S. demand, supply, and net import demand for crude petroleum, 1970-85

(In millions of barrels per day)				
Item	Actual 1970	Projected		
		1975	1980	1985
U.S. demand-----	14.7	18.5	22.7	26.4
U.S. supply-----	11.3	11.2	12.0	11.6
Production excluding that from the North Slope of Alaska-----	11.3	10.5	9.8	9.1
Production from the North Slope of Alaska-----	-	.6	2.0	2.0
Production from oil shale-----	-	-	-	.1
Process gain, stock change, exports, and other, net-----	-	.1	.2	.4
Net U.S. demand for imports-----	3.4	7.3	10.7	14.8

Source: Compiled from statistics of the National Petroleum Council.

Note.--U.S. demand comprises crude petroleum, lease condensate, natural gas liquids, and petroleum products; U.S. supply comprises crude petroleum, lease condensate, and natural gas liquids.

Subsequent study by the Council consisted of changing the status quo assumptions to sets that were more favorable or less favorable to the climate in which the energy industries operate. In oil and gas

production, some factors of particular significance analyzed were (1) finding rates for new oil and gas, (2) drilling rates, and (3) the year that North Slope commercial production of oil and gas will begin. Similar analysis was made of energy demand, the most significant variables being gross national product, cost of energy, population, and environmental controls. By studying the various possible combinations of supply and demand and assuming that oil would be the swing fuel, i.e., it would fill the difference between demand and other energy supply, the Council arrived at different projected crude oil consumption levels. These levels were assumed to be supplied to the fullest possible extent by domestic production, with the balance supplied by oil imports. Under varied circumstances, projected oil imports varied between 17 and 65 percent of total oil supply by 1985. The low figure would result from a combination of the most favorable circumstances, while the high figure would result from a combination of the most unfavorable circumstances. However, regardless of the direction in which circumstances develop, imports of oil will be significantly greater in the future unless strong measures are taken to decrease demand.

B. Some relevant worldwide demand factors

While a projected shift to reliance on imports for significant shares of crude supplies may represent a new experience for the United States, such reliance is traditional for most of the other major oil-consuming countries. In 1970 (the year of departure for the NPC projections cited in the preceding section), for example, combined net

imports (imports less exports) of crude petroleum by Western Europe, Japan, Australia, and Canada reached 5.8 billion barrels, which was 4.8 times as large as U.S. imports of 1.2 billion barrels (converted from daily to annual terms).

Despite strong projected increases in U.S. imports, these basic demand relationships are not expected to change. On the basis of the experience of the same group of foreign countries during the 1960's, their net import demand for crude oil may be projected to 34.6 billion barrels for 1985, or some 6.4 times the forecast potential U.S. import demand of about 5.4 billion barrels. 1/ Thus, the major oil-consuming nations together could be buying upwards of 40 billion barrels of crude oil per year from the producing areas by 1985.

Although overall basic demand relationships are not expected to change, a jockeying for position by some of the major oil-importing

1/ Both projections are based on minimal-change assumptions. The assumptions for the United States have already been described. For the other countries--notably those of Western Europe, which is by far the largest consuming area of the group--these assumptions include (1) roughly the same rates of shift to nuclear power and other energy sources as prevailed during the 1960's, (2) comparable increases in energy demand, and (3) relatively small increases in supply from fields in the North Sea. The third assumption is almost certainly too conservative, but the resources of the North Sea are in large part not yet "proved reserves" in producing fields. They will be taken into account, in effect, in the ensuing discussion of potential supplies available through 1985 from existing proved reserves as well as estimated worldwide "potential resources" that are not yet proved.

nations has begun, to assure an adequate supply in the face of increasing U.S. demand for imports. 1/ This international competition has prompted talk of a consumers' (or importers') association similar to what OPEC is to producers. Proponents of such an association believe that it would decrease international competition, thus restraining upward price movements. In addition, proponents believe that any one consuming nation (or crude-oil-importing company) is too small relative to OPEC to be effective in negotiations with it. Those opposed to such an association believe it could lead to two polarized associations rather than aiding supply and stability, would result in increasingly intransigent positions on both sides. 2/

C. Prospective sources of incremental U.S. imports

The NPC projections of U.S. supply-demand levels at 5-year intervals through 1985 show imports in 1975 to be 3.9 million barrels per day larger than actual imports were in 1970, 3.4 million barrels per day larger in 1980 than in 1975, and 4.1 million barrels per day larger in 1985 than in 1980. Over the 15-year period 1971-85, imports are projected to be 11.4 million barrels per day larger in 1985 than actual imports were in 1970. The principal sources of these incremental imports--as well as shipments into other consuming nations--are expected

1/ For example, consider the agreement by a Japanese consortium to buy a 45-percent interest in British Petroleum's share of the Abu Dhabi Marine Areas offshore field. The head of Petroleum Development Corp. (Japan) said the transaction had Government backing and represented a major shift in policy toward buying into areas where commercial production is already assured (Petroleum Press Service, February 1973, p. 48).

2/ See the comments of Dr. Abderrahman Khene, Secretary General of OPEC, on the formulation of an organization of oil-consuming countries in an interview report in the Congressional Record for July 27, 1973 (vol. 119, No. 120 (93d Cong., 1st sess.)), p. S19434f).

to be nations of the Eastern Hemisphere, particularly Saudi Arabia and Iran, rather than Western Hemisphere nations. This expectation is based not only on the global distribution of crude petroleum reserves, regionally and nationally, but also on the known high production rates and low production costs from reserves in the Middle East.

1. World, regional and national reserves, yearend 1972.--Over half (53.4 percent at yearend 1972) of total world crude petroleum reserves 1/ are situated in the Middle East, which also accounts for about three-fifths (62.6 percent) of total free-world petroleum reserves. Eastern Hemisphere reserves amount to 86 and 73 percent of free-world and world reserves, respectively. By contrast, U.S. and Western Hemisphere reserves account for 6.5 and 14.0 percent, respectively, of free-world reserves and 5.5 and 11.9 percent, respectively, of total world reserves. The reserves of the major world regions and Sino-Soviet area are indicated in table 2.

Nearly a quarter (24.3 percent) of the free-world crude petroleum reserves at yearend 1972 were situated in Saudi Arabia. Almost another quarter (22.8 percent) were divided equally between Iran and Kuwait. Nations that are members of the Organization of Petroleum Exporting Countries accounted for 77.5 percent of free-world petroleum reserves at yearend 1972. The countries shown in table 3, which include all those nations whose crude petroleum reserves exceeded 8 billion barrels at yearend 1972, accounted for 87.3 percent of free-world reserves and

1/ The term "reserves," as used here, means proved reserves, i.e., those quantities of crude petroleum estimated to be recoverable from known reservoirs with reasonable certainty under existing economic and operating conditions.

Table 2.--World crude petroleum reserves, by major regions, at yearend 1972

Item	Amount of reserves	Percent of--	
		Free-world: reserves	World reserves
	: Billion	:	:
	: barrels	:	:
Western Hemisphere:	: 79.6	: 14.0	: 11.9
United States-----	: 36.8	: 6.5	: 5.5
South America-----	: 29.8	: 5.2	: 4.5
Other Western Hemisphere-----	: 13.0	: 2.3	: 1.9
Total-----	: 79.6	: 14.0	: 11.9
Eastern Hemisphere:	:	:	:
Western Europe-----	: 12.1	: 2.1	: 1.8
Middle East-----	: 355.9	: 62.6	: 53.4
Africa-----	: 106.4	: 18.7	: 16.0
Asiatic area-----	: 14.9	: 2.6	: 2.2
Total-----	: 489.3	: 86.0	: 73.4
Free-world-----	: 568.9	: 100.0	: 85.3
Sino-Soviet area-----	: 98.0	: -	: 14.7
World-----	: 666.9	: -	: 100.0

Source: Compiled from statistics presented in the Oil & Gas Journal.

74.5 percent of world reserves. Soviet and mainland Chinese reserves, which were estimated to be 75 billion and 19.5 billion barrels, respectively, at yearend 1972, accounted for 11.2 and 2.9 percent of world reserves, respectively.

Proved world reserves of almost 667 billion barrels at the end of 1972 were sufficient to sustain world crude oil production for upward of 35 years at the 1972 extraction rate of roughly 19.3 billion barrels. However, future production is expected to exceed the 1972 rate by increasing amounts. A projection of output through 1985 with

Table 3.--Major national crude petroleum reserves at yearend 1972

Country	Amount of reserves	Percent of--	
		Free-world: reserves	World reserves
	Billions of barrels		
Saudi Arabia-----	138.0	24.3	20.7
Iran-----	65.0	11.4	9.7
Kuwait-----	64.9	11.4	9.7
Algeria-----	47.0	8.3	7.0
United States-----	36.8	6.5	5.5
Libya-----	30.4	5.3	4.6
Iraq-----	29.0	5.1	4.3
Abu Dhabi-----	20.8	3.7	3.1
Neutral Zone-----	16.0	2.8	2.4
Nigeria-----	15.0	2.6	2.2
Venezuela-----	13.7	2.4	2.1
Canada-----	10.2	1.8	1.5
Indonesia-----	10.0	1.8	1.5
Subtotal-----	496.8	87.3	74.5
Other free-world-----	72.1	12.7	10.8
Total free-world-----	568.9	100.0	85.3
USSR-----	75.0	-	11.2
Mainland China-----	19.5	-	2.9
Subtotal-----	94.5	-	14.2
Other non-free-world-----	3.5	-	.5
Total non-free-world-----	98.0	-	14.7
Total world-----	666.9	-	100.0

Source: Compiled from statistics presented in the Oil & Gas Journal.

an average annual increase of 7.7 percent, 1/ places output in that year at almost 51 billion barrels. Cumulative production through 1985 will have depleted two-thirds of end-1972 reserves--assuming no new discoveries and consequently no additions to reserves--and remaining reserves of about 229 billion barrels will sustain production for only 4.5 years at 1985's projected output rate.

1/ World crude oil output increased at this average annual rate during the 1960-71 period. The rate for 1972 was only about 3 percent.

The growth in production from 19.3 billion barrels in 1972 to about 51 billion barrels in 1985 approximates an average increase in production of 2.4 billion barrels per year for each of the 13 years through 1985. Because a compound growth rate is used in the projection, however, the projected growth path curves upward, from an increase of about 1.5 billion barrels in the first year (1973) to roughly 3.6 billion barrels in the final year. Some appreciation of the magnitude of the simple average cited above can be obtained by comparing it with the actual production of Saudi Arabia in 1972 of 2.1 billion barrels. The projected average growth in production annually through 1985 is roughly equivalent to adding to total world production each year an increment equal to the output of Saudi Arabia in 1972.

The assumption of zero new discoveries in the interim, however is highly unrealistic. On such an assumption, potential supplies from proved reserves would have presented a considerably less optimistic picture even as recently as 1968. At the beginning of that year, proved world reserves stood at 432 billion barrels, roughly 25 years' output at the average annual rate realized in the 1968-72 period. Cumulative production in this period reached 86 billion barrels, while new discoveries added a total of nearly 321 billion barrels to world reserves over the same interval. In short, world reserves increased 3.7 times

as fast as production, and almost half (48.1 percent) of the reserves available at the end of 1972 represented additions since the beginning of 1968. 1/

"Proved reserves" (see definition in footnote on page 14) is a conservative and narrow concept, analogous more to "cash on hand" than to "expected earnings." On the basis of current and prospective geological and technological knowledge, as well as the evidence of recent history cited above, much crude petroleum remains in the earth, to be added in the future to "proved reserves." Forecasts in this regard must by nature be imprecise but, however uncertain, they serve to stave off any apprehension of a worldwide petroleum supply crisis resulting from resource exhaustion during the period under consideration, through 1985.

The cost of production for these new reserves, however, is unknown. The current average costs of production vary widely from about \$2.50 per barrel in the United States to \$0.10 to \$0.20 per barrel in the Middle East, with production costs in most other areas falling somewhere between these two figures. The development of those reserves that lie in current production areas will probably have real production costs somewhere near the current levels (\$2.50 to \$0.10 per barrel).

1/ The analysis in this and the preceding paragraph is based on data from several sources: (1) the tables on the preceding pages, citing statistics from Oil & Gas Journal; (2) U.S. Department of the Interior, Summary Petroleum and Selected Mineral Statistics for 120 Countries, Including Offshore Areas, Geological Survey Professional Paper 817, Washington, 1973; and (3) various recent issues of Commission des Communautés Européennes, La conjoncture énergétique dans la Communauté, an annual review and forecast of energy developments in the EEC, published in Brussels.

On the other hand, new production from reserves in such places as the Arctic, the North Sea, and the continental shelves will most likely have significantly higher production costs.

Taking all the evidence as a whole, it appears that projected crude petroleum requirements of the consuming countries can be met fairly easily with supplies forthcoming from the producing nations, at real costs of extraction which will have little significant effect on real prices of crude oil in the period through 1985. That is, crude oil prices will have little relation to actual extraction costs, because revenues received by the producing countries--as discussed later in this chapter--will continue to have the more significant effects on prices. Moreover, it shall be pointed out that most estimates indicate that about half of the crude oil that may be added to proved reserves in the future, in addition to the somewhat higher share of existing proved reserves discussed earlier in this section, are located in the nations of North Africa and the Middle East.

2. Production rates in major free-world nations.--Regardless of where or how large reserves are, they become significant in balancing demand only when they are produced, and production rates vary considerably not only among individual wells but also among nations. Generally, high production rates per well are associated with lower costs per barrel, although any given well is subject to increasing unit costs as production continues. Worldwide, production costs have historically tended to fall and/or remain low, not because petroleum extraction is

a "decreasing cost" industry at any given location, but because new and highly productive fields--especially in the Middle East--have steadily entered into production. 1/

Crude oil output per well in Middle Eastern nations is substantially greater than such output in other free-world petroleum regions. Daily production per well in Iran during January-June 1972, for example, averaged 15,500 barrels per day from a total of 313 wells. In Iraq, such production averaged 12,600 barrels per day from 132 wells, and in Saudi Arabia 10,100 barrels from 535 wells. Daily production per well in the United States, by contrast, averaged 18 barrels per day in January-June 1972 from a total of 525,885 wells. The total production from all wells in the United States, however, averaged 9.5 million barrels per day in January-June 1972, compared with Saudi Arabia's 5.4 million barrels per day and Iran's 4.8 million barrels per day. Table 4 shows production rates and numbers of producing wells in those free-world nations for which average daily production for January-June 1972 exceeded 500,000 barrels per day. Data on production rates and numbers of producing wells were not available for the U.S.S.R. and mainland China, but total production averaged 8.9 million barrels per day for non-free-world nations as a whole.

1/ For a lucid discussion of this point, see M. A. Adelman, The World Petroleum Market, Baltimore, Johns Hopkins University Press for Resources for the Future, Inc., 1972, pp. 14-21.

Table 4.--Production, total and per well, in major free-world reserve nations, January-June 1972, and number of producing wells on July 1, 1972.

Country	Average daily production	Average daily production per well 1/	Number of producing wells
	Million barrels	Barrels	
United States-----	<u>2/</u> 9.5	18	525,885
Saudi Arabia-----	5.4	10,117	535
Iran-----	4.8	15,479	313
Venezuela-----	3.2	282	11,245
Kuwait-----	3.0	4,286	692
Libya-----	2.3	2,962	763
Nigeria-----	1.8	2,285	774
Iraq-----	1.7	12,616	132
Canada-----	1.5	200	<u>3/</u> 7,460
Indonesia-----	1.1	448	2,344
Abu Dhabi-----	.9	8,203	115
Algeria-----	.8	1,474	524
Neutral Zone-----	.5	1,237	440

1/ Computed from unrounded data.

2/ Estimated average daily production, total and per well, for full year 1972.

3/ Number of wells capable of production.

Source: Compiled from statistics presented in the Oil & Gas Journal.

3. Major exporting countries.--The principal crude-oil-exporting nations of the free world in 1971, the latest year for which official data are available, were, in the main, members of the Organization of Petroleum Exporting Countries. Table 5 lists those free-world countries whose exports of crude petroleum during 1970 or 1971 exceeded 200 million barrels. Such nations accounted for 90.4 and 90.6 percent of total free-world exports of crude petroleum in 1970 and 1971, respectively, and all but one, Canada, are OPEC members. Exports of crude oil from the Sino-Soviet area were estimated to be 492 million barrels in 1970 and 555 million barrels in 1971.

Table 5.--Exports by major crude-oil-exporting countries, 1/ 1970-71

Country	1970	1971 <u>2/</u>	Percent increase or decrease (-)
	<u>Million barrels</u>	<u>Million barrels</u>	
Iran-----	1,208	1,452	20.2
Saudi Arabia-----	1,097	1,443	31.5
Libya-----	1,207	1,006	-16.7
Kuwait-----	879	947	7.7
Venezuela-----	889	845	-4.9
Iraq-----	544	593	9.0
Nigeria-----	383	543	41.8
Trucial States-----	284	385	35.6
Canada-----	241	271	12.4
Algeria-----	357	249	-30.3
Indonesia-----	229	240	4.8
Total-----	7,318	7,974	9.0
Free world-----	8,092	8,803	8.8

1/ Includes reexports, if any.

2/ Preliminary.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

4. Cost of production of crude petroleum in major exporting countries.--The cost of production of crude petroleum, f.o.b. port of export, in the major exporting countries is determined principally by three factors: the real extraction costs, 1/ the royalty paid, and the taxes paid. These factors vary from country to country as indicated in table 6, which shows costs for representative crude oils from six major exporting countries as they were estimated by the Office of Oil and Gas, U.S. Department of the Interior, for July 1972. Countries are listed in order of increasing real extraction cost, as

1/ "Real extraction cost" is defined as the actual cost, in constant prices and including an appropriate return on invested capital, of physically removing oil from the ground and transporting it to a shipping point.

shown in the second column of the table. For comparison, the average real extraction cost for U.S. crude petroleum from a representative area is estimated to be about \$1.10 per barrel.

Total cost in this table is the sum of the real extraction cost, royalty, and tax, and is the cost to the producer of crude oil at the port of export. It does not include an extra margin, averaging 37 cents per barrel for the countries in the table, which would be paid by any buyer who was not a producer.

The posted price of crude oil in the major exporting countries has little or no relation to actual market prices. But it does enter the computation of total cost in significant, although indirect, manner. It is set by producing-nation governments as the accounting base upon which royalty and tax costs are calculated. 1/ An example of the computation of royalties and taxes will clarify the role of posted price in assessing total cost. For Saudi Arabia, the posted price in July 1972 was \$2.479 per barrel, while royalty and tax rates were

1/ "Royalties" paid to host governments are analogous to the royalties paid by crude oil producers in the United States--i.e.: they are a form of compensation to the "landowner"--a sovereignty in this case--for depletion of a natural resource. "Taxes", as paid to host governments, continued to be called "income taxes" although, being based on fictitious posted prices, they really are excise taxes (see footnote on page 25.) These taxes paid to the host-country government for crude petroleum production by the developer carry consequences for U.S. corporate taxes payable by the developer. A U.S. tax credit is allowed to the developer for the taxes paid to foreign countries under section 901 of the Internal Revenue Code. Royalties do not generally enter into tax considerations. However, in 1953 Aramco obtained a special revenue ruling permitting it to treat its royalty payments to Saudi Arabia as taxes. Other U.S. oil companies have adopted this tax practice.

Table 6.--Estimated cost of production of representative crude oils exported to the United States, f.o.b. port of export, July 1972

(In U.S. dollars per barrel)

Country	:Average real: : extraction : : cost :	: Royalty :	: Tax :	:Average : : total : : cost :	: Posted : price :
Saudi Arabia-----	\$0.130	\$0.310	\$1.121	\$1.561	\$2.479
Iran-----	.130	.308	1.116	1.554	2.467
Nigeria-----	.380	.426	1.432	1/2.258	3.409
Venezuela-----	.400	.608	1.307	2.315	2/3.261
Libya-----	.450	.453	1.494	3/2.495	3.620
Algeria-----	.750	.473	1.410	2.633	3.786
United States 4/-----	1.080	.370	.770	2.220	3.000

1/ Includes harbor dues of \$0.020 per barrel.

2/ Minimum export value including freight premium.

3/ Includes retroactive buy-out of \$0.098 per barrel.

4/ Average data for a west Texas, 4,000-foot well, with an initial production rate of 50 barrels per day and a 15-percent production decline rate. Exploration costs are not included.

Source: Foreign data compiled from statistics of the Office of Oil and Gas, U.S. Department of the Interior. U.S. data based on Bureau of Mines Information Circular 8561, 1972.

12 1/2 percent and 55 percent, respectively. The computation of total cost based on posted price for July 1972 is, then, as follows:

Posted price-----	\$2.479
Royalty at 12-1/2 percent of posted price-----	.310
Real extraction cost-----	.130
Posted price less royalty and real extraction cost-----	2.039
Tax at 55 percent of reduced posted price-----	1.121
Total cost (sum of real extraction cost, royalty, and tax)-----	1.561

Posted price is a datum usually "negotiated" between the host country and the producers; the actual price charged to buyers by producers

has normally been lower in recent years. As the royalty and tax are percentages of posted price, any increase in posted price with the same royalty rate will increase total cost. 1/

In nearly all instances, estimated average real extraction cost in the representative major exporting countries has increased only slightly, if at all, as production has increased in recent years (table 7). As a consequence, increased production from these countries, at least in moderate ranges of increase, is expected to be supplied at little or no increase in average real extraction cost.

Total cost of crude petroleum for export in major exporting countries is dominated by the royalty and tax payments made to the host countries. Such payments range between 71 and 92 percent of the total cost to the operators, depending on country of origin, as indicated in table 8, in which government revenue is the sum of the royalty and tax costs shown in table 1, adjusted for the relatively small costs shown in the footnotes to that table.

1/ At one time, posted prices provided a fairly good measure of actual market prices, so that taxes based on them were, in concept, income taxes. The present unreality of posted prices as market-price indicators, however, has effectively transformed the taxes from income taxes to excise taxes.

Table 7.--Estimated and forecast average real extraction cost of crude petroleum in representative major exporting countries in January 1971, July 1972, and January 1977.

(In U.S. dollars per barrel)			
Country	January 1971	July 1972	January 1977
Saudi Arabia-----	\$0.12	\$0.13	\$0.13
Iran-----	.12	.13	.13
Nigeria-----	.35	.38	.38
Venezuela-----	.40	.40	.40
Libya-----	.45	.45	.45
Algeria-----	.65	.75	.75

Source: Compiled from statistics of the U.S. Department of the Interior, Office of Oil and Gas.

Table 8.--Government revenues compared with total costs of production, July 1972

Country	Government revenue in U.S. dollars per barrel	Ratio of Government revenue to total cost
		Percent
Saudi Arabia-----	\$1.431	91.7
Iran-----	1.424	91.6
Nigeria-----	1.878	83.2
Venezuela-----	1.915	82.7
Libya-----	2.045	82.0
Algeria-----	1.883	71.5

Source: Compiled from statistics of the U.S. Department of the Interior, Office of Oil and Gas.

Characteristics of the representative crude oils used in the above cost table are indicated in table 9, which shows, by country of origin, the gravity of the crude petroleum and its sulfur content. Generally speaking, crude oils from Middle Eastern countries and Venezuela tend to be of higher sulfur content than those originating in Africa,

thus engendering higher refining cost in their processing. The higher refining cost, termed "sulfur debit," is considered by the refiner as an extra acquisition cost in his choice of crude oils for processing. Such sulfur debit is estimated to range from \$0.10 to \$0.50 per barrel, depending on the crude, the refinery, and the level of sulfur permitted in the final products. The API gravity of the crude, on the other hand, is a rough indication of the proportion of lighter, more valuable, distillates recoverable from the crude, higher gravities corresponding to greater proportions of gasoline ultimately recoverable, for example, at less operating cost. Each increment of 10 in gravity corresponds, as a rule of thumb, to an increment of 1.5 to 2.0 cents per barrel in price of crude to the refiner.

Table 9.--Characteristics of the representative foreign crude oils used in estimated cost tabulation

Country	Gravity	Sulfur content
	<u>°API</u>	<u>Percent</u>
Saudi Arabia-----	34	1.7
Iran-----	34	1.4
Nigeria-----	34	.2
Venezuela-----	35	.5
Libya-----	40	.4
Algeria-----	44	.15

Source: Compiled from statistics of the U.S. Department of the Interior, Office of Oil and Gas.

Note.--°API is related to specific gravity by the following equation: Water having a specific gravity of 1.0 has an API of 10°. Higher API gravities correspond to lower specific gravities.

$$^{\circ}\text{API} = \frac{141.5}{\text{specific gravity at } 60^{\circ} \text{ F}} - 131.5$$

D. The development of the OPEC

The Organization of Petroleum Exporting Countries is a permanent, formal international organization 1/ of the world's principal oil-producing countries, formed in 1960 with the primary objective of increasing government revenues. Although 8 of its 11 members are Mideastern or North African countries (Saudi Arabia, Iran, Kuwait, Algeria, Libya, Iraq, Abu Dhabi, and Qatar), it is not correct to assume that OPEC serves as an instrument of pan-Arab policy, using control over crude oil supplies as its weapon. One of these members--Iran--is Muslim but not Arab in culture, and the remaining three members--Nigeria, Venezuela, and Indonesia--have little immediate connection with Arab causes.

In the sphere of economic rather than political cooperation, however, OPEC is potent. It has sufficient control over present and prospective world crude oil supplies to act--provided that action is unanimous--as a cartel. Its basic machinery has been described as follows:

The producing nations have become a cartel that sells a license to produce. In general, a cartel exists to keep the price above cost. Each member is always tempted to chisel and sell at a somewhat lower price to increase volume and profit:

1/ OPEC's organization document is registered with the Secretariat of the United Nations under article 102 of the U.N. Charter, thus validating its status as an international agreement. See Agreement Between Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, etc., Concerning the Creation of the Organization of Petroleum Exporting Countries, Sept. 14, 1960, 443 U.N. Treaty Series 248. The full constitutional framework of OPEC is elaborated in Statute of the Organization of Petroleum Exporting Countries, OPEC Res. VIII-56, in International Legal Materials, vol. 4, November 1965, p. 1175. A good source on OPEC history and organization is F. Rouhani, A History of OPEC, 1971.

do your friend before he does you. Hence the cartel must have a machinery to detect cheating or register noncheating, and to assure each member that all the others are observing the price.

Cost to the producing nations of supplying the license is zero. But the system of fictitious posted prices, fictitious income taxes, and real excise taxes, is simple and strong. The tax is a public record, putting each under the scrutiny of all. A persistent and substantial down-drift in any nation's tax, not explained by a trend from higher- to lower-taxed crude, is evidence of cheating. Furthermore, tax changes are difficult or impossible to keep secret. Hence the OPEC nations need follow only the simplest strategy...: do nothing. 1/

Opec's history reveals a pattern of successes that should draw admiration from any student of international organizations. As the information in table 10 indicates, the member governments' per-barrel revenues in 1972 were roughly double (triple in the case of Libya) those of a decade before. The present price structure reflects in major part the actions of OPEC in presenting without compromise a series of sharply escalated demands that led to a major victory in the Tehran-Tripoli agreements of 1971. The producing-country government's "take" is presently the most influential single long-run determinant of crude oil prices in the world market. It is expected to continue rising strongly. The principal consuming nations have had no unified front comparable to that presented by OPEC. The consuming countries have had fairly strong domestic incentives to acquiesce in higher crude prices. Chief among these incentives is the desire to protect higher cost domestic crude producers and/or producers of competing but

1/ Adelman, op. cit., p. 210.

higher cost, energy sources, such as coal and nuclear power. Such incentives may not persist as crude prices pass the various thresholds of competitiveness with substitutes. In the United States, for example, prices of imported crude now exceed those of domestic output (see p. 41 of this report).

Table 10.--Changes in host government revenues of representative of oil exporting countries 1962-72

Country	"Take," in U.S. cents per barrel				Percentage change, 1972 over 1962
	1962	1965	1970	1972	
Saudi Arabia---	76.5	83.2	88.3	143.1	87
Iran-----	74.5	82.9	80.8	142.4	91
Venezuela-----	97.2	95.6	109.2	191.5	97
Libya-----	64.7	83.8	109.0	204.5	216

Source: Table 8 and M.A. Adelman, The World Petroleum Market, Baltimore, 1972, p. 208.

Important basic OPEC policies are outlined in its resolution XVI-90 of June 25, 1968. With respect to pricing, they include the following objectives:

- (1) To establish 55 percent as the minimum rate of taxation on the net income 1/ of the oil companies operating in the member countries;
- (2) To eliminate existing disparities in posted or tax-reference prices of the crude oil in the member countries on the basis of the highest posted price applicable in the member countries, taking into consideration differences in gravity and geographic location and any appropriate escalation in the future years;
- (3) To establish a uniform general increase in the posted or tax-reference prices in all member countries to reflect the general improvement in the conditions of the international petroleum market;
- (4) To adopt a new system for the adjustment of gravity differential of posted or tax-reference prices . . . ;
- (5) To eliminate completely the allowances granted to oil companies, as from January 1, 1971.

Note that these statements provide for both harmonization and escalation of the producing governments' revenue structures. This resolution went on to lay down the procedure according to which the member countries were to act to carry the above decisions into effect.

1/ I.e., "net income" based on artificial posted prices. In OPEC jargon, the tax remains an income tax rather than an excise tax.

In addition to outlining OPEC's policies with respect to pricing and taxation, resolution XVI-90 also set forth the objective of "participation"--the pursuit of increasing government ownership of production facilities themselves, in one or another form--and this has become a target coequal with revenue expansion. Yet "participation" leading to increasing amounts of oil which producing governments would market directly, either to operating companies working the fields under contract or to independent refiners in the consuming countries, may serve to weaken the taxation system which has helped police the cartel arrangements, and may lead to increased competition among the producing nations themselves. The result could be a greater likelihood of the kind of "cheating" on price which sooner or later causes the downfall of all collusive cartel arrangements. Should such events occur, world crude oil prices would break sharply downward, but OPEC's solid front does not augur that these kinds of developments are likely soon.

While OPEC as an effective cartel can gain an economic end by raising the price of crude oil by increasing the host country "take," it can also limit production. This possibility was recently voiced by a former Secretary General^{of} OPEC. 1/ Some of the OPEC countries

1/ Dr. Nadim Pachachi, "Arab Oil as a Political Weapon," speech June 11, 1973, at the American University of Beirut Alumni Club. Dr. Pachachi was instrumental in setting up OPEC and, according to the State Department, speaks with authority on Mideast Oil matters.

are already limiting production in the anticipation that oil in the ground will be worth more in the future. Some OPEC countries are reaching a point where they are receiving so much money from their oil exports that they are experiencing problems in finding attractive investments for the revenues. ^{1/} This suggests that limited production may be a close-at-hand reality. One should note that an actual reduction in production may not be necessary to cause supply problems for consumers. With increasing demand, a failure to expand production has the same effect as a reduction at constant demand.

E. Transport costs of petroleum

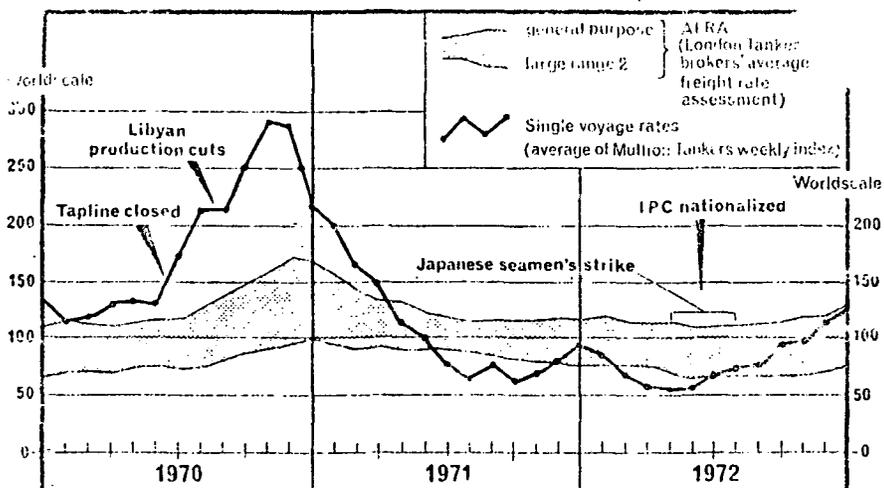
1. Tanker rates.--Two widely reported series are readily available for assessing the average level of tanker rates prevailing during any given time period. The first of these series is that published by Mullion Tankers, Ltd. (shipbroking) which shows the single voyage (spot) tanker rate weekly for vessels carrying crude oil or heavy fuel oil. The second is that published by the London Tanker Brokers Panel, which shows the average tanker rate monthly for vessels carrying crude oil and petroleum products; this series is calculated on the basis of all freight rates being paid in the month. The latter is termed the "Average Freight Rate Assessment" (AFRA) and is reportedly used by petroleum companies for pricing purposes. The average tanker rates

^{1/} Saudi Arabia has indicated that its policy of unrestricted production will depend upon its ability to find investment opportunities. (Prince As'ud bin Faisal, Deputy Minister of Petroleum, on May 6, 1973, at the National War College).

in both series are stated in terms of percent of Worldscale, a set of nominal port-to-port tanker freight rates that serve solely as standards of reference for comparing actual tanker rates for voyages between ports in general. For example, the Worldscale rate for the voyage from Ras Tanura to Philadelphia and return is \$9.33 per long ton. An actual tanker rate of \$4.67 per long ton corresponds to Worldscale 50, as does any other actual rate which is one-half the Worldscale rate for the voyage.

The course of spot tanker rates and AFRA during the period 1970-72 is shown in chart I, which appeared in the January 1973 issue of Petroleum Press Service. The graph indicates that both rates fluctuate over time and that spot rates are substantially more volatile than AFRA rates. The spot rate ranged from Worldscale (WS) 289 in October 1970 to WS 54 in April 1972, while the AFRA rate for large, range vessels (80,000 to 159,000 long tons deadweight) ranged from 97.9 in December 1970 to 66.2

Chart I.--Average tanker rates, 1970-72



Source: Petroleum Press Service, January 1973.

in September 1972. Such Worldscale rates correspond to transport costs for crude petroleum (on the Ras Tanura-Philadelphia run) ranging from \$3.61 per barrel to 68 cents per barrel on a spot basis and \$1.22 per barrel to 83 cents per barrel on an AFRA basis for large range 2 vessels. ^{1/} Recent quotations indicate costs of \$3.23 per barrel (spot-June 1973) and \$2.56 per barrel (AFRA--May 1973), reflecting a continuation of the upward trend of July-December 1972.

The actual cost of transportation of any one shipment or one barrel of petroleum will depend on the actual dollars spent. At any one time, there will be voyages with higher and lower transport costs, depending on the time at which the voyage was signed. Transportation departments in large oil companies devote considerable effort to determine the opportune time to sign transportation contracts.

2. Transport costs of representative crude oils to the U.S. east coast.--Transport costs of crude petroleum

from representative major exporting countries to the U.S. east coast in July 1972 are shown in table 11, which complements the table of real production costs for representative crude oils shown previously. Transport costs are greatest for Saudi Arabia and Iran and least for Algeria and Venezuela, reflecting the differences in the distances involved. These transport costs will be combined with the total production costs previously developed to obtain the cost of crude delivered to the U.S. east coast in the following section.

^{1/} Conversion factor: 7.49 barrels of crude oil per long ton.

Table 11.--Transport costs to the U.S. east coast from representative major crude-oil-exporting countries, July 1972

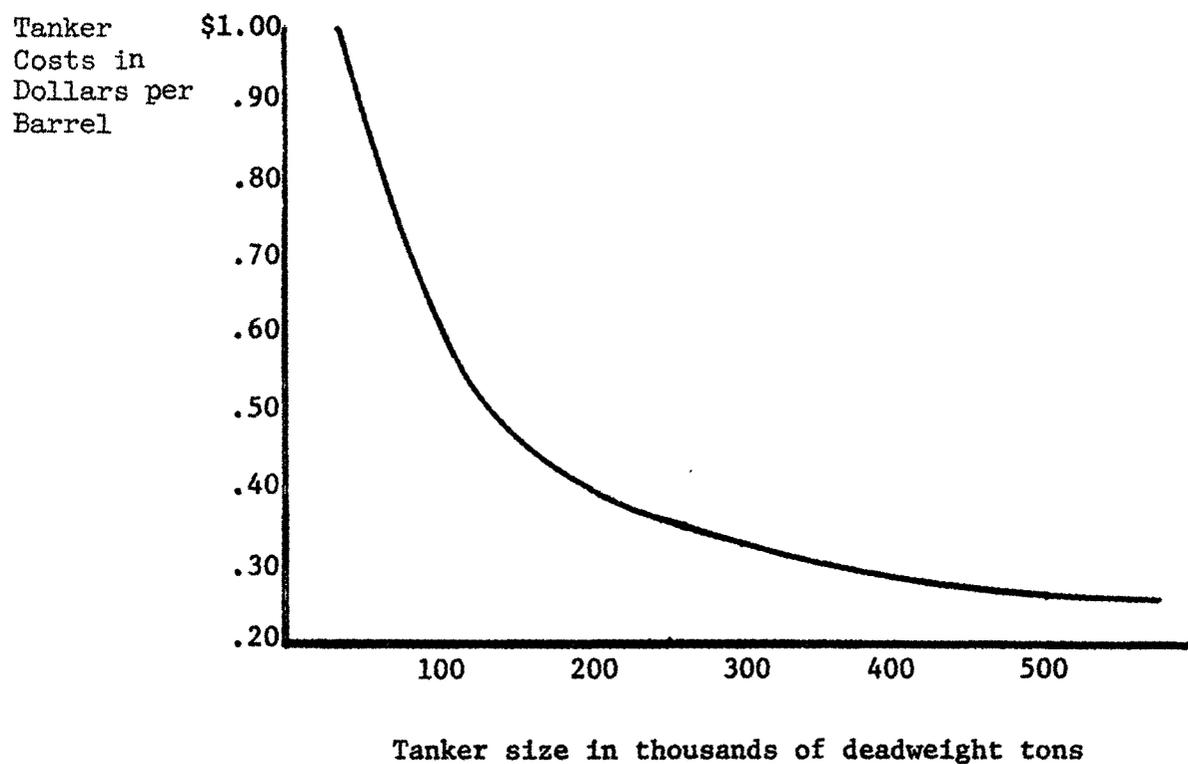
		(In U.S. dollars per barrel)	
Country	Port of export	Transport cost based on--	
		AFRA	Spot rate
Saudi Arabia----	Ras Tanura-----	\$1.091	\$.542
Iran-----	Kharag Island-----	1.115	.553
Nigeria-----	Bonny-----	.666	.330
Venezuela-----	Puerto LaCruz-----	.288	.242
Libya-----	Brega-----	.596	.296
Algeria-----	Bougie-----	.488	.242

Source: Compiled from statistics of the U.S. Department of the Interior Office of Oil and Gas.

3. Economies of scale.--As an indication of the economies of scale available in large vessels, chart II shows the transport cost of crude oil for the voyage from Kuwait to North America via the Cape of Good Hope in early 1969. The data, presented in The Economics of Deepwater Terminals, published by the Maritime Administration, indicate that the cost of transport of petroleum in a 100,000-deadweight-ton (DWT) vessel is approximately two-thirds of that for a 50,000 DWT vessel, that such cost for a 200,000 DWT vessel is less than half that for a 50,000 DWT vessel, and that such cost for a 300,000 DWT vessel is approximately a third that for a 50,000 DWT vessel. At the present time the estimated maximum vessel size that can be accommodated at Philadelphia is 50,000 DWT; at New York, 40,000 DWT; and at Portland, Maine, 80,000 DWT. On the U.S. west coast, vessels of an estimated size up to 150,000 DWT can be accommodated at Los Angeles and Long Beach, Calif.

The lower cost of transportation in large ships and the resulting lower landed cost of imported crude oil are the driving forces for "super ports" off the U.S. east and gulf coasts. The overall economics of the "super port" depend to a large extent upon very large crude carrier (VLCC) economics, which, in turn, depend upon the length of the voyage. The advantages are particularly evident in long movements, for example, from the Persian Gulf to the United States. Very little of the Venezuelan, Libyan, or Nigerian, crude oil imports will be carried on VLCC's to the United States, for the distance is not great enough.

Chart II.--Tanker economies of scale: Kuwait to North America via the Cape of Good Hope, 1969



Source: Graphed from statistics presented by the U.S. Department of Commerce, Maritime Administration.

As the gulf coast has no natural harbors capable of handling the draft of a VLCC 1/ and because there is opposition from State governments and environmentalists along the east coast to VLCC ports, "super port" technologies for offshore locations have developed. The monobuoy is an offshore mooring connected by submerged pipeline to storage on the mainland; the sea island is a relatively simple structure attached to the offshore ocean floor by piles and connected by one or more pipelines to storage facilities on shore; the artificial island is a manmade offshore island comprised of fill, on which there are storage facilities, with transfer of crude oil to the mainland occurring by submerged pipeline, tug and barge, or small tanker. Of the three technologies, the monobuoy is the simplest and cheapest to construct, while the artificial island is the most elaborate and most costly.

In recent testimony by an official of the Department of the Treasury before the Senate, it was asserted that the construction of U.S. deepwater ports would result in significant savings to the United States, unless U.S. flag vessels are required for docking at U.S. ports. 2/ The possible "super port" locations cited included Nova Scotia and the Bahamas. For such locations, the construction of refining capacity

1/ To accommodate a 250,000 DWT tanker, a port must have a minimum water depth of 75 feet. Some of the restricted draft vessels can operate in lower depths subject to vessel design and height of the tides.

2/ Testimony of Dr. William A. Johnson, Energy Adviser to the Deputy Secretary of the Treasury, before the Special Joint Subcommittee of the Senate Committees on Interior and Insular Affairs, Commerce and Public Works, July 23, 1973, reported in Department of the Treasury News (press release) of that date, p. 26.

would likely be considered, with the objective of bringing in petroleum products in smaller ships capable of docking at U.S. east and gulf coast ports.

F. Estimated price of crude petroleum delivered to the U.S. east coast from representative major exporting countries

Summing up the estimated cost data developed in the two preceding sections, table 12 indicates that the estimated delivered price of representative crude oils exported to the U.S. east coast in July 1972 ranged between \$2.55 and \$3.18 per barrel on a spot basis and between \$3.10 and \$3.52 per barrel on the basis of AFRA rates. Representative U.S. crude oils delivered to the U.S. east coast at the same time ranged in price from \$3.93 per barrel for West Texas sour crude, 34° API, to \$4.20 per barrel for Louisiana sweet crude, 38° API. The characteristics of West Texas sour crude (1.0 percent sulfur) approximate those of the representative crude oils of Saudi Arabia, Iran, and Venezuela previously listed; Louisiana sweet crude (0.15 percent sulfur) approximates in characteristics those representative crude oils from Nigeria, Libya, and Algeria. Delivered-price-to producer data shown in the table differ from the delivered "arms length" price data by the apparent margin indicated in the section on costs of production. Both delivered prices include an import duty of 10.5 cents per barrel. The difference between the delivered prices of comparable domestic and imported crude oils forms the basis for estimating the value of an import license, or ticket, which would amount to approximately \$1.20 for crudes comparable to West Texas sour and approximately \$1.00 for crudes comparable to Louisiana sweet based on the table for July 1972.

Since that time the price of foreign crude oil has increased to the point where it is on a par with or, in certain instances, higher than the domestic price. ^{1/} This situation has developed as demand has increased and U.S. production has peaked for the present at or near current market prices. An important contributing factor has been the recent sharp rise in tanker rates. This is essentially a temporary phenomenon which should reverse itself as new tankers become available and the United States eventually increases its deepwater-
port capacity. However, given OPEC's stated objective of capturing all or nearly all the price/extraction cost differential, future declines in transport costs may well be offset by renewed, rapid increases in posted prices and/or royalty and tax rates.

Table 12.--Estimated prices of representative crude oils exported to the U.S. east coast, July 1972

Country	(In U.S. dollars per barrel ^{1/})			
	:Delivered price to pro-: Delivered price to in-		: : dependent based on--	
	: ducer based on-- : : AFRA rate : Spot rate		: AFRA rate : Spot rate	
Saudi Arabia-----	\$2.76	\$2.21	\$3.10	\$2.55
Iran-----	2.77	2.21	3.12	2.56
Nigeria-----	3.03	2.69	3.52	3.18
Venezuela-----	2.71	2.66	3.19	3.14
Libya-----	3.20	2.90	3.45	3.15
Algeria-----	3.23	2.98	3.40	3.15

^{1/} Includes \$0.105 duty per barrel.

Source: Compiled from statistics of the U.S. Department of the Interior, Office of Oil and Gas.

^{1/} An average of five U.S. domestic prices reported in the Oil & Gas Journal for June 11, 1973, was \$4.24 per barrel. In March, a newspaper report quoted \$4.36 for Libyan crude, landed at Baton Rouge. An average of representative Persian Gulf prices was \$2.77 per barrel on April 1, 1973, f.o.b. Adding the previously quoted May AFRA tanker rate, yields an estimated landed cost of about \$5.30.

Chapter III. The Oil Import Programs

Since World War II, the United States has passed through two identifiable phases of oil import regulation and recently entered the third and current one. From 1955 to 1959, control programs were not particularly effective, being essentially voluntary schemes with little or no effective policing machinery. Through the long 1959-73 period, imports of both crude and products were regulated by a mandatory program based on officially fixed quotas. During roughly the last 2 years of this program's history, prior to the replacement of quotas by a system of import license fees in April 1973, the regulators struggled with market conditions fundamentally changed from those which had prevailed at the program's inception. The program was originally designed, on stated grounds of national security, to protect the domestic crude oil industry so that it could meet domestic demand. By the early 1970's, domestic output of crude was falling increasingly short of demand despite the protective effects of the programs, and steadily increasing imports became a necessity for the market. Towards the end of the program's life, the quota machinery of the past decade was superseded by a system of license fees (which employs until 1980 the Mandatory Oil Import Program (MOIP) quota quantities as the basis for fee-free allotments).

A. The Mandatory Oil Import Program

The Mandatory Oil Import Program was established by the President by Proclamation No. 3279 on March 10, 1959, and provided for quotas on virtually all imports of crude oil and petroleum products,

such imports having risen sharply during the Voluntary Oil Import Program established in 1957. The action was taken under the authority of the national security provisions of the Trade Agreements Extension Act of 1958 (later sec. 232 of the Trade Expansion Act of 1962), upon advice from the Director of the Office of Defense and Civilian Mobilization that as in ^{the} Extension Act of 1958 imports threatened to impair the national security.

The Secretary of the Interior was authorized to issue implementing regulations consistent with the levels established by the proclamation and to provide for a system of allocation and for the issuance of licenses. The proclamation also provided for an appeal board comprised of one representative each from the Departments of the Interior, Defense, and Commerce. Thus, the President, by broad redelegation of authority sought to provide potential flexibility in the control of imports by quota.

Under the terms of the original proclamation, the 50 States were divided into five districts, and separate provision was made for Puerto Rico. Imports of crude oil, unfinished oils, and finished products (except residual fuel) were not to exceed 9 percent of demand in the continental United States east of the Rocky Mountains (districts I-IV), where crude oil capacity substantially exceeded production. Within the overall quota, imports of unfinished oils were not to exceed 10 percent of the permissible imports of crude oil and unfinished oils combined. Imports of finished products were fixed at the level of

1957. Imports of residual fuel oil were not included in the overall quota and were to be restricted like imports of other finished oils to the level of 1957, although this restriction was subject to adjustment according to requirements. In the States west of the Rocky Mountains (district V), where crude oil production was declining, imports were to be adjusted to demand after domestic production cleared the market, although with the proviso, as in the rest of the United States, that imports of unfinished oils were not to exceed 10 percent of the combined imports of unfinished oils and crude oil, and imports of finished oils were not to exceed the level of 1957. Imports into Puerto Rico were to be limited to the 1958 level, subject to the changes necessary to meet requirements there and demand for exports to foreign areas.

As noted above, the MOIP was initiated at a time when the United States was more than self-sufficient in the production of crude oil. Its stated purpose was to protect national security. With the passage of time, however, the problems of control multiplied and the program became increasingly complex, as the lengthy chronological treatment in the following section of this report reveals. From the beginning of the MOIP in 1959 until the removal of quotas in 1973, 24 proclamations were issued, making numerous modifications in the original restrictions. In the face of steadily increasing demand, it became obvious that the program restricting imports was not serving to increase U.S. supply to the desired level. The President's Energy Message of April 18, 1973, provided the basis for Proclamation 4210, which replaced

the MOIP's system of control by quota with the present system based on control by license fees.

The chronology of the MOIP breaks into three fairly distinct phases, as revealed by the modifications introduced in successive proclamations. The proclamations are listed by number, date, and chief provisions, in table 13, which also reflects the delineation of the broad phases of the program. Until 1965, most of the modifications introduced were intended to establish and implement the MOIP and to rectify anomalies and problems that arose in the implementation process. By about 1963, the program was fairly well-established and functioning with little need for significant revision, as evidenced by the absence of new proclamations between the period from June 1963 until December 1965.

Beginning late in 1965, however, new elements began to creep into the administration of the program, as it was found that oil import control policy, in addition to the objectives which had prompted its original establishment, also affected other important economic and social objectives. Thus, a series of proclamations through 1970 were concerned increasingly with such matters as (1) granting special consideration to the construction of refinery capacity in Puerto Rico and the Virgin Islands; (2) allowing more imported feedstocks into petrochemical plants, whether or not owned by oil companies; and (3) using oil import control regulation for the increasingly popular

Table 13.--Chronology of the Mandatory Oil Import Program (MOIP), 1959-73

Phase of program	Presidential proclamations or Executive orders		
	Number	Date	Principal provisions
I. Establishment of the MOIP.	Proclamation 3279	Mar. 10, 1959	Established program with stated national security objective. Defined districts I-IV (east of Rocky Mountains) and V (west of Rockies) as domestic crude-surplus and crude-deficit areas, respectively. Imports into districts I-IV set at 9 percent of total demand, those into district V at amounts needed to satisfy demand above domestic supply. Gave Secretary of the Interior authority to issue regulations and establish Appeal Board, plus redelegation authority. Made first attempt to define crude, unfinished oils, and finished products. Allocated quotas to refiners.
	Proclamation 3290	Apr. 30, 1959	Excepted overland imports from quotas.
	Proclamation 3328	Dec. 10, 1959	Canadian imports for districts I-IV were includable for calculating allowable imports. Extended Appeals Board's authority to cover finished product imports in hardship cases.
	Proclamation 3386	Dec. 24, 1960	Increased flexibility of quota calculations on demand basis for each allocation period to allow variation of ⁺ 9 percent of gap between allocations and actual demand for districts I-IV.

Table 13.--Chronology of the Mandatory Oil Import Program (MOIP), 1959-73.--Continued

Phase of program	Presidential proclamations or Executive orders		
	Number	Date	Principal provisions
II. Implemenation and adjust- ment--Continued	Proclama- tion 3389	Jan. 17, 1961	Changed allocation system for resid- ual fuel oil to be used as fuel oil into district I (east coast), allocating between historical importers (1957 base) and importers/ distributors at deepwater terminal in district I .
	Executive Order 11051	Sept. 27, 1962	Involved Office of Emergency Planning (OEP) indirectly in MOIP on national security grounds and made Director of OEP chairman of Oil Policy Com- mittee to advise on further action.
	Proclama- tion 3509	Nov. 30, 1962	Changed districts I-IV quota from 9 percent of demand to 12.2 percent of production. Redefined crude oil and introduced natural gas products.
	Proclama- tion 4531	Apr. 19, 1963	Established the Appeals Board to con- sider petitions by persons affected by the regulations issued pursuant to sec. 3 of Proclamation 3531.
	Proclama- tion 3541	June 10, 1963	Amended Proclamation 3279 to shift basis of quota from historical basis to one based on estimated future production, as determined by Secretary of the Interior for districts I-IV.

Table 13.--Chronology of the Mandatory Oil Import Program (MOIP), 1959-73--Continued

Phase of program	Presidential proclamations or Executive orders		
	Number	Date	Principal provisions
III. Use of MOIP for expanded objectives.	: Proclama- : : tion 3693 :	: Dec. 10, 1965 :	: Extensively amended Proclamation 3279. : Authorized sliding-scale allocations : to chemical firms having petro- : chemical plants in all 5 districts. : Revised program for Puerto Rico to : permit greater crude imports to the : island as a means of stimulating : growth of Puerto Rican refining : capacity and economic development. : Restricted imports into Free Trade : Zones (FTZ).
	: Proclama- : : tion 3779 :	: Apr. 10, 1967 :	: Freed asphalt of import restrictions.
	: Proclama- : : tion 3794 :	: July 17, 1967 :	: Began system of bonus-quotas of crude : oil and unfinished oils for importers : that manufacture in the United States : residual fuel oil to be used as fuel : with a sulfur level acceptable to : the Secretary. Redefined residual : fuel oil, thus easing quota : restraints on the latter. Also : favored imports of low-sulfur fuel : oil.
	: Proclama- : : tion 3820 :	: Nov. 9, 1967 :	: Instituted exceptions for Virgin : Islands similar to those established : in Proclamation 3693 for Puerto Rico.
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
	:	:	:
:	:	:	

Table 13.--Chronology of the Mandatory Oil Import Program (MOIP), 1959-73.--Continued

Phase of program	Presidential proclamations or Executive orders		
	Number	Date	Principal provisions
III. Use of MOIP for expanded objectives--Continued	Proclamation 3823	Jan. 29, 1968	Broadened Puerto Rican programs. Also brought liquids produced from tar sands under the MOIP to control importation of tar sand crudes from Canada.
	Proclamation 3969	Mar. 10, 1970	Set fixed crude and unfinished oil quotas for Canada, to be chargeable to overall quotas for districts I-IV.
IV. Modifications necessary to meet the gap between domestic supply and demand.	Proclamation 3990	June 17, 1970	All concerned with progressive increases in or exemption from quotas for various products and crude oil imported from various areas.
	Proclamation 4018	Oct. 16, 1970	
	Proclamation 4025	Dec. 22, 1970	
	Proclamation 4092	Nov. 5, 1971	
	Proclamation 4099	Dec. 5, 1971	
	Proclamation 4133	May 11, 1972	
	Proclamation 4156	Sept. 18, 1972	
	Proclamation 4175	Dec. 16, 1972	
Proclamation 4178	Jan. 17, 1973		

Table 13.--Chronology of the Mandatory Oil Import Program (MOIP), 1959-73.--Continued

Phase of program	Presidential proclamations or Executive orders		
	Number	Date	Principal provisions
IV. Modifications necessary to meet the gap between domestic supply and demand--Continued	Executive Order 11703	Feb. 7, 1973	Reorganized Oil Policy Committee, replacing Director of OEP with Deputy Secretary of the Treasury as chairman.
	Proclamation 4202	Mar. 23, 1973	Broadened role of OIAB to handle growing numbers of requests for greater imports by easing criteria for allocations and removing limits on quota allocations allowable to OIAB.

objective of inducing shifts within the United States to imported low-sulfur, low-pollutant oils. Finally, the last years of the MOIP, after about mid-1970, saw a series of 11 proclamations which progressively debilitated the program in order to allow imports to keep up with burgeoning demand that domestic suppliers could not meet.

B. Chronology of the MOIP

1. Introduction.--The Mandatory Oil Import Program became increasingly complex with the passage of time. 1/ The attempt to regulate crude petroleum and petroleum product imports by a relatively rigid system led to special provisions and exceptions to the original basic program. 2/ These special provisions and exceptions resulted in a program more difficult to comprehend and administer; they also resulted in a degree of unfairness.

The MOIP tried to control the level of imports needed in a pragmatic way. Changes in the MOIP were made necessary by changing conditions. If a certain change in the program did not accomplish the desired result, another change was instituted and so forth until the desired result was obtained. 3/

1/ Warren F. Schwartz and Hugh M. Kindred, "American Regulation of Oil Imports: Law, Policy and Institutional Responsibility," Journal of World Trade Law vol. 5, May: June 1971, pp. 267, 274.

2/ Kenneth W. Dam, "Implementation of Import Quotas: The Case of Oil," Journal of Law and Economics, vol. 14, April 1971, pp. 1, 15.

3/ For example, Proclamation 3328 attempted to control Canadian imports by making free overland imports includable when calculating the quantity of imports allowed into district V. Inadequate results led to the application of this procedure to districts I-IV as well (Proclamation 3509). When this second attempt failed, quantitative controls were applied in 1970 to Canadian imports into districts I-IV (Proclamation 3969). A string of modifications followed which increased the Canadian quota to meet increasing demand (Proclamations 3990, 4018, 4025, 4092, 4099, 4133, and 4156).

Under the MOIP, a quota system of control, there were of necessity subprograms which controlled imports by source, type and use. 1/ Although these subprograms added complexity, they also instilled a degree of versatility necessary to a viable import control system.

According to some observers, the administration of the MOIP did not conform to fairness standards expected of administrative agencies because of understaffing, the lack of audits, and special exceptions to the program. 2/ Further, allegations have been made that the program failed to match procedures with the stated purpose--i.e., to protect national security in oil--thereby contravening the spirit, if not the letter, of the GATT and at a cost to consumers of more than the benefits provided. 3/

Applications for allotments have usually been acted on without providing an opportunity to the companies involved to participate in open hearings or without publishing formal opinions. Presidential proclamations and the implementing amendments to the MOIP regulations were complicated and often written "to obscure their underlying

1/ For example, by source--Canadian and Mexican quotas; by type--residual fuel oil; and by use--crude oil for use as fuel oil.

2/ Examples of special exceptions cited in footnote 1, p.55, footnote 2, p.62, and footnote 1, p.62.

3/ Note, "Debilitating Symbiosis: Taxation and Supply Regulation in the United States Oil Industry," Law and Policy in International Business, vol. 3, No. 2, 1971, pp. 388, 413, and Richard B. Mancke, "The Allocation of U.S. Oil Import Quotas," Journal of World Trade Law, vol. 6, September: October 1972, pp. 565,569.

purpose and even meaning." 1/ An example is the section on residual fuel oil imports into district I, which is lengthy and difficult and essentially provides that there is no limit on imports of residual fuel oil to be used as fuel oil. 2/ Many substantive changes in the MOIP have been made by proclamation, regulation, special exception, and allotments without notice, hearing, or publication of the formal opinion. 3/

In the following paragraphs the chronological history of the MOIP is outlined to show how the program has changed with each successive presidential proclamation.

2. Establishment of the MOIP.--Presidential Proclamation 3279, establishing the MOIP, was issued March 10, 1959, by the President's taking action pursuant to section 2 of the act of July 1, 1954, as

1/ U.S. Cabinet Task Force on Oil Import Control, The Oil Import Question, 1970, p. 118.

2/ Ibid., footnote 96.

3/ For example, consider Professor Dam's comments (Dam, op. cit., p. 40) on the Oil Import Appeals Board's procedures for granting special allocations:

Whatever the principles the Board might have used in deciding which applications to grant and which to deny, the opinions continued to be written in such general language that, with the expansion of the Board's allocative power, it could no longer be said that the Mandatory Program's principles of allocation were formally articulated in either regulations or reasoned decisions.

amended (72 Stat. 678, 19 U.S.C. 1352a), 1/ after the Director of the Office of Civil and Defense Mobilization advised him that crude oil and the principal crude oil derivatives and products were being imported in quantities and under circumstances that threatened to impair the national security. The Voluntary Oil Import Program established in 1957 had failed to control imports because (1) it was directed only to crude petroleum; (2) competition compelled the acquisition of imported crude petroleum if it were lower priced than domestic; and (3) there were no sanctions for violations. The MOIP, with its basic objective of national security, attempted to meet these shortcomings.

Two geographic areas were established for the 50 States--east of the Rocky Mountains (districts I-IV), in which there was substantial crude oil production capacity in excess of actual output, and west of the Rocky Mountains (district V), in which crude oil production was declining and in which, owing to the absence of any significant interarea flow of crude oil, limited imports were necessary to meet demand. Because of these differences, imports into each of the two areas were treated differently.

Puerto Rico was treated separately, with imports of the 1958 levels as a guideline. The Secretary of the Interior was given wide

1/ Repealed. Public Law 87-794, Title II, and sec. 257(f), Oct. 11, 1962, 76 Stat. 882. "Any action (including any investigation begun) under such section 2 [former section 13529 of this title] before the date of the enactment of this Act [Oct. 11, 1962] shall be considered as having been taken or begun under section 232 [1862 of this title]."

discretion as to the permissible level of imports into Puerto Rico. Puerto Rico was allowed imports of crude petroleum, unfinished oils, and finished products adequate for the purposes of local consumption, export to foreign areas, and limited shipment of finished products to the continental United States.

In districts I-IV, imports of crude petroleum, unfinished oils, and finished products were set at 9 percent of these districts' total demand as determined by the U.S. Bureau of Mines for a period fixed by the Secretary of the Interior. In district V, imports of crude petroleum, unfinished oils, and finished products were allowed which would, when combined with domestic production and supply, approximate district V demand. Imports of unfinished oil into all districts were not to exceed 10 percent of the permissible imports of crude petroleum and unfinished oils combined. Imports of finished products were fixed at the levels of imports into these districts in calendar year 1957.

Section 3 of the proclamation gave the Secretary of the Interior the authorization to issued regulations (Oil Import Regulations) implementing the proclamation and to establish an Appeal Board. 1/ To accomplish the objectives of Proclamation 3279, it also gave the

1/ Presidential Proclamation 3279 stated:

The Appeal Board may be empowered, on grounds of hardship, error, or other relevant special consideration, but within the limits of the maximum levels of imports established in section 2 of this proclamation (1) to modify any allocation made to any person under the regulations issued pursuant to section 3 of this proclamation, (2) to grant allocations of crude oil and unfinished oils in special circumstances to persons with importing histories who do not qualify for allocations or suspension of any allocation or license. The Secretary may provide that such decisions by the Appeal Board shall be final.

Secretary authority to delegate and provide for successive redelegation of the authority given him. Thus, the Secretary, those to whom he delegated, and those with a redelegation of authority received wide discretionary power for establishing and interpreting administrative procedures, because the presidential proclamations were written in relatively general terms, giving broad latitude for interpretation.

The proclamation also defined the three groups of products to be controlled, namely crude petroleum, unfinished oils, and finished products. The limiting of such imports by a quota system, when imports are below domestic production, immediately sets up a two-price system, 1/ with a valuable legal right to import created by the Government. It also presents the problem of how to allocate this valuable right, and attendant questions of equity. 2/ The right could be allocated to foreign governments, to foreign exporting firms, to the domestic government, or to domestic importing firms. Under the MOIP, the last option was chosen and further restricted so that allocations of imports of crude and unfinished oils went mainly to domestic refining companies. 3/ This limiting of the group eligible for allotments was, in the opinion of some commentators, due to the fact that refiners were well defined and essentially the only users of crude petroleum. 4/ Thus, allocations to refining companies gave to just one sector of the industry a valuable right or financial benefit which could be exchanged and had a dollar value.

1/ Dam op. cit., p. 2.

2/ Mancke, op. cit., pp. 566-567

3/ Allocations of imports of finished products could go to importers of finished products, not just to domestic refining companies. (Proclamation 3279, sec. 3(b)(4)).

4/ Dam, (op. cit., p. 16.)

One view of the reason for permitting exchange but not sale of quotas rests on the political undesirability of publicly acknowledging that import rights had a significant monetary value. ^{1/}

3. Implementation and adjustment.--On April 30, 1959, Proclamation 3290 amended Proclamation 3279 by allowing as exceptions to the permissible imports of crude petroleum, unfinished oils, and finished products transported into the United States by pipeline, rail, or other overland means. Given concern with the security of petroleum sources, the exclusion of imports from neighboring countries was difficult to rationalize since such imports are less susceptible to supply interruption. The proclamation also provided the Secretary with the power to authorize without license the imports of small quantities of crude petroleum, unfinished oils, and finished products. This action facilitated imports of samples and pilot-plant inputs needed for experimental or developmental purposes, besides which small quantities would have been disproportionately expensive to handle administratively.

Eight months later, on December 10, 1959, Proclamation 3328 was issued. It made free overland imports includable for calculating the quantity of imports to be allowed in district V, but not includable for districts I-IV. ^{2/} This was the first attempt to control imports

^{1/} Ibid. p. 26. See also Martin Lobel, "Red, White, Blue and Gold: The Oil Import Quotas," Washington Monthly, August 1970, p. 11.

^{2/} Most of the Canadian crude oil is produced in the western section of Canada, and most of the U.S. imports from Canada come into the western section of the United States.

from Canada. The proclamation also extended the authority of the Oil Import Appeals Board (OIAB) to include the granting of allocations of finished products on the grounds of exceptional hardship to persons who do not qualify for such allocations under the regulations.

On January 1, 1963, imports from Canada into districts I-IV also became includable for calculating allowable imports. ^{1/} As it turned out, neither attempt at controlling the quantity of imports from Canada was successful, as imports continued to grow. Thus, from 1959 to 1967 imports from Canada were exempt from the quota, and from 1967 to 1970 voluntary controls were in effect, which consisted of warnings to importing companies and negotiations with Canada on voluntary limits. Quantitative controls were applied in 1970.

Proclamation 3386 of December 24, 1960, added a provision allowing a variation to be added to the next quota of 9 percent of the amount by which the estimated total demand for the allocation period most recently ended fell short of or exceeded the actual total demand for that allocation period. This added some flexibility to the quota calculation and brought the calculation into greater alignment with the current situation.

On January 17, 1961, Proclamation 3389 was issued revising the system for allocating residual oil to be used as fuel imported into district I. It provided that allocations would go to those persons

^{1/} Control of Canadian imports into the western section of the United States merely served to divert them into the other sections.

who had been importers in 1957 (historical basis) 1/ and to persons who were in the business in district I of selling residual oil to be used as fuel and who had had inputs of residual oil to deep water terminals located in district I in relation to such terminal inputs. It also provided for the granting and adjustment of residual oil to be used as fuel imported into districts II-IV and V and into Puerto Rico. These were the first changes that applied to fuel oil to be used as a fuel. 2/

Twenty-two months later, on November 30, 1962, Proclamation 3509 changed the quota from 9 percent of demand to 12.2 percent of production in districts I-IV, which is defined as 12.2 percent of the difference between the quantity of crude oil and natural gas liquids produced in districts I-IV during the 6-month period ending 6 months prior to the allocation period and the quantity of imports allowed free overland. These imports were to be allocated by one of two means at the refiner's option: (1) the historical basis, which had been with the program from the beginning, and (2) the sliding scale,

1/ Historical basis refers to the method of allocation of imports under the MOIP quota system to those who had imported prior to the MOIP at the time of the Voluntary Oil Import Program and initially assured an allotment of 80 percent of the historical imports. The historical basis was administratively reduced to 70 percent by 1962. Proclamation 3509 announced the gradual reduction of the use of the historical basis, and Proclamation 4025 completely eliminated it.

2/ The fuel oil regulations have always been politically sensitive, possibly because the cost of the MOIP in this area was most visible to the consumer, since there are no taxes, such as the taxes for gasoline, and fuel oil competes with other energy forms, especially coal in district I. Control of fuel oil imports for home heating raises differences of opinion between consuming and producing States whenever prices rise or there is an impending winter shortage (Dam, op. cit., pp. 36-37).

which based allocations on a graduated input level. 1/ Crude oil was redefined, to include petroleum gases recovered as liquids under atmospheric pressure, and natural gas products were introduced under the MOIP.

Proclamation 3531 of April 19, 1963, omits a reference to section 2 of the MOIP, which established the maximum level of imports, while continuing the Board's authority to modify, grant, or review allocations. Commentators claim that this seemingly minor change broadens the authority of the Board. Initially, the OIAB had played a minor role, correcting errors and granting small hardship allocations. This expansion of the powers of the OIAB has increasingly led to its use as a relief valve for disputes which might force changes in the MOIP. The relief valve function has often been criticized by observers who feel that it is subject to

1/ The sliding-scale system, introduced in the MOIP and used as the basis for determining fee-free allocations under the new license fee program, is a method of allocation whereby the refiner's crude oil allocation varies with the size of total refinery input. The sliding scale contains four quantitative divisions, allocations made with it are marginal, and the smaller refiner benefits with a much larger proportional allocation than the larger refiners. For districts I-IV the following is applicable (Oil Import Reg. I (Revision 5), amendment 52, sec. 10(b), Feb. 6, 1973).

<u>Average barrels/day</u> <u>input</u>		<u>Percent of</u> <u>input</u>		<u>Number of days</u>
0-10,000		21.7		
10,000-30,000	x	13.0	x	365
30,000-100,000		7.6		
100,000 plus		3.8		

arbitrary application and objectionable because it is without accountability. 1/

On June 10, 1963, Proclamation 3541 changed the production basis of determining imports established in Proclamation 3509 from a historical one to a future one based on what the Secretary estimated would be produced during the allocation period. Natural gas liquids were also defined as natural gas products (previously defined in Proclamation 3509), as were other hydrocarbons such as isopentane, propane, butane, propylene, butylene, and mixtures thereof recovered from natural gas by means other than refining.

4. Use of MOIP for expanded objectives.--The MOIP operated without change over the 30-month period after Proclamation 3541. Proclamation 3693 of December 10, 1965, however, extensively amended Proclamation 3279 and is looked upon by many observers as the beginning of the use of the MOIP for purposes other than the control of imports to ensure national security. 2/ The Proclamation authorized allocations on a sliding scale to persons

1/ Dam, op. cit., pp. 38-40. See also "The Mandatory Oil Import Program: A Review of Present Regulations and Proposals for Change in the 1970's," Texas International Law Journal, vol. 7, spring 1972, pp. 373, 401-403.

2/ Dam, op. cit., pp. 15, 44 and "Mandatory Oil Import Program," supra, p. 384.

having petrochemical plants in districts I-IV and V in relation to inputs into such plants. 1/ The proclamation also provided for allocations of imports of crude petroleum and unfinished oils into Puerto Rico for use as feedstocks for facilities which were to be established or for the operation of facilities which were existent and which in the judgment of the Secretary would promote substantial expansion of employment in Puerto Rico. 2/ Imports of crude petroleum, unfinished oils,

1/ A persistent campaign by the chemical industry emphasizing the negative impact restricted access to foreign feedstock would have on its international trade was successful. The companies at first had unsuccessfully sought crude petroleum allocations on the grounds that they were being denied a competitive advantage that oil companies producing petrochemicals had. The very fact that both oil and chemical companies produce petrochemicals is one of the factors that made the petrochemical program the most complicated of the entire MOIP. A further complicating factor is that petrochemical plants usually do not use crude petroleum as a direct input; in the United States almost all crude petroleum and unfinished oils imported under the petrochemical program are exchanged for petrochemical feedstocks such as naphtha (Dam, op. cit. pp. 49-52. See also "New Heat Over Oil Quotas," Chemical Week, Oct. 8, 1966, pp. 25-27).

2/ Phillips Petroleum and the Department of the Interior reached a private agreement to the effect that in return for a substantial investment (around \$220 million over the project life) in Puerto Rico, Phillips would receive permission to import 50,000 barrels per day of crude petroleum from the Western Hemisphere into Puerto Rico and ship 248,000 barrels per day of gasoline to the U.S. mainland. This agreement, together with the proclamation, opened the door to other special allocations (Sun Oil, Union Carbide, Texaco, and Corco) given in Puerto Rico, which are continued today under Presidential Proclamation 4210 of Apr. 18, 1973. Essentially, the Government has direct control over anyone desiring to enter the Puerto Rican refining industry, for to be competitive a new entrant would need a comparable special allocation (Dam, op. cit., p. 45; "Mandatory Oil Import Program," supra, p. 385; Note, "Debilitating Symbiosis; Taxation and Supply Regulation in U.S. Oil Industry," supra, p. 415).

and finished products into free trade zones (FTZ) were restricted. 1/ Liquefied gases were redefined as hydrocarbon gases such as ethane, propane, propylene, butylene, and butanes (but not methane) recovered from natural gas or produced in refining which to remain a liquid at ambient temperatures must be kept under greater than atmospheric pressure. All of these modifications added new complexities to the program.

On April 10, 1967, Proclamation 3779 freed asphalt of restrictions, except those imposed by the Secretary. This was an exemption from the quota on finished products for an item needed in the United States where a low profit turned U.S. refiners away from its production. 2/

Proclamation 3794 of July 17, 1967, amended Proclamation 3279 to enhance the ability of the petroleum industry to provide adequate supplies of low-sulfur fuel oil, the MOIP now being used in part for

1/ There **was** considerable controversy over FTZ's, with those companies primarily in the petrochemical business favoring FTZ's, while those primarily in the oil business dissented. Secretary Udall was inclined to grant such FTZ requests, as a result of other administration officials' and industry's pressure to keep petrochemicals internationally competitive so as to maintain or improve the U.S. balance of trade (Dam, op. cit., pp. 47-48. See also "Mandatory Oil Import Program," supra, pp. 387-388, and "New Heat Over Oil Quotas," supra, pp. 25-27).

2/ Dam, op. cit., p. 4.

environmental purposes. 1/ Residual fuel oil was redefined as topped crude oil or viscous residuum or crude oil with a viscosity of not less than 45 Saybolt universal at 100° F. This definition now made it possible to consider No. 4 fuel oil as a residual fuel oil, thus exempting it from quota restriction and increasing the availability of needed residual fuel oil. 2/

Proclamation 3820 of November 9, 1967, established a special allocation system for the Virgin Islands, continuing the precedent of special concessions established by Proclamation 3693 for Puerto Rican development.3/ On January 29, 1968, Proclamation 3823 made

1/ This proclamation was first implemented in district V, where bonus allocations of crude petroleum were allowed on a barrel-for-barrel basis to refiners that manufactured low-sulfur fuel oil, whether from imported or domestic crude petroleum. Secretary of the Interior Udall commented that bonus quotas were to deal with "a serious and immediate air pollution problem in Los Angeles County." (*Ibid.*, p. 40.)

2/ In addition, it offered the possibility of importing without restriction, a fuel oil lower in sulfur content than previously exempted original residual fuel oils, which would aid pollution control efforts. As a general rule, No. 4 fuel oil has a lower sulfur content than the heavier residual fuel oils such as Nos. 5 and 6, which were included in the original definition of residual fuel oils.

3/ In this case, as opposed to the Phillip's arrangement in Puerto Rico, there was open lobbying and pressure by Leon Hess, founder and principal stockholder of Hess Oil. When Secretary Udall chose Hess Oil over Coastal States Gas, he indicated that he had made a final decision not to allow any additional refineries or petrochemical plants in the Virgin Islands in order "to protect and conserve the incomparable reefs and beaches which represent the finest asset of these beautiful but fragile islands." There were no published reports as to why Hess was chosen over Coastal States (Dam, op. cit., pp. 46-47. See also "Mandatory Oil Import Program," supra, pp. 386-387, and "Debilitating Symbiosis; Tahation and Supply Regulation in U.S. Oil Industry," supra, pp. 414-417).

the system of allocations of imports into Puerto Rico and shipments from Puerto Rico to districts I-IV applicable to district V. It also provided authority to make allocations of imports of crude oil and unfinished oils to persons having petrochemical plants in relation to the inputs or outputs of such plants. The Secretary was authorized to make adjustments necessitated by the Middle East crisis to reduce the effect upon the operation of the MOIP of supply interruption. As the Canadian tar sands project developed, imports of liquids derived from tar sands were included under the MOIP.

Over 2 years later, Proclamation 3969 of March 10, 1970, reflected the finding of the Cabinet Task Force on Oil Import Control that the then-existing overland import exemption in combination with a system of restrictions based on international agreements did not serve the national security interests and, in fact, led to inequities within the United States. 1/ The proclamation established a quota for crude petroleum and unfinished oils from Canada into districts I-IV of not more than 395,000 barrels per day from March 1, 1970, to December 31, 1970, and these imports were to be chargeable to the overall quota. The Secretary was to establish the maximum proportion that was to consist of unfinished oils.

1/ Presidential Proclamation 3969.

5. Modifications necessary to meet the gap between domestic supply and demand.--From 1970 until the program's end in 1973, the

MOIP was hard pressed to keep up with changes in U.S. supply and demand for crude petroleum and petroleum products. All 10 proclamations introduced during this short time span 1/ were principally directed at increasing U.S. supply of crude petroleum and particular products.

The first proclamation of this series, Proclamation 3990 of June 17, 1970, increased the quota from Canada by 100,000 barrels per day and allowed the importation into district I of an additional 40,000 barrels per day of No. 2 fuel oil. On October 16, 1970, Proclamation 4018 made seven changes in Proclamation 3279, all intended to increase supplies of crude petroleum, unfinished oils, and finished products. It allowed for (1) the importation from Western Hemisphere sources into district I without charge to import quotas of 14.6 million barrels of No. 2 fuel oil during the period January 1 to December 31, 1971, for allocation to independent deep-water-terminal operators under appropriate seasonal restrictions; (2) the importation of Canadian crude petroleum, unfinished oils, and finished products produced in Canada from Canadian crude petroleum by vessels operating on waterways other than ocean waterways; (3) the importation other than by sea of Canadian natural gas liquids

1/ Over the MOIP's prior history, from 1959 to 1970, a total of 14 proclamations had been released.

produced in Canada; (4) increased importation of ethane, propane, and butane derived from Western Hemisphere sources; (5) the importation into district I of crude petroleum to be topped as burner fuel; (6) the importation of Canadian crude petroleum into all districts to be topped for use as burner fuel; and (7) the importation of any crude petroleum regardless of viscosity for use as a burner fuel.

Proclamation 4025 of December 22, 1970, further increased imports, including the Canadian component, into districts I-IV by 100,000 barrels per day for 1971. It also freed all import allocations from historical limitations, making the sliding scale the only allocation formula. This proclamation authorized Mexican imports of quantities to be arrived at by annual discussions between the two Governments. 1/

1/ The "Brownsville Loop" was closed by establishing for Mexico a country-of-origin quota of 30,000 barrels per day of crude oil, unfinished oils, and finished products. The overland exemption for imports from Mexico never proved as troublesome as the Canadian exemption, because there was no pipeline between Mexican-producing and U.S.-consuming areas. The problem was not so much a concern with the quantity entering the United States as with finding a way to include any Mexican imports at all under this overland exemption. The "Brownsville Loop" solution, a tribute to American ingenuity, was to ship Mexican oil by tanker to Brownsville, Tex., where it went into bond. Thereafter, it was loaded on a tank truck, driven across the border, and brought back immediately so as to qualify as an overland shipment. The oil was then shipped to the U.S. east coast for consumption (Dam, op. cit., p. 35).

On November 5, 1971, Proclamation 4092 extended indefinitely the provision permitting the importation of No. 2 fuel oil into district I, heretofore granted only by specific periods. To further increase the availability of No. 2 fuel oil, allocation holders were allowed to receive shipments from Puerto Rico, and the requirement that such No. 2 fuel oil be manufactured in the Western Hemisphere from crude petroleum in that Hemisphere was suspended.

One month later, Proclamation 4099 increased Canadian imports from 450,000 barrels per day to 540,000 barrels per day into districts I-IV and increased total imports from 960,000 barrels per day to 965,000 barrels per day. On May 11, 1972, Proclamation 4133 further increased imports from Canada into districts I-IV from 540,000 barrels per day to 570,000 barrels per day and total imports from 965,000 barrels per day to 1,165,000 barrels per day.

On September 18, 1972, Proclamation 4156 was issued on the basis that changes in the supply and demand for crude petroleum and its derivatives had been occurring rapidly and additional flexibility was needed for the orderly administration of Proclamation 3279. This flexibility was added by making it possible for allocation holders to import up to 10 percent more of their allocation made up to September 1, 1972, for the balance of the year, such excess allocations to be deducted from the 1973 allocations. For the period January 1, 1972, through December 31, 1972, an additional 5,000 barrels per day of No. 2 fuel oil could be imported.

Proclamation 4175 of December 13, 1972, provided interim allocations 1/ for the allocation period commencing January 1, 1973. The Secretary was also authorized to develop programs for finished product imports from the Virgin Islands and Puerto Rico to satisfy occasional shortages of certain finished products. One month later Proclamation 4178 increased imports from Canada into districts I-IV from 570,000 barrels per day to 675,000 barrels per day and total imports from 1,165,000 barrels per day to 2,025,000 barrels per day. Owing to the temporary shortage of No. 2 fuel oil, quotas were suspended for the period January 1, 1973, to April 30, 1973. Initial hydrocarbons produced from gilsonite, and oil shale were included in the oil import definition of crude petroleum. On March 23, 1973, Proclamation 4202 broadened the power of the OIAB by lifting the quota on the quantity of allocations that it could award, to handle the many petitions before it for relief. 2/

1/ Presidential Proclamation 4175 states that at the time of issuance the Director of the Office of Emergency Preparedness, with the advice of the Oil Policy Committee, had under consideration a number of substantial proposals relating to the management of the Oil Import Program under Proclamation 3279 and, pending final decision, he recommended that the Secretary of the Interior be delegated authority to provide interim allocations for the period commencing Jan. 1, 1973.

2/ It was also authorized to make allocations of imports of crude petroleum and unfinished oils to those with importing histories who could not qualify for allocations under normal circumstances and allocations for finished products on grounds of exceptional hardship to those who could not qualify normally.

The President's Energy Message of April 18, 1973, included a section on oil imports that provided the basis of Proclamation 4210 of the same date, which closed out the MOIP. The message stated that the MOIP was established at a time when the United States could produce more crude petroleum at home than it could use. A quota system restricted imports, thereby encouraging the development of the domestic petroleum industry, which was considered necessary to national security. It stated, however, that at present the United States situation had changed in that it was using more oil than it was producing.

C. Chronology of the new program

Proclamation 4210, effective May 1, 1973, suspended the tariffs on imports of crude petroleum and petroleum products (schedule 4, pt. 10) through 1980 and instituted the license-fee system as the replacement for the quota system. To accomplish this, Proclamation 4210 provides for a transition period of programmed steps which periodically increase the fees and decrease the quantity of allocations not subject to the fees. The goal of Proclamation 4210 is to "increase the capacity of domestic refineries and petrochemical plants to meet requirements; and to encourage investment, exploration, and development necessary to assure such growth."

Although Proclamation 4210 made the most sweeping changes yet in the oil import program, it perpetuated some of the difficulties that arose between March 10, 1959, and April 18, 1973. The special

concessions to Phillips, Corco, Sun, Union Carbide, and Amerada-Hess for the development of Puerto Rico and the Virgin Islands are included as "long-term allocations." These companies continue in a favored position vis-a-vis all others.

Two months later, Presidential Proclamation 4227 of June 19, 1973, was issued to revise certain definitions, fill in omissions, and add provisions to Proclamation 4210. It continued the MOIP's preferential treatment for U.S. territories (American Samoa, Guam, Virgin Islands) and free-trade zones by allowing products to enter the United States from these areas overland or by U.S. flag vessels at fees applicable to feedstock and then returning the fees to the territorial governments. Producers in these areas can have the competitive advantage of a lower fee relative to foreign producers on products moved to the United States; this fee is then returned not to the producer but to the territory in which the producer's plant is located. Proclamation 4227 also accords preferential treatment to motor gasoline and other finished products from Canada by reducing the initial fees to zero until May 1, 1974, and then gradually increasing them to the maximum by 1980, while for other countries the maximum fee is reached by 1975.

The following is a breakdown of the three major aspects of the new program:

1. The license fee.--Anyone in the 50 states and Puerto Rico can obtain a license to import any quantity of crude oil, unfinished oils, and finished products if the proper procedures are followed. A request for the license is submitted to the Director of the Office of Oil and Gas (OOG) of the Department of the Interior, who automatically issues a license good for 6 months if the request is accompanied by the required payment. Payment must be by certified or cashier's check made payable to the Treasurer of the United States or by a bond with a proper surety. The amount of payment is the product of the rate per barrel, as set out in Proclamations 4210 and 4227, and the number of barrels to be imported. All moneys received for licenses are held by the Secretary of the Interior in a suspense account. Separate licenses are issued for crude oil, motor gasoline, and all other petroleum imports.

If the license is not fully used, the license holder may file an application with the Director of OOG for a refund of that part of the fee applicable to the unused portion of the license. The program also provides for refunds of license fees upon the exportation of petrochemicals, finished products, and asphalt (as defined in the regulations) produced from imported feedstocks.

Although the proclamations delegate administration of the program to the Secretary of the Interior, use of the provisions for redelegation has placed management with the Director of OOG. Note that where a duty is administered by the U.S. Customs Service of the Department of the Treasury, the new oil import program creates a

separate unit within the Department of the Interior for administering the license fees.

2. The fee-free allocations.--Proclamation 4210 establishes as license-fee exempt approximately the same level of imports of crude and unfinished oils as were being imported at the initiation of the program. These fee-free licenses are issued by the Director of OOG on a sliding-scale basis to those persons who had allocations under the MOIP in districts I-IV and V, and Puerto Rico. Proclamation 4227 extends the scope of fee-free allotments to Samoa, Guam, the Virgin Islands, and foreign trade zones. The program also allows for regulations which permit a sharing in the fee-free allocations by those with new, expanded, or reactivated refinery capacity. The total quantity of imports not subject to a license is programmed to decrease annually until 1980, when fee-free allocations are to be completely phased out.

3. The Oil Import Appeals Board.--The role of the appeals Board under the new program is to consider petitions by persons affected by the regulations issued pursuant to the proclamations. The Board is comprised of a representative each from the Departments of the Interior, Justice, and Commerce.

The Board was empowered by Proclamation 4210 to correct errors in allocations, to grant modifications in allocations on the grounds of exceptional hardship or special circumstances, and to review the revocation or suspension of any allocation or license. Proclamation

4227 extends the Board's authority so that it can review the denial for refunds of fees by the Secretary of the Interior and grant refunds of fees paid for which a fee-free allocation was subsequently made. The Board's tenure terminates in 1980.

D. Problems of the MOIP and the present control program

Within the phased metamorphosis of the MOIP, a number of problems arose and persisted, most of which continue under the new license-fee system. In addition, the new system carries with it new and different problems. The following section considers the problems of the MOIP and contrasts those problems with the difficulties of the new program. The four major areas to be treated are (1) problems of product definition, (2) basis for quotas and their allocation, (3) treatment of overland versus overwater imports; and (4) application of controls to imports into territories and possessions.

During the course of the MOIP, despite claims of unfairness, no one was moved to question formally the constitutional validity of the methods of import control. This does not suggest, however, that validity is a foregone conclusion. Therefore, in the last part of this chapter, legal issues raised by the new program will be considered.

1. Problems of product definition.--The role of product definition in a control scheme is crucial because, under any set of rules, changes in definition can alter the degree of restriction as surely as changes in the rules themselves. The problem is further compounded

when, as for oil products, changes in the definition may alter the treatment of both a product directly at issue and other products for which the change may or may not have been intended.

The original proclamation of the MOIP was concerned with three groups of products briefly described as follows:

Crude oil--crude petroleum as it is produced at the well-head;

Finished products--any one or more of the following petroleum oils, or a mixture or combination of such oils, which are to be used without further processing except blending by mechanical means: Liquefied gases, gasoline, jet fuel, naphtha, fuel oil, lubricating oil, residual fuel oil, and asphalt (each separately defined, but not necessarily mutually exclusive).

Unfinished oils--one or more of the petroleum oils listed under finished products, or a mixture or combination of such oils, which are to be further processed other than by blending by mechanical means.

The definition of certain products was changed under the MOIP by numerous proclamations. Some of the new definitions clarified the original language without significantly changing the coverage. Others changed the coverage of certain products significantly and confused statistical continuity.

The definition of crude oil was revised in 1962 (Proclamation 3509) to include those hydrocarbons which exist as gases in a reservoir and are recovered as liquids under atmospheric conditions (excluding natural gas products). Such hydrocarbons may be regarded as coproducts of crude oil. The definition was further revised to include the initial liquid hydrocarbons produced from tar sands in

1968 (Proclamation 3823) and from gilsonite and oil shale in 1973 (Proclamation 4178). The definition of crude oil in Proclamation 4210 was consistent with these revisions. Tar sands are under development as a source of hydrocarbons in Canada, and gilsonite is still in the experimental stage. Oil shale is being studied as a source of hydrocarbons in the United States. The costs of extraction from these sources are presently significantly greater than those of extracting crude oil, so that commercial importance is limited at the present time. These sources have the advantage, however, of being present in large quantities in the United States and the rest of the Western Hemisphere. Since commercial realization would decrease U.S. dependence on the Middle East as a source of crude oil imports, protection of domestic output from these sources could be construed as a valid long-term policy objective.

Proclamation 4210 also was concerned with three groups of products briefly described as follows:

Crude oil--defined as before.

Finished products--any one or more of the following to be used without further processing (as described): Liquefied gases, gasoline, kerosene, distillate fuel oil, residual fuel oil, asphalt, lubricating oils, and natural gas products.

Unfinished oils--one or more of the listed finished products (except residual fuel oil, asphalt, and lubricating oils) which are to be further processed as described.

A primary distinction between finished products and unfinished oils was made under the MOIP, although the same product might be

imported under either provision. The distinction was continued by Proclamation 4210, which renamed the finished products and described the processes that an unfinished oil had to undergo. A problem then arises from the possibility that the product may be sold by the importer to a purchaser that uses it for a purpose other than the one originally intended.

Many finished products and unfinished oils were gradually redefined by MOIP, and several were completely changed in 1973 by Proclamation 4210. "Liquefied gases" were redefined three times in order to explain that certain specified hydrocarbons containing two, three, or four carbons were covered if liquefied or liquefiable. "Asphalt" was redefined in 1973, but the coverage was about the same as before.

Gasoline, jet fuel, and other motor fuels have been defined in various ways, and the product coverage is substantially different by each definition. "Gasoline" is defined by actual use under the original MOIP and by boiling range under Proclamation 4210.

Fuel oils have been classified by use, by derivation, and by physical measurements, such as viscosity, specific gravity, and boiling range. The product coverage is substantially different by each classification. Under the original MOIP, "fuel oil" was described by use, and "residual fuel oil" was described by viscosity. Fuel oil was not redefined until 1973, when Proclamation 4210 introduced the classification for "distillate fuel oils," which was described by boiling range rather than use. On the other hand, residual fuel oil

was redefined several times. The coverage of residual fuel oil was expanded in 1967 by Proclamation 3794, which lowered the viscosity (Saybolt Universal at 100° F) from not less than 145 seconds to not less than 45 seconds and specified the use as fuel without further processing (except mechanical). This action helped to increase U.S. supplies of imported low-sulfur No. 4 fuel oil. The coverage of residual fuel oil was further expanded in 1970 to include crude oil for use as fuel (Proclamation 4018). Under Proclamation 4210, the distinction between distillate fuel oil and residual fuel oil is not that the former is obtained by distillation and the latter as a residue, nor is it based on the boiling range. Instead, the distinction is based on viscosity and use. A product with a viscosity of not less than 45 seconds Saybolt Universal at 100° F is classifiable as a residual fuel oil if it is to be used as fuel without further processing other than by mechanical blending; the same product is classifiable as a distillate fuel oil if it is to be otherwise used. The TSUS, on the other hand, does not separate fuel oils but includes them with crude and topped crude petroleum and then subdivides the group according to API gravity. The TSUSA further subdivides by viscosity.

A new guideline for product nomenclature introduced by Proclamation 4210 was the use of boiling ranges for classification, as follows:

<u>Product</u>	<u>Boiling range at atmospheric pressure (°F)</u>
Gasoline-----	80-400
Kerosene-----	400-550
Distillate fuel oil-----	550-1200

The method of measuring the boiling range was not described at the same time, however, and several questions were left unanswered. For example, if half of a product boils below 400° F and half boils over 400° F is it a gasoline or kerosene? The boiling range provisions also included certain benzenoid hydrocarbons which had not previously been covered by MOIP.

2. Bases for quotas and allocations.--A control program's scheme for allocation quotas--which are valuable and give an advantage to their holders--clearly affects its impact. Quota allocations based on historical import shares tend to perpetuate historical situations and industry structures, while those based on shares of current use favor newcomers at the expense of oldtimers. Those based on regional classifications promote imports into some regions at the expense of others. A "graduated scale" scheme, which can start with any of these three bases, overlays a system of administratively determined proportional allocations for each recipient onto the original allocation bases; it can favor small users at the expense of large ones, or vice versa, depending on the administrator's judgment.

These problems point toward a fundamental issue in all quota control systems, that of "fairness" or "equity" toward the citizens

controlled. The MOIP has been severely criticized on exactly these grounds, but the critics rarely define what they mean by either term. The difficulty is that claimants' perceptions of "equity" differ when they are interested parties. In such situations, the administrator becomes a judge; the losing party is likely to become another critic, and the winner gains a vested interest.

One of the primary features of the MOIP was its preservation of import allocation rights for inland refiners which had little use for imported crude needing costly overland transshipment. Consequently, the MOIP rules provided that such refiners could assign their import rights to coastal refiners, for the consideration of consignments of domestic crude by the latter, at special prices. This system permitted coastal refiners to increase their feedstocks of imported crude beyond their quota allocations. As an interference with the MOIP's general prohibition of wholesale quota-dealing, this exchange mechanism was justified as a means for permitting inland refiners to participate in the financial gains which the quota system established, since imported crude was always available (and therefore attractive) at a lower price than domestic crude. ^{1/} Under such two-price systems, import rights have a value exceeding the cost of imports, and there may be as much incentive to sell the rights as to use the imports.

^{1/} In 1973 this situation changed (see p. 41) and fundamentally altered the position of inland refiners which, because the import price was at or above the domestic one, found themselves holding "import tickets" of little exchange value.

Under the original proclamation the maximum levels of authorized imports (quotas) were established in different ways, according to product and area. The level of imports in 1957 was used as the quota base for residual fuel oil into districts I-IV. The level of imports in 1958 was used as the quota base for all products into Puerto Rico. Demand was used as the base for most other quotas and was to be estimated by the U.S. Bureau of Mines for periods fixed by the Secretary of the Interior. Within the maximum levels, limits were further set for the respective shares of crude oil, unfinished oils, and finished products. In 1962 the quota for imports into districts I-IV was related to domestic production for a preceding 6-month period (Proclamation 3509), and in 1963 the level was related to current domestic production (Proclamation 3541). The Secretary of the Interior was authorized to issue licenses and allocations to persons 1/ for the importation of crude oil, unfinished oils, and finished products and to provide appropriate restrictions for the transfer of such licenses and transfers.

Under the original proclamation, allocations of crude oil and unfinished oils were related to refinery inputs in selected periods; allocations of finished products were made to importers of such products during specified periods; and allocations of crude oil for use

1/ A person was defined as an individual, a corporation, firm, or other business organization or legal entity, and an agency of a State, territorial, or local government, but was not to include a department, establishment, or agency of the United States.

as fuel were provided for refiners and pipeline companies unable to obtain domestic crude. Such allocations could be modified by the appeal board on grounds of hardship, error, or other relevant special considerations, provided that such modifications were within the limits of the maximum levels.

The coverage of the original allocations was extended to include exceptional hardship cases in 1959 (Proclamation 3328) and sellers of residual fuel for use as fuel in district I (east coast) in 1961 (Proclamation 3389). The historical basis for allocations was modified in 1962 by an introduction of a graduated scale which gave smaller refiners larger proportional allocations in order to maintain their competitiveness (Proclamation 3509). ^{1/} The coverage was further extended in 1965 to include a graduated scale for petrochemical plants (Proclamation 3693). Historical limitations were completely removed in 1970 (Proclamation 4025).

3. Overland versus overwater imports.--On national security grounds, it may be argued that overland shipments, especially from Canada, are considerably more secure than domestic shipments via the coastwise tanker trade between the gulf and east coasts. However, control problems arise when oil shipped from Canada and Mexico can enter more cheaply than domestic oil can be produced, thereby upsetting the objective of protecting domestic producing interests. Still more difficulty arises from the existence of a number of domestic

^{1/} Note that the graduated scale was present to a lesser extent from the beginning of the MOIP, but this was the first reference to it in a proclamation.

refineries strung far from domestic crude sources across the U.S. northern tier of States. These refineries were built to make economic use of Canadian crude and could be seriously disadvantaged by any denial of that crude. Faced with these conflicting policy problems, the MOIP witnessed a steady stream of modifications aimed at overland imports.

Less than 2 months after the establishment of the MOIP in 1959, imports of crude oil, unfinished oils, and finished products by pipeline, rail, or other overland means were exempted from quota (by Proclamation 3290). Those used for U.S. refinery feed, however, were excluded in calculation ^{of} refinery inputs in the allocation of quotas.

Free overland imports were made includable for purposes of calculating the total quantity of imports allowed into district V in 1959 (Proclamation 3328), since almost all of the Canadian crude oil production is in western Canada, and into districts I-IV in 1963 (Proclamation 3509), in a further effort to control Canadian imports. Although Canadian imports were included in total imports under quota from 1959 to 1967, they were not otherwise limited. As imports from Canada increased without a specified quota, the specified quotas on imports from other sources were, of necessity, reduced. The demand for U.S. production as estimated by the Bureau of Mines for allocation purposes also decreased. In response to complaints from other exporting nations and U.S. producers, Canadian imports in 1967 were

made subject to voluntary controls, such as warnings to importing companies and governmental negotiations on voluntary limits.

The voluntary controls were generally ineffective, and the Cabinet Task Force on Oil Import Control in 1970 found that the exemptions for overland imports in combination with restrictions based on international agreements did not serve the national security interests and led to inequities within the United States. On March 10, 1970, Proclamation 3969, reflecting the finding of the task force, established a quota for crude petroleum and unfinished oils from Canada into districts I-IV of not more than 395,000 barrels per day, these imports to be chargeable to the overall quota. The Canadian quota was equivalent to 30 percent of the total imports in 1970 and reflected the approximate share of Canadian imports in 1966. In 1969, imports from Canada had reached 550,000 barrels per day, or 39 percent of total U.S. imports. After 1970 the quotas on both Canadian and total imports were raised progressively, but Canada's share of the total declined as the share of the other countries increased. Proclamation 4178 on January 17, 1973, increased the Canadian quota into districts I-IV to 675,000 barrels per day (equivalent to 33 percent of the total quota into these districts). In 1970 the provisions for overland imports were enlarged to include imports by vessels operating on waterways other than an ocean (Proclamation 4018).

Overland imports from Mexico have been substantially smaller than those from Canada. Prior to Proclamation 4025 in December 1970, the "Brownsville Loop" existed, wherein substantial quantities of Mexican oil were shipped by tanker to Brownsville, Tex., entered into bond, and driven by truck across the border and back again, thereby qualifying as an overland shipment for quota purposes. The petroleum was subsequently returned to a tanker for shipment to the east coast. Proclamation 4025 established a country of origin quota of 30,000 barrels a day for Mexico.

Proclamation 4210 established a limit on fee-free imports from Canada and Mexico. The limit on imports from Canada, however, is nearly double the quota set under the last proclamation of the MOIP. This suggests a program recognition of Canada as a secure source of petroleum imports. The Mexican import quota has increased slightly, but Mexico does not have the export resources of Canada. With regard to both countries, if a person pays the requisite fees on imports above the fee-free allocation, the quantity which can be imported is unlimited.

The level of fee-free imports from Canada set by Proclamation 4210 remains the same under Proclamation 4227; however, finished products are no longer includable within the fee-free allotments. A special fee schedule has been set up for Canada which allows fee-free imports of motor gasoline and finished products through May 1, 1974. Thereafter, there is to be a gradual fee imposition on motor

gasoline and finished products which increases at a lower rate than the fee on imports from other countries. In 1980 the Canadian fee level is to equal the 1975 fee level for other countries, that level remaining the same after 1975.

4. Territories and possessions.--Import controls must deal with special regulations for possessions and territories and foreign-trade zones. In the MOIP, however, treatment of territories and possessions eventually became less a matter of keeping excessive imports out than one of allowing larger imports in. Puerto Rico and the Virgin Islands were consistently given special consideration in import controls. For both territories the policy objective sought was economic development. A "special deal" was given to one or more companies undertaking to spend enormous sums on construction, in return for (1) higher allocations of imported crude, which had to be carved out of other importers' total allocations, and (2) rights to ship refined products to the continental United States without penalty. In such situations, complaints based on "equity" considerations are virtually inevitable, and it is by no means clear where justice of treatment lies.

Under the MOIP, the obligations that went with the special concessions in Puerto Rico and the Virgin Islands included payment to a "conservation fund" of \$0.50 per barrel of crude oil allocation. 1/

1/ Dam, op. cit., p. 47.

Proclamation 4210 continued the special arrangements--for Puerto Rico, for imports of crude oil and unfinished oils into the island, and for the Virgin Islands, for imports of finished products for districts I-IV. The new program makes no mention of the "conservation fund," nor did the MOIP proclamations. Proclamation 4210 established return of the license fee collected to the territorial government for imports into Puerto Rico and established fee-free allotments into Puerto Rico of 227,221 barrels per day (which does not include the "special deal" allocations). The Tariff Commission believes that this refund of fees may be a substitute for the "conservation fund fee," but the Commission has no way of knowing for sure. Proclamation 4227 accorded to American Samoa, Guam, and the Virgin Islands, and foreign-trade zones similar refund of the fees paid on imports into the customs territories of the United States. These areas pay fees at the rate applicable to the feedstock rather than the products, if shipped overland or in vessels of U.S. registry.

5. The persistence of problems under the present system based on license fees.--Proclamation 4210 of April 1973 instituted a change from the quota system to a system in which imports will be controlled by fees charged on import licenses. In the system's early years it will bear some resemblance to the MOIP. Moreover, its proclaimed shape will change with subsequent modifications. Substantial alterations have already been introduced by Proclamation 4227, which closely followed Proclamation 4210 on June 19, 1973.

As now established, the new program has two main features:

- (1) It provides for implementation of a fee system. It includes fee-free allotments to some importers corresponding to the quota allotments under the MOIP. As the allotments are progressively reduced with time, all imports will become subject to a license fee by 1980. The license fees will increase with time. 1/
- (2) Its provisions are flexible enough to provide for short-term bulges in imports to meet demand, but the fee schedule is intended to establish long-term incentives for domestic exploration and production of crude oil, as well as expansion of domestic refinery capacity.

The new program can also be described in terms of its differences from the old MOIP--although some of these differences will become real ones only after the passage of time. A description in these terms also helps to highlight some of the problems inherent in the new program as well as its predecessor. Among the prominent differences are these:

- (1) Imports are now available to any person or entity willing to pay the license fee. Under the MOIP the possession of an administratively determined quota allocation was the sine qua non for permission to import;
- (2) Under the MOIP, quotas effectively increased with time. Under the new system, fee-free allotments will decrease with time;
- (3) Product definitions have been expanded and an attempt has been made to make them more workable;
- (4) The OIAB has been charged with the major responsibility for alleviation of the supply problem (especially in the short run) of the established independent refining segment of the petroleum industry. The OIAB saw its authority expand considerably over the history of the MOIP. Its present responsibilities hasten this trend;
- (5) Petrochemicals are accorded more advantageous treatment. Fees collected on imports of crude oils and unfinished oils will be refunded

1/ For the fee schedules, see footnotes 1 and 2 on p. 94 .

to the extent that they are incorporated in exports of petrochemicals, finished products, or asphalt. Also, a petrochemical import-for-export program existing under MOIP has been expanded by increasing the number of eligible exports;

(6) The fee system also has what amounts to a drawback system for fees, which is an established element of tariff structures; in the absence of quota, it should become more important than the standard drawbacks allowed under MOIP's;

(7) Those having refining capacity in American Samoa, Guam, the Virgin Islands, and Free Trade Zones are treated no less favorably than those with refining capacity in the customs territory of the United States. Also, imports of unfinished oils and finished products from these areas will pay the fees applicable to the feedstocks from which they were derived;

(8) Canada and Mexico are singled out for country-of-origin limits on fee-free allotments. Imports from Mexico of crude, unfinished, and finished oil products are limited to 32,500 barrels per day. Crude and unfinished oil imports from Canada into district V are limited to 280,000 barrels per day and into districts I-IV to 960,000 barrels per day. Motor gasoline and finished products from Canada are also accorded preferential treatment;

(9) Finally, to relieve shortages, an MOIP requirement that 50,000 barrels per day of No. 2 fuel oil allowed into district I be produced in the Western Hemisphere is suspended.

The particulars cited above help to illustrate how the new program deals with the four main problem areas discussed at length in the preceding section of this chapter. For example, the problems of product definition remain. Similarly, the allocation problems of the previous system have not disappeared, because as long as any fee-free allotments persist during the long phaseout period, old or new allocation formulas will leave at least some parties advantaged at others' expense. Moreover, the long history of the MOIP, with its equally long history of allocation decisions, has created a certain import structure which, in turn, has influenced the structure of the domestic

oil industry, especially at the refining and distribution end. As the new scheme develops, with imports available to all comers, including "upstarts," some former holders of relatively large allocations under the MOIP will perceive themselves to be hurt. Critics of the old MOIP will consider such developments as a healthy purge of vested interests. Supporters will claim injury as an unfair penalty for having scrupulously responded to official signals in the past.

The special quotas established for Canada and Mexico clearly illustrate the difficulties classed above under "overland versus overwater imports." As long as Canadian and Mexican oils remain cheaper than domestic ones, such problems will have to be dealt with, unless the public policy objective of protecting the domestic oil industry is abandoned.

Finally, special treatment of offshore geographical entities remains as an inherited conundrum. Until the elements of MOIP are fully phased out, the effects of the "special deals" for Puerto Rico and the Virgin Islands, particularly their benefits to the few companies that have undertaken to build refineries in these areas, will persist. Moreover, the new program establishes new "special deals" for Canadian source motor gasoline and other finished products, which now adds Canada to the preexistent complications.

Although it was mentioned only in passing in the previous discussion of the MOIP, the issue of complexity compounded by fragmentation of the administrative machinery remains at least as relevant in

the new program. The fee-scheme inherits many of the complexities of the previous system and, as would be true with any new system, adds a new class of regulations connected with the new program. Moreover, Proclamations 4210 and 4227 have moved only partially to streamline the administrative machinery, still shared by the Departments of the Interior and the Treasury, partly through and partly beside the OOG (Office of Oil and Gas), the OPC (Oil Policy Committee), the OIAB, the National Energy Office, and the Special Committee on Energy. The steady expansion of OIAB's authority as an instrument for dealing flexibly with current problems will probably have to continue.

In summary, the new license-fee system carries forward many of the problems which affected the operation of the MOIP, although it is fairly clear that at least some of these problems may fade in importance as the elements comparable to the MOIP are progressively removed. Questions of equity both in connection with fee-free allocations and special treatment for offshore refiners in territories and possessions may have the best prospects for emphasis.

Several legal questions, however, require extended discussion in relation to the new program. There are two primary areas of concern--first, whether the license fee is comparable in law to a tariff, and, if so, whether it conforms to the requirements in U.S. law for the operation of a tariff; and second, whether the new system conforms with U.S. obligations under the GATT. These legal questions are considered in the following section.

E. Legal issues raised by the new program

1. Legal nature of the license fee under U.S. law.--Presidential Proclamation 4210 introduces a new term into the vocabulary of the United States oil import program--"license fee." A mechanism is best understood by considering its incidence. An examination of the license fee in its full context reveals a correspondence with the incidences of a familiar tool of economic control--the duty.

Proclamation 4210 modifies the oil import program of Proclamation 3279 by "immediately suspending tariffs on imports of petroleum . . . and by shifting to a system whereby fees for licenses covering such imports shall be charged and whereby such fees may be adjusted from time to time" The nature of a law "making an exaction for purposes of revenue depends upon its operation and effect, and not upon the form it may be made to assume." (License Tax Cases, 72 U.S. 462 (5 Wall. 1866)). In Cooley v. Board of Wardens of Port of Philadelphia, 53 U.S. 298, 334 (12 How. 1851), the court said:

It cannot be denied that a tonnage-duty, or an impost on imports or exports, may be levied under the name of pilot-dues or penalties; and it certainly is the thing, and not the name, which is to be considered.

Thus, to call a charge a license fee does not necessarily make it so.

A duty is a tax imposed upon or by reason of importation. Originally imposed to raise revenue, today's duties are generally protective in purpose. Such regulatory intent comes within the scope of article I, section 8, clause 3 of the Constitution: Congress shall

have power to "regulate commerce with foreign nations, and among the several States, and with the Indian tribes." In Gibbons v. Ogden, 22 U.S. 1 (9 Wheat. 1824), Chief Justice Marshall said: "This power . . . acknowledges no limitations, other than are prescribed in the Constitution." The laying of duties is "a common means of executing the power." 1/ When duties are invoked, article I, section 8, clause 1 comes into play: 2/

The Congress shall have power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts and excises shall be uniform throughout the United States.

Therefore, the imposition of duties subjects Congress to the uniformity requirement.

Congress delegated to the President some of its commerce regulatory power by enacting section 232 of the Trade Expansion Act of 1962 (19 U.S.C. sec. 1862). Under this delegation, the President is to "adjust the imports" of articles "being imported into the United States in such quantities or under such circumstances as to threaten to impair national security." By Proclamation 3279, issued in 1959 and amended numerous times thereafter, the Mandatory Oil Import Program was instituted and maintained, imports of petroleum and certain derivatives being "adjusted" or regulated by means of an import quota

1/ 2 Story on the Constitution, sec. 1088, cited in Board of Trustees of the University of Illinois v. United States, 289 U.S. 48, 58 (1933).

2/ "But because the taxing power is a distinct power and embraces the power to lay duties, it does not follow that duties may not be imposed in the exercise of the power to regulate commerce." (University of Illinois v. United States, at 58.)

system i.e., quantitative controls. With the issuance of proclamation 4210, the import quota system was superseded by an import-license-fee system as the mode for regulating imports. The license fee is a set charge per barrel, the charge increasing per year by the amount shown in the fee schedule. 1/ The fee is directly related to the quantity imported on a per unit basis. Proclamation 4227, modifying 4210, added a preferential schedule of fees for Canadian imports of motor gasoline and finished products but not for crude oil and unfinished oils. 2/

1/ Presidential Proclamation 4210, sec. 3(a):

Fee Schedule
(Cents per barrel)

	May 1, 1973	Nov. 1, 1973	May 1, 1974	Nov. 1, 1974	May 1, 1975	Nov. 1, 1975
Crude-----	10.5	13.0	15.5	18.0	21.0	21.0
Motor gasoline-----	52.0	54.5	57.0	59.5	63.0	63.0
All other finished products and unfinished oils (except ethane, propane, butanes, and asphalt)-----	15.0	20.0	30.0	42.0	52.0	63.0

2/ Presidential Proclamation 4227, sec. 3(a)(ii) (note that this schedule runs through 1980, while the general schedule stops at 1975):

Fee Schedule
(Cents per barrel)

	May 1, 1973	Nov. 1, 1973	May 1, 1974	Nov. 1, 1974	May 1, 1975	Nov. 1, 1975	May 1, 1976	Nov. 1, 1976
Motor gasoline-----	0	0	5.7	6.0	12.6	12.6	22.1	22.1
Other finished products (but not including ethane, pro- pane, butanes, or asphalt)---	0	0	3.0	4.2	10.4	12.6	22.1	22.1
	May 1, 1977	Nov. 1, 1977	May 1, 1978	Nov. 1, 1978	May 1, 1979	Nov. 1, 1979	May 1, 1980	Nov. 1, 1980
Motor gasoline-----	31.5	31.5	41.0	41.0	50.4	50.4	63.0	63.0
Other finished products (but not including ethane, pro- pane, butanes, or asphalt)---	31.5	31.5	41.0	41.0	50.4	50.4	63.0	63.0

A license fee is normally a charge imposed by a sovereign for a privilege. 1/ The incidences of a license fee are set out in Honorbilt Products v. City of Philadelphia, 380 Pa. 630, 112 A.2d 108, 110 (1955):

A "license fee" is applicable only to a type of business or occupation which is subject to supervision and regulation by a licensing authority under its police power, where such supervision and regulation are in fact conducted by a licensing authority, and the payment of a fee is a condition upon which the licensee is permitted to transact his business or pursue his occupation, and the purpose in exacting the charge is to reimburse the licensing authority for the expense of supervision and regulation.

A license fee is not a tax and is to be distinguished from a duty, which is an indirect tax.

The objectives of Proclamation 4210 are to--

discourage the importation into the United States of petroleum and petroleum products in such quantities or under such circumstances as to threaten to impair the national security; to create conditions favorable, in the long range, to domestic production needed for projected national security requirements; to increase the capacity of domestic refineries and petrochemical plants to meet such requirements; and to encourage investment, exploration, and development necessary to assure such growth.

1/ Black's Law Dictionary 1069 (rev. 4th 1968).

Such objectives are not characteristic of a license fee. On the other hand, duties have frequently been employed as an economic mechanism directed against import trade. The license fees in question apply only to and for the purpose of adjusting imports, having no application whatsoever to domestic products.

A drawback is a refund made for duties on imported goods which, not being intended for domestic consumption, are reshipped to other nations. 1/ Under section 3(a)(3) of the 4227 modification of 4210, the Secretary of the Interior is authorized to refund license fees when a person exports finished products or petrochemicals. The license fee, then, has a drawback feature.

Under section 3(a)(ii), a fee schedule of lower charges is set out for imports of petroleum from Canada. This is differential or preferential duty, that is, a duty "imposed at different rates upon identical commodities according to the source of those commodities" 2/ Can a licensing authority impose varying fees for identical purposes?

In spite of introductory words which call for "a gradual transition from the existing quota method of adjusting imports . . . to a system of fees," Proclamation 4210 initiates an immediate duty system for at least some oil imports. For example, section 1(a) states that "no crude oil . . . may be entered . . . except (1) by or for the

1/ Harold Sloan and Arnold J. Zurcher, Dictionary of Economics, (5th ed., 1970,) p. 138

2/ Ibid., p.

account of a person to whom a license has been issued." However, fee-free imports are allowed when the Secretary of the Interior may, at his discretion, authorize such entries (sec. 1(b) and when refineries get a sliding-scale percentage of a districts' import allowance (sec. 4(b)(1)). 1/ This pronouncement establishes a present duty program with a fee-free exemption to be gradually phased out. Two distinct duties for each product category must, therefore, be recognized--a specific duty in the form of a license fee (x cents per barrel) and a free rate of duty. 2/

The President has created a new mechanism for import adjustment called a license fee. The analysis, however, suggests that what Proclamation 4210 does is substitute a duty system for the quota mechanism of the Mandatory Oil Import Program, for the license fee has the incidences of a duty. The name is new and the administration has been shifted from the Department of the Treasury, (U.S.) Customs Service to the Department of the Interior. Nonetheless, the new program is substantively a duty system

Under the quota system, allotment holders shared in their district's total allocation on a sliding-scale basis; there were, however, variations in the total allocation available to a district. 3/

1/ The fee-free allocation does not restrict the quantity of imports allowed. After this allocation is expended, an importer may import as much as he is willing to pay a license fee for.

2/ The TSUS provides that a free duty is a zero rate of duty.

3/ Specifically, the allocation for districts I-IV was different from that for district V.

Thus, a refiner in district I might receive a lesser amount of crude oil than an identical refiner in district V. Proclamation 4210 has adopted the quantitative allocations of the Mandatory Program as the import amounts to be allowed fee-free status to respective license holders under the new system. Furthermore, deep-water terminal operators who do not have crude oil import allocations into districts I-IV or Puerto Rico may receive fee-free allocations of No. 2 fuel oil imported into district I. The allocations are granted from a 50,000-barrels-per-day total exclusively for district I. ^{1/} Thus, an importer in districts II-IV might receive a lesser amount of crude oil than an identical importer in district I.

What was permissible under a quota system may be unacceptable under a duty program. Given a duty system existing now and not held in abeyance until 1980 when the fee-free aspects are phased out, Proclamation 4210 must satisfy the uniformity requirement for duties from the date of its promulgation. The continuing variation in allocations resembles, under the duty program, an exemption on an unequal basis from the duty, suggesting non-uniformity in the application of the duty. An importer on the east coast will be paying a license fee on the first barrel of oil after his free allocation has been expended, while an identical importer on the west coast may be paying a zero duty on the equivalent barrel because his allocation

^{1/} Proclamation No. 4210, as modified by Proclamation 4227, sec. 2(a)(1).

was larger (the result of a larger total pool in his district to share in). This violates the requirement of geographic uniformity, because the result is different duties in two ports on the same item, the item being the xth barrel of oil. The license-fee system in its final form (1980) avoids this difficulty. The question of the propriety of fee-free allocations remains, however, until such system is completely phased out.

2. Legal nature of the license fee under the GATT.--Article XXI of the GATT has been the exception employed by the United States to justify its actions under the Mandatory Oil Import Program and continues to be the justification for Proclamations 4210 and 4227. Article XXI, "Security Exceptions," provides that nothing in the General Agreement is to prevent a contracting party from taking any action "which it considers necessary for the protection of its essential security interests." Only one case has been brought before the Contracting Parties which raises the security exception. 1/ In 1949 Czechoslovakia filed a complaint against the U.S. practice of export control licenses, charging that these licenses were granted in such a manner as to prevent certain exports to Czechoslovakia. Among the arguments employed by the United States in answering the allegation was that the export controls were security measures authorized by article XXI.

1/ U.S. Export Restriction, Decision of June 8, 1949. GATT/CP 3/SR. 22 (1949).

The case suggests that a country is its own judge of whether a particular action is necessary for its security interests. 1/ Of particular interest is the fact that the weight of evidence suggests that a prima facie case of sufficient cause need not be established. 2/ The good faith of members in honoring obligations must be relied on.

The Cabinet Task Force on Oil Import Control came to the conclusion that, although a total abandonment of all import controls might on the then-present evidence create a threat to the security of petroleum supply, liberalization of import controls over a suitable time period would not seriously weaken the national economy to the extent of impairing our national security. 3/ If, as the comment of the task force seems to suggest, article XXI may no longer be a proper exception for the United States to avail itself of, the United States may find itself in violation of the GATT unless there is another exception which permits its actions.

It has been demonstrated that the Proclamation 4210 license fee is merely a renamed and differently administered import duty. Before proceeding with an analysis of exceptions to and most-favored-nation

1/ During the discussion in the GATT session it was stated that "every country must have the last resort on questions relating to its own national security. On the other hand, the Contracting Parties should be cautious not to take any step which might have the effect of undermining the General Agreement." (Ibid., p.7. See also V.A. Seyid Muhammad. The Legal Framework of World Trade, New York, 1958, pp. 177-178).

2/ Seyid Muhammad, (op. cit. p. 179).

3/ U.S. Cabinet Task Force on Oil Import Control, The Oil Import Question: A Report on the Relationship of Oil Imports to the National Security, 1970, p. 129.

treatment under the GATT, it is necessary to determine whether the same conclusion is applicable to the GATT, that is, whether the license fee is a duty within the meaning of the GATT.

Article II deals with customs duties and "charges of any kind" which are "imposed or in connection with importation or exportation." The distinction between the two levies is made clear in interpretation of the article. In addressing "ordinary" customs duties, the Contracting Parties stated:

The word "ordinary" was used to distinguish between the rates on regular tariffs shown in the columns of the schedules and the various supplementary duties and charges imposed on imports such as primage duty. 1/

The all-encompassing nature of "charges of any kind" is made clear by the following:

In order to make clear that the expression "all other duties or charges of any kind imposed on or in connection with importation" is all-inclusive, it was agreed at the ninth session to amend the Article by inserting the words "including charges of any kind imposed on the international transfer of payments for imports." 2/

It is not immediately clear whether the license fee is an ordinary customs duty, but it clearly falls within the "charges of any kind" category because it is a charge in connection with importation.

1/ Contracting Parties to GATT, Analytical Index: Notes on the drafting, interpretation and application of the Articles of General Agreement, 2d. rev., 1966, p. 13.

2/ Ibid.

To determine whether the fee is an ordinary customs duty, look to the Havana Conference's discussion of what is an internal tax for purposes of article III. 1/ The mere fact that "charges are described as internal taxes in the laws of the importing country would not of itself have the effect of giving them the status of internal taxes." 2/ This logic also applies to the license fee; merely to label it a fee does not necessarily give it that status under the GATT. During the Conference it was determined that certain charges, although described as internal taxes, were import duties, because "(a) they are collected at the time of, and as a condition to, the entry of the goods into the importing country, and (b) they apply exclusively to imported products without being related in any way to similar charges collected internally on like domestic products." 3/ These incidences of the charge are duplicative of those of the license fee. One can conclude, therefore, that under the GATT this particular license fee will be considered a duty.

The central membership obligation of GATT is a commitment to levy no more on an item than the tariff stated in each contracting party's schedules. Thus, to the extent that the license fees exceed

1/ Professor Jackson comments: "Although the report denied it was (attempting to give a general definition of internal taxes), this is as authoritative a definition of the distinction between internal tax and import duty as this author has been able to find." (John H. Jackson, *World Trade and the Law of GATT*, Indianapolis, 1969, p. 281.)

2/ United Nations Conference on Trade and Employment, Havana, 1947, *Reports of Committees and Principal Sub-Committees*, U.N. document ICITO 1/8, (1948, p.63).

3/ *Ibid.*, p.62.

the rates in schedule 4, part 10 of the TSUS and that no excepting provision applies, the United States in in violation of article III(1)(a). 1/ The fact that the United States is "suspending" the tariff rates in the schedule does not prevent the inference that the rates have been abandoned and new ones substituted in their stead.

If the license fee is considered to be an internal tax, although the preceding excerpt from the Havana Conference suggests the contrary, then the United States would be in violation of GATT article IV (again assuming the national security exception is not available). Paragraph 1 of that provision reads:

The contracting parties recognized that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale . . . should not be applied to imported or domestic products so as to afford protection to domestic production.

If the license fee is considered a licensing fee, and if national security cannot be invoked, then the United States would be in violation of article VIII(1)(a), which reads:

All fees and charges of whatever character (other than import and export duties and other than taxes within the purview of Article IV) imposed by contracting parties on or in connection with importation or exportation shall be limited in amount to the approximate cost of services rendered and shall not represent an indirect protection to domestic products or a taxation of imports or exports for fiscal purposes.

1/ "Each contracting party shall accord to the commerce of the other contracting parties treatment no less favorable than that provided for the appropriate part of the appropriate schedule annexed to this Agreement."

Paragraph 4 of article VIII(1)(a) specifically includes fees imposed in connection with importation for licensing purpose.

The new program has a feature which, by itself, is in violation of the GATT provisions. Under section 3(a)(1)(ii), the import program provides for a differential or preferential duty for motor gasoline and other finished products imported from Canada. This is a direct violation of the most-favored-nation treatment required of the GATT members. Presidential Proclamation 4227 gives no reason or justification for this preference, unless one is willing to carry over the national security basis set forth in the introductory words of the proclamation.

With this potential for being in violation of the GATT, it is necessary to consider what alternative exceptions under the GATT may be available to the United States for maintaining an oil importation program not in complete alinement with GATT principles. A potential provision for excepting oneself from the GATT requirements is article XII, which allows a contracting party to "restrict the quantity or value of merchandise permitted to be imported" in order to safeguard its external financial position and balance of payments. ^{1/} Article XIV, "Exceptions to the Rule of Non-discrimination," is applicable

^{1/} Although commentators on the GATT speak of article XII only in terms of quotas, there is nothing in the statutory language which specifically requires the use of absolute quotas rather than duties to limit imports. In other contexts, duties have been employed, although usually not with the same precision as a quota, to restrict the quantity or value of imports.

to article XII. The article XII language is some of the most complex and ambiguous in the General Agreement. Consultations with and reviews by the Contracting Parties are features of this provision. If prior consultations are not possible before imposition of restrictions, they should take place immediately thereafter. Application of this article is to be nonprotectionist and is to be with the intent of expanding rather than contracting international trade.

Ignoring other elements of the balance of payments, elements which may or may not be offsetting ones, a 10-billion-dollar-a-year payments drain attributable to oil imports is expected by 1980; a shortfall of \$30 billion has been predicted by 1985. 1/ This suggests the potential of article XII for future justifications of oil import programs.

Another GATT provision of potential utility for the United States to justify exceptions to the GATT is article XXIII's "nullification and impairment." One writer feels that article XXIII on nullification and impairment may be a useful alternative to article XXI, where it is desired to withdraw concessions in a manner inconsistent with most-favored-nation treatment. 2/ Article XXIII may be invoked whenever any benefit accruing to a party "directly or indirectly under this Agreement is being nullified or impaired or that the attainment of any objective of the Agreement is being

1/ Congressional Record, vol. 119 (93d Cong., 1st sess.), p. S10456.

2/ Jackson, (op. cit.) p. 556.

impeded" regardless of whether or not there is a breach of the agreement. Paragraph 1 calls for consultations between concerned parties. Paragraph 2 provides for referral to the Contracting Parties, if no accord is reached:

If the CONTRACTING PARTIES consider that the circumstances are serious enough to justify such action, they may authorize a contracting party or parties to suspend the application to any other contracting party or parties of such concessions or other obligations under this Agreement as they determine to be appropriate in the circumstances.

The terminology of this article is particularly imprecise, so that proper invocation of its provisions is uncertain. A group of experts in 1960 considered whether article XXIII should be legally invocable where restrictive business practices cause "nullification and impairment." A minority felt that the presence of international cartels and trusts may suffice; the majority disagreed. 1/

One other possible substitute for article XXI is the "escape clause" of article XIX(1)(a). 2/ A country can "escape from tariff concessions when a product is being imported in such increased quantities as to cause or threaten serious injury to domestic producers of like or

1/ Contracting Parties to GATT, Basic Instruments and Selected Documents, 9th Supp. Decisions, Reports, etc. of the Sixteenth and Seventeenth Sessions, Geneva, 1961, p. 172. For a full treatment of the problems engendered by article XXIII and a view of some related cases, see Jackson, op. cit.

The majority would not, apparently, permit article XXIII to be invoked against OPEC.

2/ More than 40 escape-clause actions have been taken during the history of GATT, the most frequent users being the United States and Australia (Contracting Parties to GATT, Analytical Index, supra, pp. 104-108).

directly competitive products. One aspect of present concern is protecting and developing domestic refinery capacity. Were imports of finished petroleum products to enter the United States in substantial quantity and at low enough prices, domestic refinery capacity might be competitively injured. The difficulty with article XIX is the subjectivity and ambiguity of its language, making interpretation often explainable only by reference to the historical development of the provision and to its precedential application. 1/ Invocation of article XIX requires the following to be shown:

- (1) Imports in increased quantities;
- (2) The increased imports are a result of unforeseen developments and GATT obligations (including tariff concessions);
- (3) The increased imports cause or threaten serious injury to domestic producers of like or directly competitive products.

The language difficulties may be briefly noted as follows: Increases in quantity can be relative; cause and effect analyses must be made with all of their inherent uncertainties; the definition of "unforeseen developments" is unclear; and what constitutes a "serious injury" is a debatable concept. The accompanying aspects to be satisfied before suspending the obligation in whole or in part or withdrawing or modifying the concession further illustrate how onerous article XIX is:

- (1) Advance written notice and consultation is generally required;

1/ Jackson, op. cit. p. 557.

- (2) The corrective measure is to be only to the extent and for as long as is necessary to prevent or correct the injury; 1/
- (3) The action taken is to be on a nondiscriminatory most-favored-nation basis;
- (4) The action taken authorizes a retaliatory response from other contracting parties.

All of these requirements suggest a rigidity not suitable for the oil import program, which has demonstrated a need for flexibility. The gist of the escape clause is an interim adjusting device for industry, which does not match the rationale for application of article XXI.

The most-favored-nation principle is a basic tenet of the GATT. However, under the exceptions of articles XII, XXI, and XXIII it may be avoided. The principle, however, does apply to article XIX. 2/ Of course, the GATT most-favored-nation obligation is not applicable to members. Not all oil exporting countries are members of the GATT. As of January 1973, the following five major oil exporting countries were members of the GATT: Canada, Indonesia,

1/ There are no guidelines available for determining what is temporary. A corrective measure carries with it some outer limit, although definition of it may be vague. However, a preventive measure's time of application may not even have a limit.

2/ See Havana Charter for an International Trade Organization, interpretative note, ad. Art. 40: "It is understood that any suspension, withdrawal or modification under paragraphs 1(a), 1(b), and 3(b) must not discriminate against imports from any Member country, and that such action should avoid, to the fullest extent possible, injury to other supplying Member countries." See also Jackson, op. cit., p. 564: "Although nowhere expressly mentioned in the language, the preparatory work and subsequent GATT practice make it clear that the withdrawal or suspension shall be on a nondiscriminatory Most-Favored-Nation basis."

Kuwait, Nigeria, Algeria (acceded provisionally). Iraq, Iran, **Libya**, Saudia Arabia, Abu Dhabi (of the United Arab Emirates), and Venezuela are not parties to the agreement. Nothing prevents a country from extending most-favored-nation treatment to nations that not contracting parties. The policy of the United States has been to extend most-favored nation treatment to any country which does not discriminate against it. Obviously, this policy could be abandoned and discriminatory treatment be applied to noncontracting parties. The United States has gone beyond this policy to form many bilateral treaties calling for nondiscriminatory treatment for imports. 1/ Of the major oil exporting countries not contracting parties to the GATT, the following are parties to bilateral treaties with the United States which entitle them to most-favored-nation treatment: Iran, 2/ Iraq, 3/ Saudia Arabia, 4/ and Venezuela. 5/ Thus, the United States may be able to avoid certain GATT obligations, but similar provisions in bilateral treaties may reinsert the avoided obligations, particularly the most-favored-nation principle.

1/ The United States has treaties or other international agreements calling for nondiscriminatory treatment for U.S. products in 102 countries (Chamber of Commerce of the United States, The Most-Favored Nation Principle: An Appraisal of Its Current Validity in World Trade, 1966, p. 13).

2/ Treaty with Iran on Amity, Economic Relations, and Consular Rights, Aug. 15, 1955, art. VIII, 8 U.S.T. 899, T.I.S.A. No. 3853.

3/ Treaty with Iraq on Commerce and Navigation, Dec. 3, 1938, art. I, 54 Stat. 1790, T.S. No. 960.

4/ Treaty with Saudi Arabia on Diplomatic and Consular Representation, Juridical Protection, Commerce and Navigation, Nov. 7, 1933, 48 Stat. 1826, E.A.S. No. 53.

5/ Treaty with Venezuela on Reciprocal Trade, Nov. 6, 1939, 54 Stat. 2375, E.A.S. No. 180.

Chapter IV. The Tools Of Import Control: Tariffs Versus Quotas on Petroleum Imports

In this final chapter of the report, a brief discussion of the objectives of oil import control paves the way for a theoretical analysis of tariffs versus quotas for oil import control. An overview of the practical difficulties follows, which points out those problems that must be balanced against the theoretical conclusions reached. The next portion of the chapter confronts the very difficult question of how best to define and categorize petroleum products so that the tools of import control may be effectively applied and the objectives reached. The report concludes with some final remarks and observations.

The role of the multinational petroleum companies in this complex, international industry is not treated in this report. The importance of these firms is, of course, considerable. To examine the multinationals' role adequately, however, would require extensive discussion of world petroleum markets, as well as hazardous predictions of the precise relations between the companies and producing country governments that could emerge from the current atmosphere of rapid change. These matters are beyond the scope of this report.

A. Objectives and tools of import control

The proper choice of mechanisms for import control of petroleum and petroleum products depends mainly on the policy goals to be sought. Goals may conflict, however, so that the best package of control mechanisms may turn out to be a compromise rather than a matching of perfect

tools to harmonious objectives. The possible goals of oil import control could include the following:

- (1) The stimulation of domestic exploration for crude oil;
- (2) The stimulation of domestic production of crude oil;
- (3) An increase in domestic exports of petroleum products;
- (4) An increase in domestic refinery capacity;
- (5) An increase in imports of crude petroleum and/or petroleum products;
- (6) The maintenance of given domestic prices for crude oil and/or petroleum products;
- (7) The maximization of domestic tax revenues on petroleum and its products;
- (8) The stimulation of substitute sources of crude oil, e.g., shale;
- (9) Achievement of environmental or other broad social goals on which energy usage can have effects.

Some of these goals overlap; some could not be achieved without acceptance of others. In any case, any given goal or set of goals suggests a number of control mechanisms that would achieve the objectives with reasonable efficiency. In general, however, the possible tools consist of the following traditional control mechanisms;

- (1) Tariffs on imports;
- (2) Quotas which place absolute limits on imports either by quantity or value, or both;
- (3) Subsidies to producers, users, importers, and/or exporters;

- (4) Internal tax measures affecting participants in the oil industry;
- (5) Domestic production, procurement, and/or usage standards, or U.S.-flag shipping requirements.

Of the five foregoing control mechanisms, the first two--tariffs and quotas--have traditionally been most specifically identified with overt import controls on petroleum and petroleum products. The analysis in this report focuses, therefore, upon only these two devices. However, despite this report's lack of analysis of the others (subsidies, taxes, and standards), their influence should not be considered insignificant, for they can support or frustrate policy objectives.

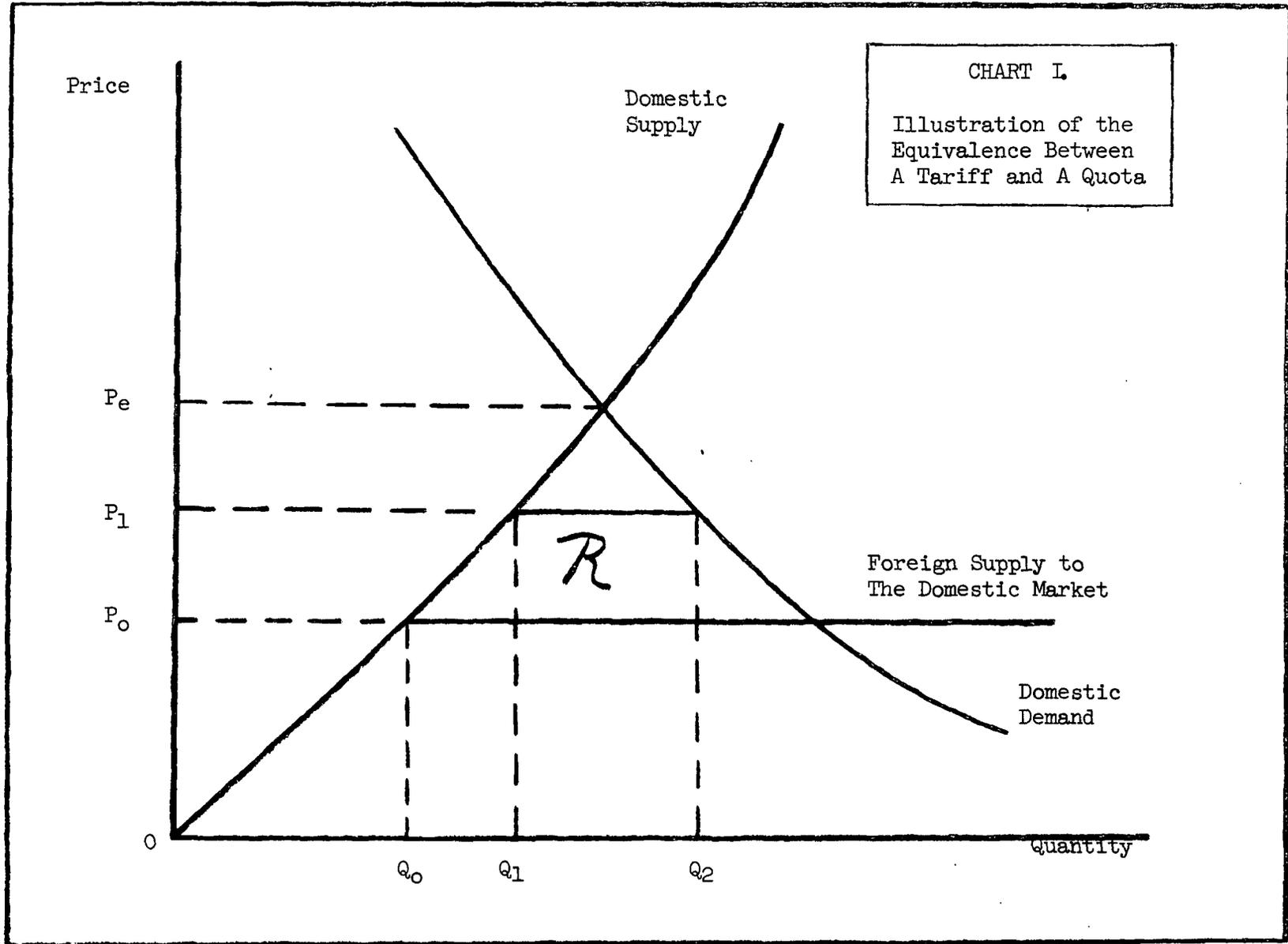
The remainder of this report is based on the objectives of the present system of trade controls on U.S. petroleum products, which are (1) to prevent crude petroleum production in the United States from falling below its current level and to provide incentives for exploration and development of resources; (2) to encourage an increase in petroleum refining capacity in the United States; and (3) to meet immediate energy needs by encouraging importation of foreign oil at the lowest cost to consumers. ^{1/} To meet these three objectives, an import control system of tariffs or quotas must be devised which (1) maintains a constant real price for U.S. crude petroleum in the face of increasing domestic demand, by equalizing c.i.f. prices for foreign crude petroleum with real prices for domestic crude petroleum and (2) maintains c.i.f. prices for foreign petroleum products slightly in excess of domestic real prices to deter their importation.

^{1/} Energy Policy; the President's message to the Congress announcing Executive actions and proposing enactment of bills to provide for energy needs, Apr. 18, 1973, 9 Presidential Documents, 1973, pp. 389, 399.

B. Tariffs vs. quotas: some theoretical considerations

In any market, an effective import tariff affects price directly and the quantity demanded or supplied indirectly; an effective quota affects the quantity supplied directly and price indirectly; all of these effects are combined when tariffs and quotas are combined in a control program. Because a market is "cleared" at the point--i.e., the price--where the quantities supplied and demanded are equal, the influences of tariffs and quotas work to the same ends, namely, some policy-determined price and related level of imports. Moreover, it is possible, in theory, to construct a system of flexible tariffs or quotas whereby tariffs are freely adjustable to restrict imports to a given level (through the tariff's effect on price) or quotas are freely adjustable to achieve a target market price (through the quota's effect on the quantity of imports supplied)--as long as, in each case, the market price would be lower if there were no controls at all. The key point is that the policy-induced price and import changes go together; one cannot be had without the other.

Under static (i.e., unchanging) conditions of supply and demand in a market whose structure approaches competition, there is an equivalency between tariffs and quotas. That is, a tariff can be devised such that, were it substituted for an existing quota, the same volume of imports would be generated and the domestic price as well as the protective effect for the domestic producing industry would continue unchanged. This kind of situation is depicted graphically in chart I. In the diagram the domestic price level is shown on the vertical axis,



while quantities supplied from domestic and foreign production are shown on the horizontal axis. The domestic supply schedule slopes upward to the right indicating that increasing prices call forth greater quantities supplied. The domestic demand schedule, however, slopes downward to the right indicating that falling prices result in greater quantities demanded. The foreign supply schedule to the domestic market in the absence of both quotas and tariffs is shown as a horizontal line at price P_0 , indicating that the quantity Q_0 will be supplied from domestic production at price P_0 , while the balance of the supply required to satisfy demand at P_0 is assumed to be importable at no increase in domestic price. This assumption is not necessary, but it simplifies the analysis and is the most plausible one for the range of foreign supply currently required for petroleum (as was indicated in the section on costs of production in major exporting countries).

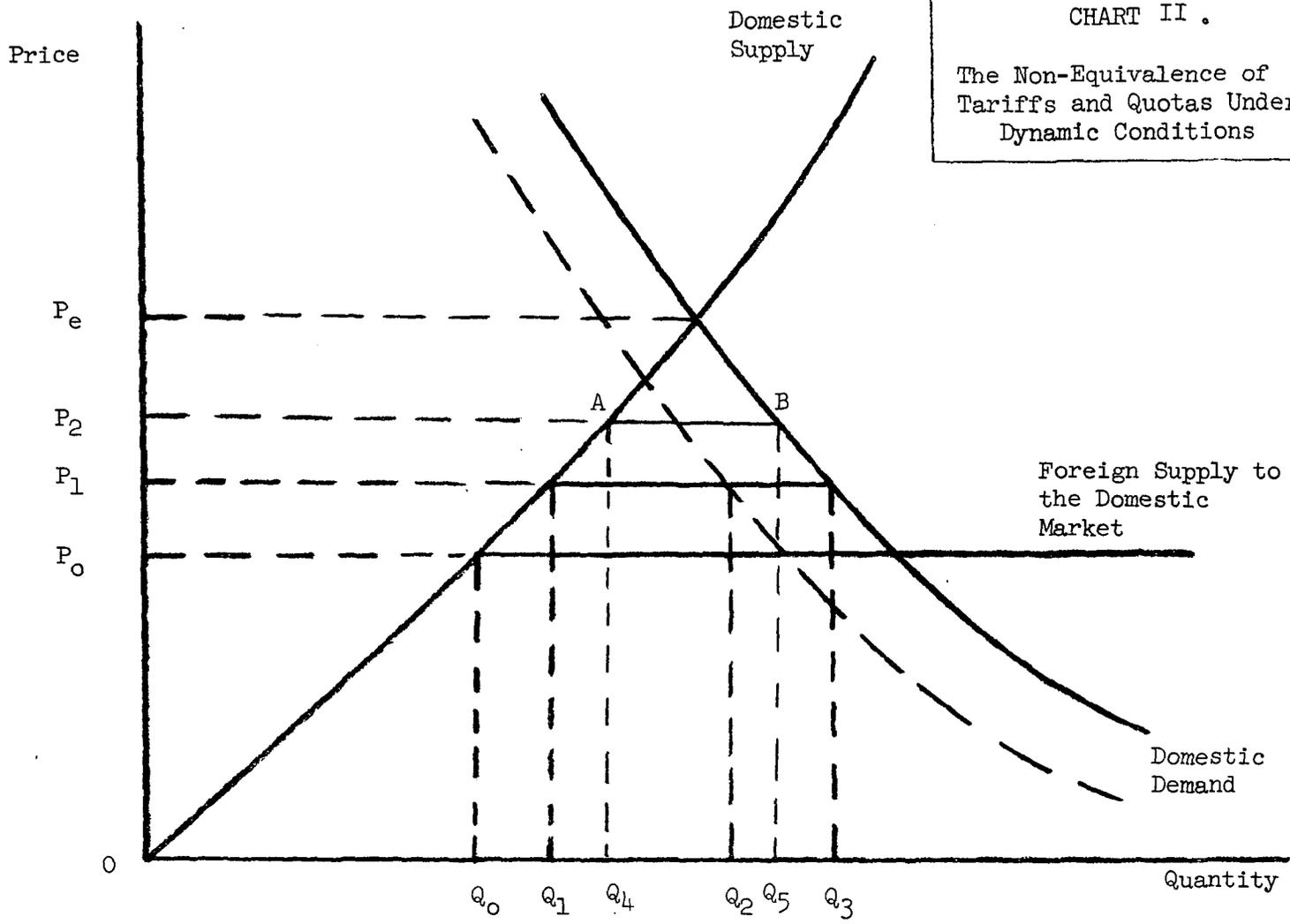
Given the conditions of supply and demand depicted, a quota in the amount of Q_1Q_2 will increase the domestic price to P_1 and additional domestic production Q_0Q_1 will be forthcoming to supply domestic demand at price P_1 . The additional amount supplied by domestic production at the increased domestic price represents the protective effect of the quota. The diagram illustrates that the same price increase and the same protective effect could be generated by substituting an import duty in the amount of P_0P_1 for the quota, for then the domestic price would remain at P_1 and the quantity imported would be the same as under the quota, Q_1Q_2 . This result would continue as long as supply and demand conditions remained static.

The only significant difference between a tariff and a quota under these conditions is in the distribution of the revenue resulting from the form of import control. This revenue is represented by the area R , which is the product of the tariff P_0P_1 and the imports Q_1Q_2 . Where it goes is an issue of practical as well as theoretical importance. Under a tariff, such revenue would accrue to the government. Under a quota, the revenue may accrue to the domestic holders of import licenses in the form of a lower price for imports than for domestic production if these licenses are not auctioned by the government and the foreign suppliers are not well organized. The revenue may accrue to the foreign suppliers in the form of increased prices to the importer if the foreign suppliers are well organized and the domestic importers are not, as has been assumed. Or the revenue may accrue to the government if import licenses are auctioned competitively and the foreign suppliers are not well organized. In this latter case, there is no significant difference between a tariff and a quota in the distribution of R .

When dynamic conditions of supply and demand supersede static conditions, the effects that result from the tariff will diverge substantially from the expected effects of a quota. The difference in effects under the two systems is best explained graphically, as in chart II. This diagram is identical to the previous one except that a shift to the right in the domestic demand schedule has been depicted to reflect an increased demand for the commodity, i.e., at any price on the vertical axis a greater quantity of the commodity is now demanded. With the tariff system in effect, increased demand results in greater quantities

CHART II .

The Non-Equivalence of Tariffs and Quotas Under Dynamic Conditions



being imported by the amount Q_2Q_3 , while the domestic price and the protective effect remain unchanged at P_1 and Q_0Q_1 , respectively. With the quota in effect, however, increased demand would result in an increased domestic price P_2 and a greater protective effect, causing sales to increase to Q_4 . Meanwhile, the volume of imports remains unchanged at the quota level. The quota is $AB = Q_1Q_2$; it determines the new price P_2 at the point where, shifting upward, its allowable imports equate total supply and domestic demand. Total quantity sold is now OQ_5 . Summarizing, with increased demand, domestic price remains constant under a tariff, and a compensatory adjustment is made in the volume of imports; under a quota, the volume of imports remains constant, and a compensating adjustment is made in the domestic price.

An additional point, to be noted from both of the charts presented in this section, is that, with either tariff or quota controls in effect, the domestic price determined by the controls is below the price that would otherwise obtain if imports were excluded entirely, but above the price implied by the absence of controls. In both diagrams the zero-imports price, or the price at the point of equilibrium between domestic demand and domestic supply, is labeled P_e . If this price were to be accepted as the target for public policy, full import exclusion would represent the appropriate tool.

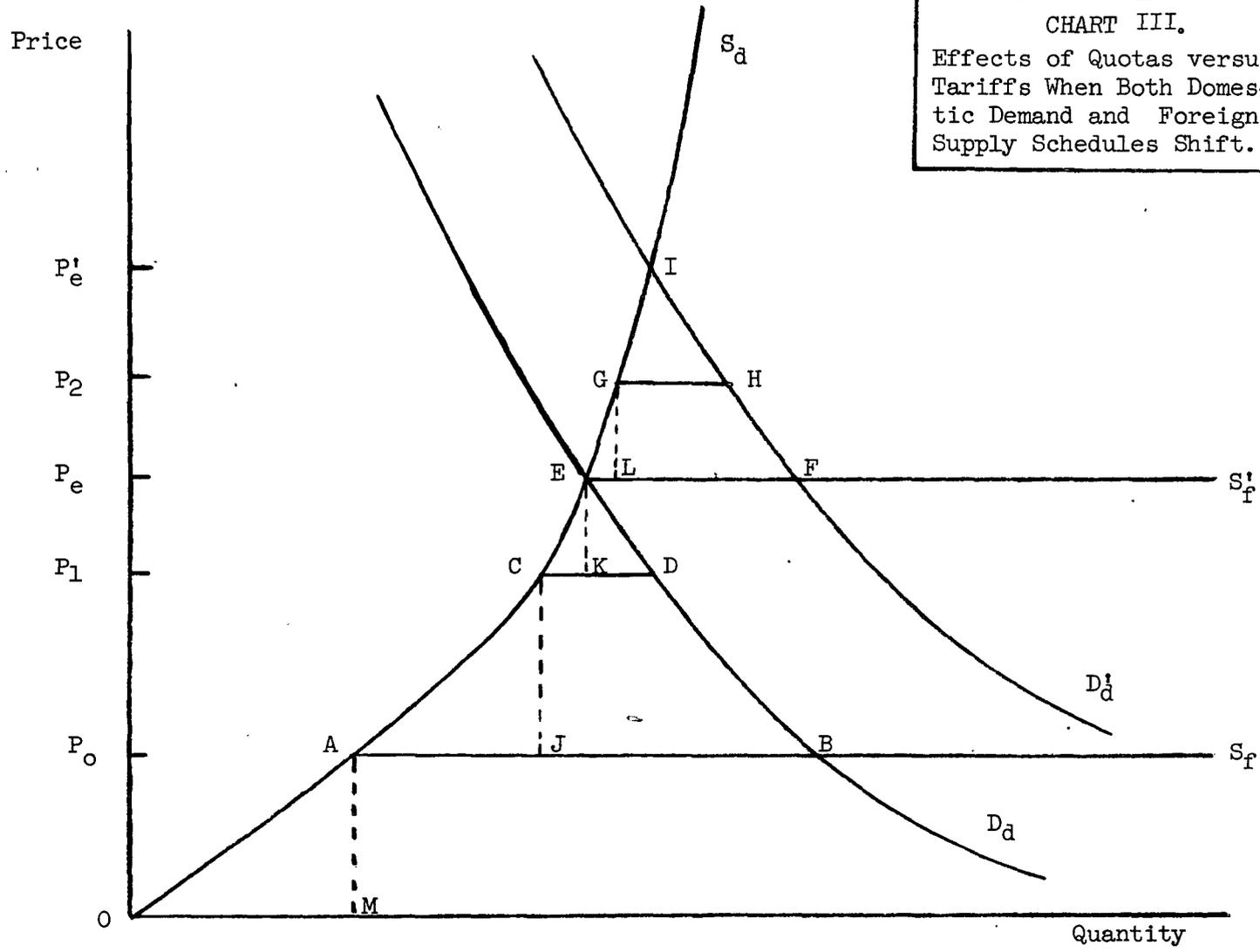
In the discussion so far, tariffs or the tariff-equivalents of quotas have been expressed as fixed amounts, rather than as ad valorem levies. Discussion in ad valorem terms adds complications. Refer to the first diagram, Chart I. The fixed tariff shown here is equal to

the difference between the two relevant prices, or $P_1 - P_0$. The ad valorem equivalent would be measured as $\frac{P_1 - P_0}{P_0}$, assuming that the value of the imported product is taken as the base for calculation, as is most commonly done.

Charts I and II provide the necessary tools for embarking on a more detailed analysis, with the objectives of (1) exploring more fully the effects of tariffs and quotas and (2) providing a roughly realistic, if oversimplified, explanation of the main economic developments that have affected U.S. import control programs over the past decade or two. Again, a diagrammatic presentation helps, as in chart III. This chart depicts two situations--one roughly similar to the market conditions of the early years of MOIP, the other representative of the changed conditions prevailing in the early 1970's. At the heart of the diagram is the domestic supply curve, labeled S_d . This is a long-run supply curve, whose shape and position on the chart have changed but little over the years. Note that this curve has two segments: (1) a relatively "elastic" section in the range OC, where changes in price call forth fairly large increases in output, and (2) an "inelastic" range above the region around C, where price increases invoke progressively much smaller increments to output.

The conditions of the early years of the MOIP are fairly well represented by the interplay between this domestic supply curve S_d , the foreign supply curve S_f , and the domestic demand curve D_d . The domestic industry is shown here as operating in the relatively "elastic" portion

CHART III.
 Effects of Quotas versus
 Tariffs When Both Domes-
 tic Demand and Foreign
 Supply Schedules Shift.



of its supply schedule, with the offering price of foreign oil being quite low, at P_0 . In the absence of import controls, this price would rule, with imports of AB and domestic production of OM. This may spell "dependence on imports"--or the prospect of it, depending on how far from the left-hand side of the diagram point A actually falls--and import controls come under active consideration, because it is known that domestic producers, if protected, could provide much more than OM, given price increases.

Under conditions like these, the immediate task of the regulatory authorities is to set a target level of imports (and an implied target price) at something like CD (price P_1), which will elicit a significant increase in domestic production (AJ), but will not drive domestic producers so far into the "inelastic" portion of their supply schedule that increases in target prices have relatively small positive effects on domestic output. So far, with static conditions assumed, there is an equivalence between the quota CD and the implied tariff $P_1 - P_0$.

The rest of the diagram represents the results of two disturbances, namely, a rightward shift of the domestic demand curve to D'_d and an upward shift in the foreign supply line to S'_f . Events much like these intervened between the early 1960's and the 1970's. Now, with imports entering at a price (P_e) even higher than the original target (P_1), and with the entire interplay between demand and the elements of supply operating well within the "inelastic" range of the domestic supply curve, the question of protection for domestic producers recedes in importance in the face of the need to regulate imports to meet domestic demand and to stabilize price. Even steep price increases will call forth only small

new supplies from domestic producers. The solution which came forth in the last years of the MOIP amounted to repeated increases in quotas, to something like EF, which approximated free-trade conditions at the price level P_e . ^{1/} This kind of Quota expansion to meet demand by means of imports is the reason for the present rough equivalence between domestic and import prices of crude oil. Note that continuance of the old quota at $GH = CD$ would have implied a higher price, P_2 , but would have produced a comparatively small increment, EL, in domestic output. Note also that, if price P_2 had in fact been the target, the equivalent of the unchanged quota $GH = CD$ could have been obtained by tariffs only if the tariff had been reduced from $P_1 - P_o$ to $P_2 - P_e$ on a fixed-rate basis, or from $\frac{P_1 - P_o}{P_o}$ to $\frac{P_2 - P_e}{P_e}$ on an ad valorem basis.

One point that should be clear from the foregoing diagrams and the accompanying discussion is that, while under certain conditions an inflexible quota could be considered acceptable for some policy objectives, even these conditions--were tariffs to be the instruments of control--would necessitate flexible duty rates, whether specific or ad valorem. In other situations both quotas and tariffs would have to be flexible, i.e., variable, to reach policy targets, especially price targets. These considerations raise an issue which is frequently cited

^{1/} Quotas were accompanied by a small fixed tariff which had little protective effect and is not depicted in the diagram. Also the coincidence of the foreign supply curve S_f with the old equilibrium point E is a simplification, to unclutter the diagram. S_f may fall above or below this level in reality. The important point, which the diagram illustrates, is that when MOIP ended, the "quotas" were expanding at a rate which approximated the rightward shift of the demand curve, the main objective was price stabilization, and the overall result was "control" that approximated the conditions which would have obtained--at least in the crude oil market--with no controls at all.

as both (1) an important distinction between tariffs and quotas, and (2) the most important justification, on administrative grounds, for quotas as opposed to tariffs. The point is simply that tariffs are administratively less flexible than quotas because tariff changes require legislative action and because they invite scrutiny for conformity with GATT rules, whereas quotas operate under neither constraint. Moreover, because of the absence of these constraints, quotas can be used as instruments of policy-oriented discrimination among import sources and/or domestic importers. It should also be noted that tariffs are more likely to run into constitutional difficulties than quotas, since the former are subject to a uniformity requirement not applicable to quotas. 1/

C. Practical sources of difficulty in controlling imports of petroleum and petroleum products

Theoretically, the three objectives set forth in part B of this chapter can be attained in the face of increasing demand by means of a flexible quota for crude oil that adjusts the volume of imports to the quantity required to satisfy demand in excess of domestic production at the current level of U.S. prices, together with quotas on petroleum products that encourage increased U.S. refinery capacity. 2/ Alternatively, flexible tariffs could adjust the c.i.f. price of imported crude oil to the current level of U.S. prices while permitting imports to expand to satisfy the increasing demand, together with complementing tariffs on petroleum products to encourage such increased refining capacity.

1/ See discussion of legal issues in chapter III, p. 92.

2/ To stimulate refinery capacity the ideal would be to bring in as much crude oil as possible, while maintaining a total embargo on all petroleum products. An even easier technique would be an outright subsidy.

In the event, however, that c.i.f. prices of imported crude petroleum, absent quotas and tariffs, equal or exceed the current delivered U.S. price for crude petroleum, neither quotas nor tariffs will effectively prevent inflation of crude petroleum prices in the United States in the face of increasing demand. (The same effect would result when dealing with higher c.i.f. prices for imported petroleum products.) The current level of crude oil production will automatically be protected, if suitably complementing levels of tariffs or quotas on petroleum products are maintained (assuming lower c.i.f. prices for imported petroleum products). These complementing controls are needed to deter imports of products which, if entering the United States, would discourage refining in the United States, and thereby also decrease the demand for crude petroleum. Therefore, such a decrease in demand would be counter to two of the three objectives of present oil import control, i.e., to maintain the level of domestic crude oil production and to encourage domestic refining. Recent developments in the pricing of imported crude petroleum resulting from adjustments in foreign taxes, royalties, and transport costs indicate that just such a situation has now developed, i.e., c.i.f. prices for imported crude petroleum, absent quotas and tariffs, are near the level of domestic prices. To deter imports of foreign products and encourage domestic refining, c.i.f. prices on imported petroleum products should be kept slightly higher than the delivered U.S. price by a suitable tariff or quota.

The preceding paragraphs illustrate the need for a flexibility in the oil import control system geared to the day-to-day variations of the international market. One of the outstanding examples today of a flexible tariff control system is the European Community's control of imports of agricultural products through a variable levy system. Under this scheme a variable tax is imposed to achieve minimum import prices at a level high enough to prevent interference by imports with internal price policies. A minimum c.i.f. value (the lowest offer price) is determined for imports of a particular class of products and a specific levy is applied to make up the difference between such a minimum c.i.f. price and the minimum import price goals for such class of products. 1/

Using as a base the policy objectives described in part B of this chapter, this section discusses in some detail a number of practical problems 2/ that would be associated with both the design and implementation of a program to meet these objectives. As indicated in the section on delivered cost and price of imported crude petroleum, a change in such variables as posted price, royalty rate, tax rate, and transport cost will change the cost and price at which crude oil is delivered to the U.S. east coast. 3/ To the extent that an import

1/ U.S. Congress, Senate, Customs Valuation: Report of the U.S. Tariff Commission to the Committee on Finance, Committee print, Mar. 14, 1973, and the Subcommittee on International Trade, p. 56, footnote 1.

2/ Reserved for separate discussion beginning at p. of this report is the problem of product definition--a problem that significantly increased almost all other difficulties and is inherent in the complexity and variations of crude petroleum itself and in the variety of the fractions obtainable therefrom.

3/ The east coast is cited here because the chapter II statistics are derived from the east coast as a sample area. Similar statistics could be produced for the west or gulf coasts.

duty is flexible, permitting adjustments that offset the combined price effect of changes in these variables, with the object of maintaining a constant delivered price at the port of entry, tariff control of crude petroleum imports will approach the quantitative control that can be effected by means of an import quota; to the extent that such adjustments do not offset the combined price effect of these variables, an import duty does not yield the volumetric control afforded by an import quota. The practical problems which follow focus particularly on crude oil production and importation. While variables such as posted price and royalty rate do not apply to petroleum products and the tax rate applies only to a lesser extent, transport costs do apply and extensive product differences complicate the development and maintenance of a flexible tariff schedule for petroleum products.

1. Potential adjustment of operators' production costs for crude oil by the host country.--Government revenues in the form of royalties and taxes on crude oil production paid by the operators to the host country have risen substantially in recent years as the result of increased posted prices and increased tax rates. By mid-1973 the per-barrel increase in government revenue for representative exporting countries had been greatest for Libya and Nigeria and least for Saudi Arabia and Iran. To a point, a flexible tariff control system could compensate flexibly for these kinds of variation in government revenue per barrel by reducing the import duty in order to continue equalizing the delivered prices of imported crude petroleum with those of comparable, domestically produced crude petroleum. The limit to such a system would be the reduction of duties to zero, at which point the domestic price

would no longer be insulated from the influence of the rising foreign price, and U.S. import duty revenues would, of course, have fallen to zero.

2, Restriction of supplies by host countries.--An inflationary price effect analytically identical to that just described could result from a concerted effort on the part of producing-country governments to withhold supplies from the world market in an effort to drive up price via an artificially created scarcity. Up to the zero-duty limit described above, a decreasing flexible tariff could compensate for such price increases and thus stabilize domestic prices.

3. Variations in transport costs.--Transport costs of petroleum are subject to substantial variation when measured by either AFRA rates or spot rates. The range of variation during the period 1970-72 for the voyage from Ras Tanura to Philadelphia and return, for example, amounted to \$0.39 per barrel on the basis of rates for large carriers and to \$2.93 per barrel on the basis of spot rates. In addition, transport costs per barrel of crude petroleum vary with the size of the vessel in which transport is effected, the gravity of the crude petroleum which is transported, the location of the port of entry, and the location of the port of export, as well as with political and social events that affect supply and demand in the tanker market. Aside from the problem of determining whether AFRA rates or spot rates best measure transport costs, if indeed a better measure is not associated with the long-term cost of transport in an incremental vessel to the world tanker fleet, the problem of adjustment of the import duty to variations in the many factors that affect transport cost is administratively a formidable one.

Another aspect of the transport cost problem may serve as an excellent example of how controls applied to one industry can effect another with entirely different policy goals. Suppose that, in an attempt to protect the U.S. maritime industry, U.S. petroleum imports are subjected to the requirement of carriage in U.S.-flag bottoms. Suppose also that the stimulation of U.S. refinery expansion is, as assumed above, an integral goal of U.S. import control policy. As long as U.S.-flag vessels remain more expensive to operate than foreign-flag vessels, these two policies conflict. Rather than build new refinery capacity in the United States, refiners would have an incentive to locate this new capacity in offshore spots (Canada or the Bahamas, for example), ship in feedstocks by means of foreign-flag tankers, and reship the now higher-valued products into U.S. ports in U.S.-flag vessels. The refiner would thus gain the advantage of crude oil transport in cheaper foreign vessels.

4. Duty drawback.--Under part 10, schedule 4 of the TSUS, duties were imposed on imports of crude petroleum and on certain products thereof. These duties were suspended by Proclamation 4210. In spite of the fact that such duties were relatively low, domestic petroleum refiners have consistently availed themselves of the duty drawback provisions of section 313 of the Tariff Act of 1930, as amended, on their exported petroleum products. Under these provisions administered by the U.S. Customs Service, a drawback of duty is authorized in the amount of 99 percent of the duty paid on the imported material used in making the exported product.

To the extent that domestic refiners are provided with duty drawback on their exported products, the effectiveness of controlling the crude imports by duties is diminished. Note, however, that such a drawback of duties tends to promote export-oriented refinery expansion by removing the disadvantage resulting from the import duty levied on the imported material used in the exported product, while the control over imports intended by the duty tends to restrain refiners producing solely for domestic consumption from using imported crude. These tendencies become more pronounced as the import duties subject to drawback become higher.

Under the new license-fee system for oil import control, the Secretary of the Interior collects the fees and is authorized to refund them where "refund of a license fee, whether in whole or in part, is called for by reason of a person having exported finished products or petrochemicals." The similarity between this provision and the regular duty drawback provisions administered by the U.S. Customs Service was noted earlier in this report. 1/ It is clear, then, that the conclusions of the preceding paragraph are applicable to the license-fee system.

1/ See p. 96 of chapter III.

D. Product definition and categorization

The problems of product definition have always been inherent in the petroleum industry. Many terms in common usage have had their meanings completely altered by changes in consumption patterns or changes in production methods. 1/ Technical terms have frequently been avoided in favor of terms that are familiar to, although not necessarily fully comprehended by, the layman.

The MOIP generally used terms that are in current trade usage, but, as was pointed out in chapter III, it has frequently revised the definitions in order to insure coverage for sought-after objectives. The new license fee program has also chosen trade terms with meanings not always apparent to interested parties. 2/

By studying the problems of the past and the demands of the future, it may be possible to devise an improved system of product definitions. The following section discusses some general nomenclature principles and suggests courses of future study.

1/ For example, liquefied propane and butanes were originally derived from petroleum and referred to as "liquefied petroleum gas" or more simply "LPG." They are currently derived from natural gas and the term "LPG" is used for both the individual compounds and their mixtures.

2/ In the new program, the distinction between a distillate fuel oil and a residual fuel oil is not that the former is obtained by distillation and the latter as a residue, nor is it based exclusively on boiling range. Instead the two are distinguished by viscosity and use. A product with a boiling range from 550° F to 1200° F at atmospheric pressure and a viscosity of not less than 45 seconds Saybolt Universal at 100° F is classifiable as a residual fuel oil if it is to be used as fuel without further processing other than by mechanical blending. The same product is classifiable as a distillate fuel oil if it is to be otherwise used.

1. Crude oil characteristics.--Crude petroleum as it is piped from underground reservoirs consists of a complex mixture of several hundred different chemical compounds. ^{1/} The percentage of the components in the mixture varies considerably from field to field, and the relative proportions of these components impart the characteristics associated with the crudes from different areas. For example, crude oils from North Africa are usually low in sulfur with a high API gravity, while those from Venezuela are generally higher in sulfur content with a lower API gravity.

The chemical composition of the individual hydrocarbons determines their physical properties and the suitability of various crude oil fractions for certain uses. Increases in the carbon content of homologous hydrocarbons are accompanied by increases in molecular weight, boiling point, viscosity, and specific gravity (and a decrease in API gravity). The same hydrocarbon fraction is often suitable for several different uses. The lightest hydrocarbons are used for motor fuels and petrochemical processing and are in greatest demand. The heavier hydrocarbons are used for burner fuels, lubricating oils, and heavy products such as asphalt; alternatively, the

^{1/} American Petroleum Institute Research Project 6, completed in 1966, resulted in the identification of 295 hydrocarbons. U.S. Bureau of Mines Bulletin 695 lists 176 sulfur compounds identified in four crude oils. The Bureau of Mines also defined 35 nitrogen compounds and 27 oxygen-containing compounds. Thus, more than 530 individual compounds have been identified in crude oil.

heavier hydrocarbons are cracked to make lighter compounds. The value of a specific crude petroleum to a refiner is dependent both on the processing cost and the net gain in value of derived products (a function of the refiner's facilities).

The quoted marketplace premium associated with various crude petroleums is directly related to the crude petroleum quality, including such variables as sulfur content, metals content, and API gravity. Thus, the quoted marketplace premiums are a reflection of the relative refining values which adjust crude petroleum prices to the crude petroleum qualities. However, these are general refining values reflecting the differences in the values of various crude petroleums to a somewhat stylized general refinery. The relative refining values vary for each specific refinery, changing with the products produced and the quantities of each type of crude petroleum run in that specific refinery.

A refiner with a plant built to run a heavy high-sulfur crude petroleum will be able to pay more for such a material than a refiner with a refinery built to run a light sweet crude petroleum. The value of the products will vary with the demand for the products and their prices. Also, the products made will usually vary with the seasons, gasolines predominating in the summer months and distillate fuel oils in the winter months, with each refinery having its own seasonal product line and prices. The value of a particular crude petroleum to a specific refiner will also vary depending upon how much of it will be run relative to other crude petroleums, as well as the

relationship of the resulting input characteristics and the optimum input characteristics. Overall, there is a theoretical best crude petroleum for each refinery, with other crude petroleums carrying debits in relation to it.

Relative refining values are usually made up of at least two components: (1) an API gravity debit or credit and (2) a sulfur content debit or credit. In addition, the metals content of the crude petroleum also bears upon the relative refining values, although usually not as directly and measurably as API gravity and sulfur content.

The overall balance in debits and credits for a particular crude petroleum for a specific refinery could easily range from \$0.50 to \$1.00 per barrel for both sulfur content and API gravity. Thus, a crude petroleum could conceivably be worth \$1.00-\$2.00 per barrel more to one refiner than to another. Therefore, in spite of a tariff to equalize the general import price with domestic price, quality differences to a refiner between a domestic and an imported crude petroleum could change the relative cost of each such that one would be a clear choice, but not necessarily the choice that the policy-maker would like him to make.

2. Products of petroleum.--Unfortunately, crude petroleum is not always shipped in its condition as obtained from the wellhead. Instead it is often treated to various types of processing, such as desalination, dehydration, topping off lighter gaseous fractions, and adding back hydrocarbons previously recovered, as well as other

"minor" processing. Crude petroleum, by most definitions, retains its status as "crude" provided that its essential character is unchanged by processing. Thus, at the very outset, the drawing of a line of demarkation between a crude petroleum and its products is complicated by practical considerations of the nature and extent to which pre-import processing may be permitted without converting the crude into a higher level petroleum product.

A further problem is introduced by virtue of the fact that a practical, but arbitrary, distinction must be made between so-called refinery and chemical products. In such usage, a "chemical" product is usually an individual or relatively pure hydrocarbon or other chemical compound obtained from petroleum. "Refinery" products, on the other hand, include small spectrum mixtures of compounds, i.e., fractions, separated from the broad spectrum mixture that is crude petroleum by processing more complex than that used at the wellhead. These refinery fractions and their mixtures are the petroleum products which account for the vast bulk of crude petroleum consumption, either as extracted or with special additives to improve their qualities for their intended uses. It is in this area that product definition is most needed, for purposes of differentiating levels of duty or quota quantities in a system of import controls and the related collection of useful economic data for analysis and policy formulations; yet, this area is the most elusive for the reason that many identical petroleum fractions are both "unfinished" and "finished"

owing to their being suitable either for further refining or for end-use as a motor fuel, fuel oil, solvent, or the like, depending upon the desire of the owner or purchaser. Furthermore, the same petroleum product may have more than one use and will carry a different name depending on the use.

The simplest method of refining is to heat the crude under atmospheric pressure and separate the fractions according to their boiling ranges. Typical fractions (straight-run products) are as follows:

<u>Fraction</u>	<u>Typical boiling range (° F)</u>	
	<u>Source 1</u> ^{1/}	<u>Source 2</u> ^{2/}
Gases-----	Less than 97	Less than 30
Light naphtha-----	97-285	30-200
Heavy naphtha-----	285-400	200-400
Kerosene-----	400-525	400-500
Light gas oil-----	525-650	500-600
Heavy gas oil-----	650-1000	600-800
Residue-----	over 1000	800-1100

As atmospheric distillation does not generally yield distillates in the proportions desired, further processing is required. The larger, heavier molecules are broken into smaller particles with lower boiling points by cracking. The smaller compounds are recombined into new ones of desired size by polymerization and alkylation. Mixtures are further separated by distillation under reduced pressure with fractionating columns (vacuum distillation). Consumer petroleum products are made by blending the fractions with one another and other chemicals.

^{1/} "Trends in Petroleum Refining," Chemical Engineering, Aug. 10, 1970, p. 97.

^{2/} "Gasoline and Other Motor Fuels," Kirk-Othmer Encyclopedia of Chemical Technology, vol. 10, p. 472.

Many names for petroleum products have been based historically on use and have added their own complexities to classification. For example, a petroleum fraction boiling in the 400°-500° F range was first called kerosene and used for wick-burning lamps; it was later used for heating and called fuel oil. The same fraction used for a diesel motor is called a fuel oil, but when used for a jet motor, it is called a motor fuel. Obviously, a classification for jet fuel would present problems. If the classification covered products suitable for use as jet fuel, it would include large proportions of fuel oil and diesel fuel. (For measured physical properties of some products of the foregoing class see table 14, which illustrates lack of mutual exclusivity). If the classification covered products chiefly used as jet fuel, the coverage might vary seasonally because a product might be used chiefly for fuel oil in the winter and for jet fuel in the summer.

3. Principles of product nomenclature.--Product nomenclature or description is not an end in itself; it is, rather, a means to an end. Product definitions are the basis for formulating and carrying out a variety of governmental objectives in regard to such matters as internal taxation and foreign and domestic commerce. To facilitate the accomplishment of these purposes, product nomenclature must be organized and systematic and, to the greatest extent practicable, compatible with the realities of commerce. The dynamics of the marketplace and continuing technological progress suggest that a product nomenclature system should anticipate new articles of commerce and, when the system

Table 14.--Properties of sampled petroleum products

Analysis	Burner fuel grade 1 <u>1/</u>			Diesel fuel C-B <u>2/</u>			Commercial jet A, <u>3/</u>
	Minimum	Average	Maximum	Minimum	Average	Maximum	Average
Distillation:							
Initial-----°F--:	314	346	380	319	351	410	<u>4/</u>
10% evaporated--°F--:	360	384	408	358	391	446	<u>371</u>
50% evaporated--°F--:	412	429	482	405	444	517	416
90% evaporated--°F--:	457	484	565	463	509	598	473
End point-----°F--:	484	523	605	500	549	646	<u>4/</u>
Gravity-----°API--:	40.4	43.0	47.5	33.4	41.2	44.8	<u>42.8</u>
Flash point-----°F--:	120	-	156	122	-	178	<u>4/</u>
Viscosity, kinematic :							
at 100°F-----cSt--:	1.46	1.66	2.10	1.50	1.87	3.50	<u>4/</u>
Cloud point-----°F--:	-66	-	-12	-60	-	32	<u>4/</u>
Pour point-----°F--:	-65	-	-20	-70	-	-	<u>4/</u>
Aniline point-----°F--:	140.0	149.0	171.0	136.2	149.3	162.5	144.1
Sulfur content :							
percent-----:	.005	.071	.26	.04	.147	.48	<u>4/</u>

1/ Eastern region, 39 samples, 1971.

2/ Central region, 28 samples, summer 1971.

3/ All regions, 57 samples, 1971.

4/ Not available.

Source: U.S. Bureau of Mines, Petroleum Products Surveys.

is found to be inadequate, it should be promptly revised.

The ideal system of product nomenclature defines products objectively and in such a manner that any particular product can be correctly classified in one place only. In other words, the product definitions, even with respect to related products, must be mutually exclusive. Without this feature, there can be no responsive system of tariff or quota controls that effectively embraces only the products desired to be covered and provides for each such product the level of duty or quota quantity intended.

Words which have acquired several meanings should be redefined or replaced with unambiguous terms. International recognition and continuing statistical validity are also desirable. To be effective, the classification must be consistent, for a specific product classifiable in different ways in the same nomenclature promotes confusion and invites avoidance and deception.

Product descriptions based upon use (e.g., "chief use," "suitability for use," or "actual use") present special problems in designing a nomenclature system for customs purposes. It is highly desirable from an administrative point of view that a customs officer at a port of entry be in a position generally to determine the tariff or quota status of an imported article in its condition as imported without the need to resort to intrinsic facts or circumstances not revealed in the article itself or the need to follow the goods into consumption after customs release. Descriptions based upon use create uncertainties that are particularly troublesome for quota purposes, owing to

the difficulty of ascertaining the necessary facts of use prior to customs release and of rectifying the effects occasioned by releases erroneously made. The concept of "actual use" contemplates following a specific imported product into a particular end use, a requirement difficult to administer at best and impossible to administer when the imports consist of liquids or other fungible goods which are often merged with similar goods and thereby lose their separate identities before being used.

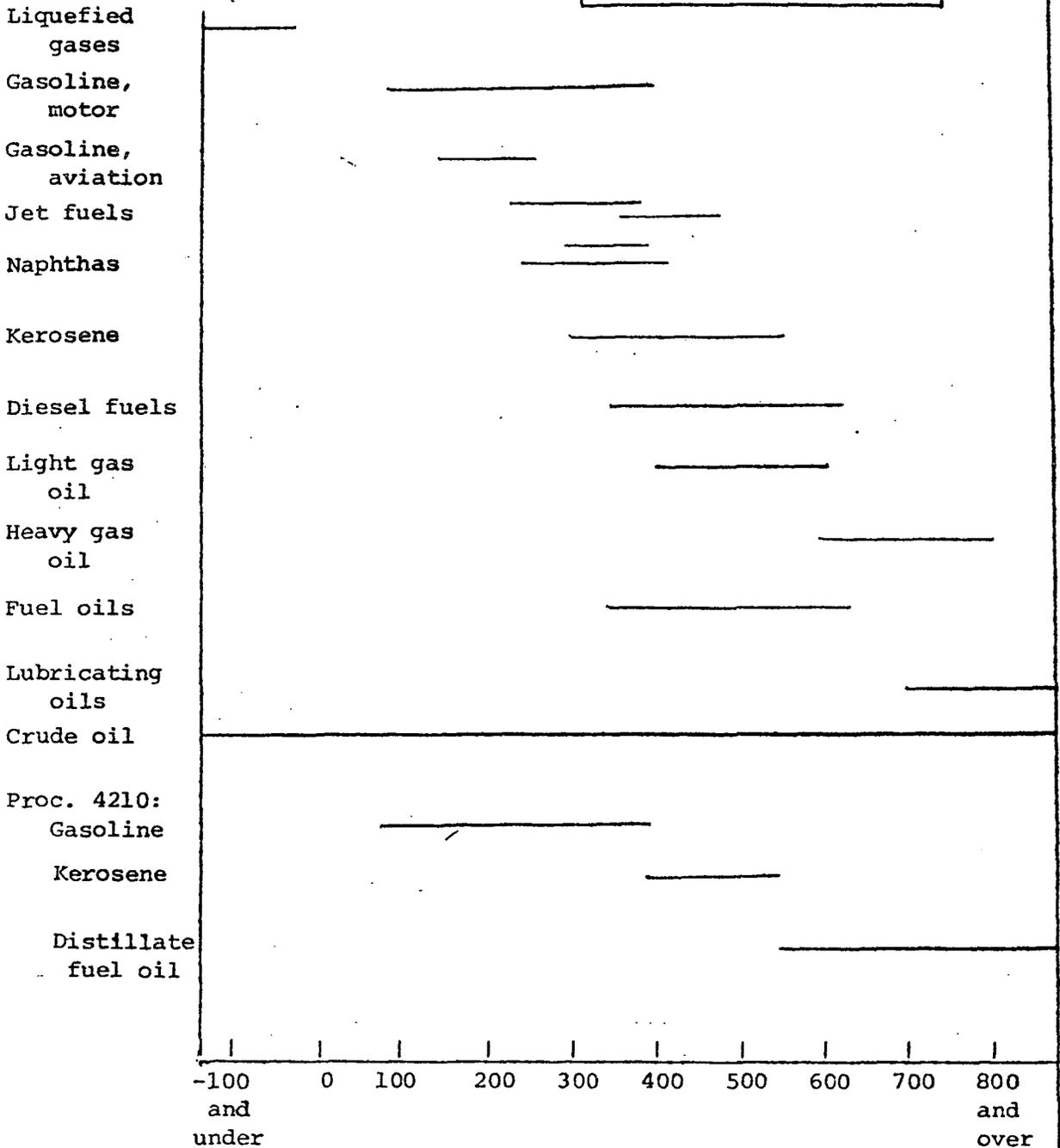
4. Suggestions for improvement of petroleum customs nomenclature.--

It can be seen from the foregoing discussion of the complex nature of crude petroleum and refinery products that product definitions reasonably conforming to the basic principles of sound product nomenclature for customs purposes are currently inadequate. This problem has been and will continue to be studied. In the meantime, the following tentative observations and suggestions are submitted as possibly pointing the way to an eventual solution.

Although the methods for refining are varied, they have a common aim--the separation of fractions with petroleum boiling ranges narrower and more useful than the original crude. Special additives can improve the suitability of a fraction for a special use, but they do not substantially broaden the boiling range. Chart IV on the following page shows the boiling ranges for certain petroleum products as given in various descriptions.

Examination of the chart reveals that although a description based on upper and lower limits of a distillation range can be useful in

CHART IV
 Typical Boiling Ranges
 of Petroleum Products



Temperature in Degrees Fahrenheit at Atmospheric Pressure

Source: Bureau of Mines, Petroleum Products Surveys and industry estimates.

establishing specifications for a special purpose, such a description would be difficult for classification purposes because of the many overlapping temperature ranges. A boiling range could be used for classification purposes, however, if the description were made more explicit, e.g., by describing a product in terms of its mid-boiling point (i.e., that temperature at which 50 percent by volume of the product has distilled at atmospheric pressure). A mid-boiling point is a generally measured characteristic of petroleum products 1/ and can be used to differentiate one from another. The great range of mid-boiling points (from -259°F to over 1000°F), however, indicates that their use for categorical purposes should be described as ranges (descriptive of homologous mixtures) rather than as points (descriptive of compounds). In order to distinguish advanced products from crudes, the upper and lower distillation limits should also be specified.

Such a description could include the following details:

Any hydrocarbon mixture which has a mid-boiling point (M.B.P.) between A° and B° Fahrenheit and which is no more than 10 percent distilled at a temperature X° lower than its mid-boiling point and which is at least 90 percent distilled at a temperature Y° higher than its mid-boiling point.

Thus, a class where A = 170, B = 280, X = 100, and Y = 150 would cover petrochemical feedstocks and some motor fuels as follows:

1/ American Society for Testing Materials (ASTM) method D86.

Type of motor fuel	Distillation range		
	10 percent evaporated	50 percent evaporated	90 percent evaporated
Winter premium gasoline	109° F	209° F	431° F
Summer regular gasoline	130° F	230° F	350° F
Aviation gasoline	158° F	200° F	212° F

A class covering mid-boiling points from 281 to 400 could include solvent naphthas and some motor fuels for jets. A class covering mid-boiling points from 401 to 500 could include a kerosene, a fuel oil, and other motor fuels for jets and diesels. The heaviest products that would decompose at high temperatures before boiling could be described by the 10 percent minimum temperature and then subdivided by viscosity or another generally recognizable physical measurement.

The width of a boiling range (i.e., the difference between the temperature at the 10-percent and the 90-percent distillation points) could indicate the degree of advancement. A product with a very wide boiling range would be subjected to further processing for most uses. A product with a narrow boiling range could be further processed, but the narrowness of the range would indicate that some processing had already taken place.

It should be emphasized that the numbers previously mentioned are examples only. For a firm classification system the numbers should be established only after a thorough study of the available and potential products. The numbers chosen for products subject to a high fee

provision should establish a coverage broad enough that a slight adulteration would not justify a reclassification at a lower fee. The classes could be described either by words in current commercial usage or by a new terminology (such as "M.B.P. 170-200"). When a commercial term is used, however, the coverage should be made emphatically clear.

The general framework for petroleum classification provisions could be, first, to define crude petroleum and then to define so-called "finished" products broadly by explicit boiling ranges and other distinguishing characteristics of corresponding, generally recognized commercial categories. "Unfinished" products would not need to be defined, but would consist of those products which are neither "crude" nor "finished" as defined.

There is general dissatisfaction with the current petroleum industry nomenclature system. The American Petroleum Institute (API), the American Society for Testing Materials (ASTM), and the American National Standards Institute (ANSI), are among those associations in this country actively seeking to improve petroleum product definitions and to obtain international compatibility of terms by working with a subgroup within the International Organization for Standardization (ISO). ^{1/} ISO has issued two documents containing a vocabulary of

^{1/} ISO is composed of international and national standards organizations including those of Germany, France, Britain, Japan, and Russia. ISO has a technical committee on petroleum products with three subcommittees: vocabulary, dynamic petroleum measurement, and static petroleum measurement. The API committee on terminology, now in the process of formation, on which the Tariff Commission will have a representative, will give input to ISO's technical committee.

petroleum terms, which is still being worked on and which will eventually be adopted as an international standard. The complexity of petroleum product nomenclature is evident from the observation that neither vocabulary document has as yet been adopted, although ISO has been working in this area since 1956.

The Commission on International Trade and Investment Policy in 1971 recommended to the President that the United States should move as rapidly as possible toward adoption of the Brussels Tariff Nomenclature (BTN), which is the system now used by most trading nations of the world. In 1972 the President requested the Tariff Commission to prepare a draft revision of the Tariff Schedules of the United States (TSUS) which would conform with the BTN. The Commission is currently studying the classification of petroleum products in BTN chapter 27. During the course of the study, the Commission will seek advice from industry and other governmental agencies and will hold public hearings to obtain the views of interested parties.

It is clearly desirable that imports of petroleum products--whether controlled by quota or tariff--conform to the same system used for imports of other products. When imports of petroleum products are subject to a classification system that differs from the country's tariff nomenclature, the complexity of administrative procedures is greatly increased. Moreover, such an arrangement also increases the difficulty of collecting meaningful trade data with respect to imports.

E. Concluding remarks

The foregoing pages have outlined in detail not only the basic principles of oil import regulation but also the history of past and present U.S. import control programs and certain administrative and policy difficulties that experience has shown to be present. The following statements constitute a brief summary, highlighting essential characteristics of an oil import control program, as well as the essential rules for managing one, whatever its policy objectives.

An import control system, be it quota, tariff, or a combination thereof, for crude oil and petroleum products will be complex, because of the inherent complexity of the mixtures, the dynamic nature of trade, and the need to provide immediate relief in the form of imports to satisfy current demand while at the same time continuing to provide an incentive for domestic exploration and refinery expansion. Under some conditions, satisfying part of current demand with imports and maintaining an incentive for the expansion of the domestic oil industry may be mutually antagonistic and result in a continual need to revise an import control program to keep both reasonably satisfied. Of course, if c.i.f. prices of imports are higher than the prices of comparable domestic products, neither quotas nor tariffs will effectively prevent inflation of prices with increasing demand.

Any import control system that is to be responsive to the complexities of the petroleum industry must have built into it a means of varying the tariff or quota controls as the domestic market dictates, so that frequent enactments or proclamations amending the regulatory

provisions are unnecessary. In addition, controls must produce a continuing economic climate conducive to investment in refinery capacity. The investor must be assured that the import controls and a market for his refinery products will last long enough for him to realize a satisfactory profit.

Regardless of the import control systems selected, there will likely be legal issues to be considered, such as constitutionality, compliance with international agreements including the GATT and bilateral trade agreements, and concordance with the National Environmental Protection Act.

The complexity of any import control system may be reduced and thus the system's creditability and acceptance enhanced, by--

- (1) The holding of public hearings before the start of any program and before the issuance of proclamations, orders, and regulations establishing or changing the program.
- (2) The use of clear, concise, unambiguous language in all legislation, proclamations, orders, and regulations.
- (d) The publishing of the tariff or quota import provisions in the TSUS along with other import controls to be administered by the U.S. Customs Service.
- (4) The establishment of a consistent method for redress by importers and one way in which the program can be officially changed.
- (5) The publication of decisions accompanied by the criteria used in arriving at the decisions.
- (6) The use of the import control program only for the protection of national security through the maintenance of a viable domestic oil industry and the use of other programs to accomplish other objectives.