THE ECONOMICS OF THE INTERNATIONAL PETROLEUM INDUSTRY AND THE ECONOMY OF THE PHILIPPINES

BY

KATHLEEN M. LANGLEY*

INTRODUCTION

Oil is the most important source of energy in the Philippines, and provides somewhat more than 90% of the country's total energy requirements. Since 1966 the annual rate of increase of imports of crude oil have averaged about 10% – a rate approximately 50-60% above the estimated rate of total world consumption during the 1970's. It is most likely that as the country's industrialization proceeds, the rate of increase of oil importation will rise further; indeed, local petroleum industry representatives anticipate that the rate of growth will be approximately 11% during the next decade. The relatively high rates of growth are not exceptional. Developing countries tend to experience a 2% rise in energy use for each percentage point increase in total economic activities and past trends of oil usage in the Philippines support this result. The rate of increase of GDP (Gross Domestic Product) during the years 1950 to 1969 averaged 4.6% and the rate of increase in domestic sales of petroleum products from 1953 to 1969 was 9.6%.[1]

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*Associate Professor of Economics at Boston University and Visiting Research Associate, School of Economics, University of the Philippines, 1970-1971.

The author is grateful to petroleum industry representatives in the Philippines for discussions (sometimes caustic) and for the provision of some statistics. The responsibility for all statements and interpretations belongs to the author.

[1]A simple regression of domestic sales in million of barrels (X) and GDP in billion dollars (constant) (Y), significant at the 1% level yielded the following result:

	t	F	r
$\ln X = -1.96 + 2.02 \ln Y$ (0.052)	38.91	1514	0.995

For every 1% rise in GDP, domestic sales of petroleum products increased by 2.02%. Period of time: 1953-1969.

See Appendix Table A-II for statistics used in estimates.

It is a matter of important national concern that reliable supplies of oil should be obtained on reasonable terms. Not only does the price paid for oil directly affect foreign exchange expenditures, (imports of mineral fuels and lubricants accounted for between 9 to 10% of total imports in the 1960's, see Table A-I) but it also affects, in a varying degree, the price of consumer goods and services. Energy costs are not a matter of indifference in many industries, and users obviously are concerned about the prices they pay. In the Philippines,transportation system, the individual user of one petroleum product, namely of gasoline, has in recent years frequently voiced his opposition to price increases, and the disruption of economic activities caused by jeepney transportation strikes has slowed down the pace of economic development.

In the developed countries, the ultimate consumer may complain of high gasoline prices but he is usually more affected by the taxation policies of his government than by any action taken by the international petroleum industry. In the Philippines, as in many developing countries, tariff and custom duties are assessed on oil and petroleum products but the tax burden is relatively light. A specific tax of P0.08/liter[2] or less than 1/3 of the retail price, is, for example, levied on gasoline in comparison with taxes of 60-80% or more of the retail price[3] in Western European countries. Clearly, petroleum industry decisions are of direct concern to consumers of petroleum products in the Philippines.

International firms are frequently suspected of, in some sense, "exploitation" of the local economy, especially, when as in the petroleum industry of the Philippines, they appear to exercise almost complete control over the domestic market. Commercial decisions may be easily misunderstood unless seen within the framework and structural characteristics of the international industry.

THE INTERNATIONAL PETROLEUM INDUSTRY

Outside North America and the Communist countries, oil is the business of a few, very large international companies.[4] These companies,

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[2]In the Manila area, an additional municipal tax of ₱0.01 is levied.

[3]Taxation of petroleum products is low in the Philippines relative to neighboring countries; taxation accounts for 46.3% of the retail price, for example, of gasoline in Bangkok and 64.0% in Kuala Lumpur.

constituting the "international petroleum industry," often assert that they serve as middlemen "buffers" to link together the interests of oil producing countries and oil consuming countries. To some extent they do, but significant changes in the organization and role of the international petroleum industry have taken place during the last two decades; increasingly, the middlemen role of the petroleum companies has been questioned especially by consuming countries. How can the companies act as neutral middlemen between countries possessing unequal political and economic power and equally important different tax structures? Further, the oligopolistic structure of the international petroleum industry suggests an adversary, rather than a harmonizing, role.

The economist's model of a perfectly competitive economy is simply not applicable or relevant to any explanation of the behavior of large international firms. In particular, the welfare proposition that competition allocates resources efficiently, and that there is harmony between private profit maximization and the general interest – especially overall world interest – breaks down. Businessmen in an oligopolistic industry tend to feel that they are surrounded by competitive forces, but unlike the individual entrepreneur of the competitive model some action can be taken to control and temper the changes that arise. The stresses of an oligopolistic industry structure have been compared with those of a military operation and moves and countermoves by the parties involved inevitably change relative standings.[5] Today, the once

[4]Recent analysis of the international petroleum industry can be found in the following works:
Edith T. Penrose, *The Large International Firm in Developing Countries, The International Petroleum Industry,* George Allen and Unwin, Ltd., 1968; Massachusetts Institute of Technology Press, 1969.
Michael Tanzer, *The Political Economy of International Oil and the Underdeveloped Countries,* Beacon Press, Boston, Mass., 1969.
Peter R. Odell, *Oil and World Power A Geographical Interpretation,* Penguin Books, London, 1970.
M.A. Adelman, *World Petroleum Market,* "Resources for the Future," Washington, D.C. (forthcoming 1971), argument summarized in "World Oil and the Theory of Industrial Organization" in ed.
J.W. Markham and G.F. Papanek, *Industrial Organization and Economic Development,* Houghton Mifflin, 1970.

[5]The terms used by K.W. Rothschild, in "Price Theory and Oligopoly", *The Economic Journal,* 1947, in analyzing oligopoly policies are appropriate to the international petroleum scene of the last two decades; namely, "changes in terrain" (the appearance of new territories and new rivals) and "internal stresses" (attempts made to redistribute relative shares amongst rival parties).

powerful and commanding position of the international petroleum companies vis-a-vis that of either producing or consuming countries has to a substantial extent disappeared.

PRICES, TAXATION AND INTERNATIONAL TENSIONS

The major international petroleum firms are vertically integrated companies involved in all stages of the oil business; namely, exploration, production and transportation of crude oil and refining and distributing the products. It is integration on the one hand and international transactions on the other that give rise to the many conflicts of interests with which the industry must contend. One advantage of integration would appear to be that a firm has some discretion in the allocation of overhead costs and of profits between different operations and, of course, the international incidence of taxation will to a substantial degree influence inter-affiliate pricing policies. Today, however, the ability of international petroleum firms arbitrarily to determine profit and cost allocation has largely disappeared.

When the different stages of operation of an international firm take place in different parts of the world, inter-affiliate pricing can effectively act as the export prices for one group of countries and the import prices for another group. The international firm must be primarily concerned with the *consolidated* profits after taxes of the group of affiliated companies as a whole, but each country affected by its operations must consider its own national public interest. If national taxation legislation favors one particular stage of production the distribution of the benefits from *overall* operations of the international firm must necessarily be distorted.

Today, particularly in the importing developing world, governments and citizens believe that the level of "oil prices (crude oil) has been arranged, so as to transfer income from themselves to the wealthier producing countries and to the international firms."[6] Why is it that the price of crude oil is of major importance at the present time

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[6]Odell, op, cit., p. 132.

to consuming and producing countries alike and to the international petroleum firms?[7]

After the Second World War until the end of the 1950's, the prices of crude oil and of products were almost entirely those established by the international companies to govern their internal transactions. The establishment of a price for crude oil became imperative when soon after the War producer governments began to clamour for an increased share of the "profits" from crude oil exploitation. The "50-50" profit-sharing agreements necessitated "posted-prices" for crude oil and were established in the light of existing taxation legislation. The U.S.A. had long given oil companies a tax subsidy in the form of a substantial depletion allowance on the production of crude oil and in 1949 a very important concession was granted allowing the deduction of taxes paid to a foreign government from U.S. income tax.[8] This decision has inadvertently adversely affected oil consuming countries – especially those with little bargaining power.

At the time the decision was made the sources of crude oil supply were firmly under the control of the international petroleum "majors" and even independent refiners had no alternative but to purchase oil from these companies at "posted-prices". Consequently, a country whose refineries were owned by the international firms was in no way at any disadvantage. The question of the price of crude oil and the ownership of downstream facilities assumes importance if independent suppliers of crude oil exist and offer to sell at lower than posted-prices. If refineries "tied" to international companies insist on using their own suppliers of oil and are either reluctant or unwilling to cut their transfer prices, then the country in which they operate will suffer from a higher than necessary expenditure of foreign exchange.

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[7]The demand for crude oil is derived from the demand for petroleum products. Apart from *tax* considerations, the price of products is of greater importance to an *integrated* firm than that of crude oil, because price competition in the product market, by reducing *total profits*, reduces directly the value of crude oil.

[8]The tax credit offsets the U.S. income tax which would otherwise have been paid by the producing affiliate. If the rate of tax imposed by host countries equals the U.S. corporate tax, no American taxes are paid; if the host tax rate exceeds the corporate income tax, a tax credit accrues but is not helpful to the oil companies if there is little additional taxable income in respect of producing operations.

In the late 1950's and during the 1960's competition in the international petroleum industry increased. For a variety of reasons the number of companies and countries actively participating in the industry increased noticeably and the postwar norm of orderly marketing controlled by the "majors" collapsed. A 1959 U.S. decision to impose mandatory controls on oil imports from low-cost sources of the Eastern Hemisphere had far-reaching economic effects. It immediately provided protection for U.S. high-cost producers,[9] and forced new crude oil supplies developed in anticipation of entry to the U.S. market to seek alternative uses for "surplus" oil. The "posted-price" was discounted by the newcomers to the international petroleum industry – at first to independent refiners and then as refinery building was undertaken by the international "minors" the "majors" were also forced to discount even to their own subsidiaries where necessary to keep business in the product market.[10] As new markets for crude oil were sought and the posted-prices widely discounted the taxes based on those prices to host governments became a greater burden on the consolidated earnings from *all* operations of the integrated companies. The companies unilaterally cut posted-prices in 1959 and 1960;[11] as host governments saw their revenues threatened they acted collectively to create OPEC (The Organization of Petroleum Exporting Countries).

OPEC was successful in the face of continuing market weakness in the 1960's in maintaining the level of the tax-base posted-price and since 1960 the tax has been almost a pure excise, in cents per barrel and has served as a floor to the price of crude oil. At the end of the 1960's, after a decade of decline, the free market price of crude oil was estimated to be from six to ten times above its level under *purely competitive* market conditions (that is, the long-run supply cost, including production, development and replacement costs and a

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[9]The continuing production of crude oil by high-cost U.S. producers has led low-cost Eastern Hemisphere producers to seek as an ultimate aim the U.S. price level for their oil supplies.

[10]"Control over crude oil supplies offers no monopolistic benefit to integrated firms engaged in unlimited price competition in product markets," Penrose, op. cit., p. 178.

[11]The companies' reduction of posted-prices, and hence, taxes, is clear evidence that higher posted prices reduced after-tax income.

commercial return on capital, but excluding producer taxation). Host governmental "take" explained 5/6 of more of the price-cost gap.[12]

The market weakness of the 1960's produced economic gains for some of the importing countries, notably to Western Europe and, in some years, to Japan (the main consuming markets). The developing world also gained as countries pressed for refinery building and refinery construction was undertaken by the international firms anxious to secure markets. Crude oil can be purchased at a lower foreign exchange cost than oil products and the countries gained from the "value added" internally to the raw material (given that a market for a refinery of minimum technical scale of operation existed). In many developing countries,[13] however, the inter-affiliate transfer price became a matter of contention as price quotations were shaded to those countries possessing bargaining strength.

The "surplus" of oil of the 1960's created largely because of the U.S.A. quota system meant that producing countries had to be content with the maintenance of tax-reference posted-prices.[14] It proved impossible to raise these prices to their previous level of the early 1950's, but producer countries became extremely knowledgeable about market conditions. Obviously, if an opportunity arose to renegotiate posted prices advantageously host governments would press for this action. Early in 1971 new substantially higher posted-prices were secured; for a number of reasons including some cutback in production by producers and a higher than anticipated rate of usage by oil consumers the crude oil surplus of the 1960's had disappeared (at least temporarily).

The short-to-medium run inelastic demand for petroleum products permits the oil companies to pass on price increases to consumers. As noted earlier Western governments levy high taxes on petroleum

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[12]Adelman, op. cit., p. 145 and p. 149.

[13]Western governments have had to consider the price of crude oil in relation to (1) the cost of alternative fuel supplies, especially of coal and (2) national investments in the international oil companies and the impact of company remittances on the balance of payments.

[14]The posted-price per barrel of petroleum from Kuwait (31.0° – 31.9° gravity, ex Mena al Ahmadi) was $1.72 from 1953 to 1956, $1.85 in 1957 and 1958, $1.67 in 1959, $1.59 from 1960 to 1970, $1.68 end 1970 and from February 1971, $2.085. See, issues of *Petroleum Press Service.*

products and also take advantage of the ultimate consumer's inelastic demand. It has been estimated that of the average price of a gallon of Middle Eastern oil imported into Europe, 57.5% is in payment of taxes; 45.1% to the home government and 12.4% to the exporting government.[15] Exporting countries, naturally, would like to take into their own coffers the taxes paid to home governments. Any success gained here by producing governments would inevitably increase the foreign exchange cost of oil, and be especially burdensome for importing developing countries.[16]

Harmony amongst the various interests involved in international oil does not, and cannot exist, given the present structural framework of the industry. There is an inherent conflict between the financial needs of producer governments and the financial requirements of the international firms and, between the interests of producers in price maintenance, and of consumers, particularly the importing countries of the developing world with their increasing energy requirements, in the lowest possible buying price. The Philippines, as an importing country, assists in the financing of the redistribution of world income, which is effected at present through the mechanism of the international petroleum companies.[17] Unfortunately, there exists no framework of analysis whereby the "costs" (in prices paid) of one group of countries can be weighed against the "benefits" (in revenues received) by another group of countries.

THE PHILIPPINE PETROLEUM INDUSTRY

Petroleum industry activities in the Philippines, are limited to refining (since 1954) and marketing operations (since the late 1950's). Despite extensive search for crude oil, no commercially exploitable reserves have been discovered.

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[15] *The Economist* (London) 6 February 1971.

[16] Developed industrialized countries can expect that some of the balance of payment cost of higher crude oil prices will be offset by increased industrial exports to producer governments and also by profit remittances (to parent countries). No such offsets exist for most developing countries.

[17] Whether producer governments could effectively maintain the oligopolistic price-tax structure of crude oil if they were completely to carry out the function of selling oil is a matter of speculation. See, for example, further discussion, Adelman, op. cit., pp. 149-51.

In 1954, the domestic market for petroleum products amounted to approximately 12 million barrels annually (or about 1.6 million metric tons)[18] and the first refinery had the capacity to supply somewhat more than a third of total demand; a second refinery went "on stream" in 1960 when local demand had increased 50% from the 1954 level. In the mid-1950's few developing countries offered markets approaching 2 million metric tons a year – once considered as the minimum size for a technically efficient refinery. During the last fifteen years the international petroleum companies have developed technology that has significantly reduced the cost of smaller scale refining. Nevertheless, unit costs of production are increased by the existence of partially unused facilities.

In 1962, two additional refineries came into operation and local demand approximated 22 million barrels annually or somewhat under 3 million metric tons. Total refining capacity at that time exceeded the requirements of the local market; the refineries were able to produce about 85,000 barrels/day (or 4.25 million metric tons a year) and were estimated to have excess capacity of 15,000 barrels/day (17.6%).[19] It has been estimated that there is a 1% rise in the unit cost of production for every 1% of underused capacity.[20] The local consumer will pay product prices that cover production costs – unless industry profit margins are squeezed and the latter situation is unlikely to exist for long. The establishment of a local refinery means initially some saving of foreign exchange (crude oil imports are cheaper than product imports), and the creation of a number of jobs but domestic prices either remain unchanged or tend to creep upwards.

Since 1960 refinery capacity has more than kept pace with increasing local demand and some exports of refined products have taken place. Table I shows the initial capacity of the four refineries operating in the Philippines and capacity of the end 1970 and scheduled capacity for the mid-1970's. Total refining capacity at the end of 1970 was 200.7 thousand barrels a day (9.9 million metric tons a year) – more than double the 1962 level and approximately 90% of total working

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[18]See Table A-II.

[19]U.S. Department of Commerce, *The Philippines, A Market for U.S. Products*, Washington, D.C., 1965.

[20]Odel, op. cit., p. 146.

capacity was utilized.[21] By the mid-1960's petroleum refining had emerged as a major industry in the Philippines as can be seen from table II and table A-III.

Subsidiary companies of the international petroleum firms own directly two of the four refineries in the Philippines (Caltex refinery is 100% owned by the California-Texas Company, and Bataan refinery is owned 57% by Standard Oil of New Jersey and 43% by Mobil Oil Company). Local and foreign equity interests respectively in the two joint refinery ventures amount to 33 and 67% in the case of Filoil refinery (67% Gulf Oil Company) and 25 and 75% in the Shell refinery (75% Shell Petroleum Company)..The petroleum product market of the Philippines has undoubtedly been dominated by affiliates of the international majors.

Caltex is a company owned in equal shares by Standard Oil of California and by Texaco. The principal producing facilities of Caltex are in Indonesia and Bahrain and the parent companies each own 30% of Aramco and each has a 7% interest in the Iranian Consortium. Standard Oil of New Jersey (Esso) is the largest (by all criteria) of the international majors and Mobil Oil is the smallest of the U.S. international majors (in terms of fixed assets and net earnings). Both companies are vertically and horizontally integrated and have ownership interests in the producing affiliates operating in the Middle East and elsewhere. Shell Transport and Trading Company is the British holding company of the Royal Dutch/Shell group of companies and is the second largest of the international majors. Gulf Oil Company is one of the five U.S. international majors and has 50% ownership interest in the Kuwait Oil Company (although almost all its share of Kuwait's output has been sold to Shell on a long-term contract that several years ago became the world's largest commercial agreement). Kuwait's operating costs of production of crude oil are thought to be perhaps the lowest in the world.

A refinery built by an international oil company is, of course, primarily designed to serve as an outlet for supplies of crude oil

[21]Tables A-VI and A-VII indicate the domestic demand for types of refined products and output of these products in the Philippines in 1969. With the exception of lubricants domestic demand was on the whole satisfied by refinery output. Exports consisted largely of residual fuel oil.

transferred between affiliates at a price planned to maximize overall company profits. It is not unreasonable to assume that decisions as to sources of crude oil and of transportation will be influenced by the vertically integrated structure of the firms. The refinery contracts between the companies and the Philippine government were made under the terms of the Petroleum Act of 1949[22] – an act designed to promote the establishment of a petroleum industry. The contracts were very similar to those signed elsewhere in the developing world, namely, they were relatively long-term and granted the companies the absolute right to choose the source of their imported crude oil requirements.[23] In the Philippines, initial concessions were for twenty-five years, renewable for another twenty-five years. (In India, in the early 1950's, initial refinery contracts covered a period of thirty years.)

Table III shows the sources of crude oil importations to the Philippines from 1964 to 1970 and it will be seen that approximately 60% came from the Middle East and 40% from Indonesia/Borneo. Was the Philippines at a disadvantage when "surplus" crude oil became available in the late 1950's and during most of the decade of the 1960's? The question cannot be considered in isolation from the issue of "relative bargaining strength," which is influenced by factors such as the size of the market and the overall extent of the country's reliance upon Western governments and the losses that would be suffered if such ties were weakened.

THE RELATIVE SIZE OF THE PHILIPPINE MARKET

In spite of rapid rates of increase in energy usage, the absolute level of energy consumption in the countries of the developing world is relatively small. In 1968, for example, Brazil, with a population of 90 million people used approximately 1/10 of the energy used by the 50 million people of Great Britain. It has been estimated[24] that 79%

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[22]Republic Act 387.

[23]The phrase in the refinery agreements that "the concessionaire shall not be required against the concessionaire's will to refine crude petroleum from foreign sources" has been interpreted by the Senate Committee on Economic Affairs to mean that the refineries cannot be compelled either to import or to refine foreign crude oil from sources other than those of their predetermined choice.

[24]*International Petroleum Encyclopedia 1969*, The Petroleum Publishing Company, Tulsa, Oklahoma, p. 5.

of the world's consumption of energy between 1965-1985 will take place in the industrialized countries and 21% in the developing countries. The main markets will continue to be those of North America, Japan and Europe. Table IV shows the domestic demand for refined petroleum products in the Philippines and some neighboring countries, in a number of industrialized countries and in a selection of developing countries in 1968. It will be noticed that total demand in the Philippines represented only 6.3% of that of Japan. Per capita consumption was 1.5 barrels of crude oil equivalent per annum compared with 8.7 barrels in Japan, 12.0 barrels in the United Kingdom and 24.4 barrels in the U.S.A. Total demand for refined products in the Philippines was about half of that of India – although per capita consumption was 7.5 times higher.

The countries of Southeast Asia are relatively small users of petroleum products and their markets are not as attractive to competing suppliers as the markets of Japan and Western Europe. One advantage of the international network facilities of the major petroleum companies is that shortages or surpluses of specific refinery products can be looked after within the overall scope of the firm's activities. The alternative might otherwise be that of bilateral arrangements – not necessarily easily made.

THE PRICE OF CRUDE OIL

During the mid-1960's, the open market price of crude oil f.o.b. the Persian Gulf ranged from $1.10 to $1.35/barrel. The top-end of the range seems to have been applicable to buyers "East of Suez," with the largest bids and the best "crude rating".[25] From United Nations statistics it appears that the average f.o.b. cost to the Philippines of crude (and partly refined) oil was $1.73 in 1965. The Philippines was a "captive" market of the major oil companies and the statistics indicate that the average f.o.b. price paid for crude oil was substantially higher ($0.30 to $0.40) than that paid by independent buyers – or by countries exercising bargaining power. At that time, the government of India – after bringing various pressures to bear on the international petroleum

[25]Estimates of prices paid for 34° crude oil. *Platt's Oilgram*, 23 February 1967 and 11 December 1967.

companies – and after prolonged negotiations with them – was obtaining significant discounts from posted Middle East crude oil prices.[26]

From time to time oil industry publications make estimates of the foreign exchange saving to the Philippines from the domestic operation of refineries.[27] In the mid-1960's when the country's demand for products was approximately 34 million barrels, the cost of wholly importing this quantity was estimated at over $93 million (an average per barrel cost of $2.735).[28] The foreign exchange saving from domestic production of products was calculated to exceed $25 million. The figures indicate that the cost of importing crude was about $68 million, or approximately $2.00/barrel (presumably a "landed" or c.i.f. cost). The country, of course, did gain from the importation of crude oil rather than refined products, but the total annual gain was significantly reduced by the extent of the inter-affiliate premium price charged for crude oil. The foreign exchange cost to the Philippines on the importation of 34 million barrels at a transfer price of $0.30 above the open market price must have been about $10 million.

Industry publications suggest that comparison of crude oil prices paid by the Philippines with those of Japan would be appropriate and provide an objective reference standard. Japan is the world's largest oil importer and the Japanese market is obviously an extremely attractive one for independent suppliers. Further, Japan, unlike some countries

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[26]For an account of the struggles of the government of India with the international petroleum industry see, M. Tanzer, op. cit., part 11. Also Biplah Dasgupta, "The Supply and Price of Imported Crude Oil to India", *The Journal of Developing Studies*, April 1967. Dasgupta indicates that the following discounts off posted-prices were obtained by July 1965:

Source of Crude	Posted-Price	f.o.b. price to India	Discount
Iranian Light	$1.78	$1.48	$0.30
Kuwait	1.59	1.34	0.25
Saudia Arabia (Safanya)	1.47	1.31	0.16
Indonesia (Minas)	2.10	2.10	nil

[27]Petroleum Institute of the Philippines, *The Refining and Marketing of Petroleum in the Philippines*, p. 2; and *Topics On The Oil Industry*, 1971, p. 47. .

[28]The average per barrel cost of importing products in 1953 (year before domestic refining began) can be estimated to have been $4.45. Both product and crude oil prices began to fall from the late 1950's until the end of the 1960's.

of Western Europe is not plagued by political pressures from a high-cost domestic coal industry, and thus, it would seem that Japan is a country whose every interest is served by low-priced oil. Japanese governments have, indeed, to an increasing degree shown concern about oil, and have attempted to further Japanese interests through extensive legislation. Nevertheless, Japan, although making astute oil "buys" from time to time, has not been a free market for oil.

A decision made in 1950 that refinery building should be undertaken jointly[29] by local Japanese companies and the international majors, meant that in return for providing the necessary foreign exchange requirements, the international companies secured the complete right to supply the crude oil. The continued expansion of refining in Japan during the 1950's and early 1960's strained the capacity of the local capital market and "all Japanese refinery companies were sooner or later obliged to accept loans from the international companies to finance development or expansion".[30] It has been estimated that at least until active steps were taken after 1966 to increase the supplies of oil under the control of Japanese companies, that 80% of Japan's oil imports were "tied up" (by long-term contracts) with the international majors. Crude oil prices fell from 1957 to 1962 and fell again in the late 1960's, but, for some years, Japan is estimated to have paid an average price per barrel U.S. $0.10 higher than that for crude oil available on the open market. Thus, despite Japan's large and expanding market, the country's bargaining position was for some years limited; a conflict with the international majors and the possibility of incurring also the displeasure of their home governments (especially the U.S.A.) was not considered to be desirable. It should also be noted that even the availability of Middle East oil from a Japanese consortium (from the Khafji field) did not mean that Japan's refiners were willing to take other than very limited quantities of this oil.[31]

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[29]For a succint account of the oil industry in Japan see, Odell, op. cit., ch. six.

[30]Odell, p. 124.

[31]Apart from the issue of refinery ownership, oil from the Khafji field suffers from a high sulphur content and is less desirable than lower sulphur oil in air-pollution conscious countries. Since 1966, however, refineries in Japan have gradually been "persuaded" under government pressure to accept more Khafji crude.

Table V and table A-IV give some indication of average per barrel values of crude oil for Japan and the Philippines from the United Nations and local industry sources. The estimates in the tables should be interrupted with considerable caution; the reliability of statistics reported to the United Nations varies from country to country as does the composition of products listed in any general category. It must be remembered, especially when looking at average costs of crude oil importations, that refinery designs differ from one country to another and that crude oil is not of homogeneous quality. For example, in March 1968, Japanese refiners obtained f.o.b. prices for Iranian light crude that ranged from $1.29 to $1.56 a barrel.[32] Industry sources in the Philippines believe that the average f.o.b. price paid at that time for Iranian light crude was $1.40.

Two comments may tentatively be made: (1) in 1967, when f.o.b. prices of Middle Eastern oil were reported by the local industry to be lower for the Philippines than those offered to Japan (table A-IV), the average c.i.f. value of oil for the Philippines appears to have been some 6.3% higher than the average c.i.f. value of oil for Japan (table V), despite Japan's greater distance from the Middle East. (2) On the whole, local industry claims that c.i.f. prices paid by the Philippines are within approximately a 5% range of those paid by Japan can be accepted. This claim can be checked to some extent independently from local industry statistics by adding average freight costs[33] weighted according to source of supply to the average f.o.b. values of crude oil

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[32] *Platt's Oilgram*, 4 December 1968. The quotations were as follows (f.o.b., Kharg Island):

Company	Quantity (000 barrels)	f.o.b. $	c.i.f. $
Daikyo Oil	802.8	1.29	1.69 and 1.79
Daikyo Oil	549.6	1.31	1.68
Nichime Sekiyu Seisei	967.5	1.56	2.04 and 2.26
Nippon Mining	561.2	1.37	1.77
Nippon Oil	647.4	1.41	1.97
Showa Oil	127.1	1.49	2.03
Shell Sekiyu	810.1	1.41	1.83 and 1.93
Toa Nenryo Kyogo	459.9	1.56	2.04

[33] Freight rates calculated for medium-range tankers for 1965 and 1966 and for category Large Size 1 in 1967 and 1968. The use of medium-range freight rates would raise the landed per barrel values for 1967 to $2.10 and for 1968 to $2.05.

calculated from United Nations data. Landed per barrel values estimated in the above manner are: 1965, $2.09; 1966, $2.03; 1967, $2.03, and 1968, $1.98 (table V shows local industry estimates). Nevertheless, even small differences in c.i.f. prices can conceal effective discounts such as, for example, "spiking" at no charge, in order to uplift the quality of the crude. A myriad of factors such as credit terms, volume of crude oil shipped on each journey, storage facilities and so on, affect the specific price at any one time and tend to be concealed in "averages". For example, in 1970, payments for certain crudes delivered to India were said to be made within an average of seven days from the date a vessel was loaded in the Middle East. In the Philippines, however, crude oil payments were extended over a period of ninety to 180 days. Each thrity days of credit was worth approximately U.S. $0.015 cents/barrel to the supplier, who had current financial commitments in the country of production.[34]

Governments throughout the world have become in the last decade increasingly knowledgeable concerning the economics of international oil. Concession terms and conditions concerning the sale of crude oil reveal considerable variation between different producers and consumers. The international firms have yielded most to those governments in strong bargaining positions, particularly to producers, and have exploited weaknesses. Some countries have decided to bypass the international oil companies and many government to government deals have been made. The terms of some of the government to government deals have not been more advantageous than those available through the medium of the oil companies and bilateral dependence for either importer or exporter can bring its own train of problems. Of course, it must be admitted that the gain in "psychic welfare" from running your own affairs may more than balance any economic costs involved.

RETAIL MARKETING

The local refineries distribute the refined products through specific marketing entities most of which are affiliates of the supplying

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[34]Petroleum Institute of the Philippines, *Facts About the Petroleum Industry*, September 1970, No. 20.

refinery.[35] Filoil Marketing and Arabay, Inc., however, are 100% Filipino-owned. In selling their products to their respective marketing affiliates, the refineries reportedly price their sales on either of two bases; namely, cost plus profit or import parity. The major element in cost plus profit is the cost of crude oil[36]; local operating expenses are raised by any unused capacity but in recent years are unlikely to have amounted to as much as 25% of the value of sales. The profit mark-up as of 1967/68 cited by representatives of the industry during the legislative inquiries of the Senate Committee of Economic Affairs was U.S. $0.14 "per barrel on the crude equivalent of products sold" – a relatively small sum in comparison with the c.i.f. value of crude oil of around $2.00/barrel.[37]

Import parity means that the marketing affiliate is charged on the basis of what it would have cost the latter to import the product being acquired from the refinery. Pricing on this criterion means that the ultimate consumer does not at all directly benefit from the existence of a domestic refinery. Indirectly, he benefits from the foreign exchange savings to the country as a whole from the importation of crude oil

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Refineries	Marketing Entities
Bataan Refining Corporation	Esso Standard Eastern, Inc.
	Mobil Oil Philippines, Inc.
Caltex (Philippines), Inc.	Caltex (Philippines), Inc.
	Getty Oil (Philippines), Inc.
Filoil Refinery Corporation	Filoil Marketing Corporation
Shell Refining Co. (Philippines), Inc.	The Shell Company of the Philippines, Ltd.
	Arabay, Inc.

[36]During the 1960's, at the same time that capacity in Europe was substantially expanded, "downstream losses" were apparently suffered by integrated oil companies. The losses were computed by subtracting from the sales value of refined products operating expenses and the f.o.b. undiscounted posted-price of crude oil. Non-integrated refining companies selling products at about the same price as the integrated companies made profits and also expanded capacity. See Adelman, op. cit., p. 141.

[37]The transport component of the c.i.f. cost of crude oil can range from 10 to 30% of the total import price and the system of "assessed freight rate" billing (largely an inter-affiliate matter) (see for further discussion, Tanzer, op. cit., ch. twelve) tended to stabilize prices in the interest of companies rather than consumers. AFRA tended to reflect high historical tanker rates when shipping costs were falling in the early 1960's, but when spot rates increased sharply after the Suez crisis of 1967, the basis of calculation was changed and these high rates were reflected in AFRA more quickly than otherwise.

rather than products. Basing domestic ex-refinery prices on "import parity" means, of course, that profits will be higher, the higher the assumed import parity prices for products.

Table A-V gives some estimates of net income (after payment of corporate income tax) of the local petroleum companies as percentage of sales in 1969 and 1970. The figures indicate that profits as a percentage of sales were at that time very low for the wholly owned Filipino companies, but otherwise reveal very little as deductions from sales in the derivation of net income are not known. A more adequate assessment of the ratio of local earnings to local sales may perhaps be discerned from the rate of increase of total assets. Total assets in the petroleum industry of the Philippines increased from approximately ₱1 billion in 1966 to ₱1.8 billion in 1970,[38] or at an average rate of 15%. The industry declares that it reinvests the vast majority of its profits to finance industry expansion and "self-financing" of expansion inevitably means that present-day consumers produce the funds required to meet the needs of future consumers.

CONCLUSION

A full balance-sheet showing costs and benefits to the Philippines from the activities of the international petroleum industry cannot, at present, be made. Some relevant information such as statistics on the inflow and outflow of funds, the per cent of local payments per sales dollar, the extension of credit facilities and of the industry's technical assistance either are not available or not in sufficient detail. The country undoubtedly has benefited from employment generated by the local industry (and from the multiplier effects which have followed from this activity) from technical skills gained and from taxes paid. On the other hand, for some years during the 1960's, it would appear that the Philippines lacked the bargaining strength to obtain crude oil prices comparable, for example, to those paid by India (although other factors may have provided offsets to counter the higher prices). The ultimate consumer has paid a price for products sufficient to meet local refinery and marketing costs and has helped also to finance industry expansion.

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[38]Petroleum Institute of the Philippines, *Topics on the Oil Industry*, 1971, p. 44.

industry expansion, however, has given him more retail outlets and greater convenience in obtaining the final products.

Governmental enquiry into the petroleum industry operations in the Philippines has until recently been minimal. The Oil Industry Commission Act of 1971 will give governmental-appointed Oil Industry Commission power to set the maximum prices to be paid for crude oil and also the ability to regulate product prices and the commission will be required to gather information concerning industry practices. This last task will be an extremely valuable one: full information concerning the industry will allow an objective evaluation to be made of the industry's real contribution to the economy of the Philippines. During the next few years it is probably safe to forecast that no dramatic price reduction of either crude oil or of refined products will take place. In a period of tight oil supplies, importing countries inevitably pay the price demanded by producers – otherwise they take the risk that supplies will not be forthcoming. The consumer in the Philippines can expect that the ultimate burden will be passed on to him in higher product prices.

TABLE I

PHILIPPINES: REFINERY CAPACITY

Date "On Stream"	Refinery	Initial Capacity b/d	Capacity End 1970 b/d	Capacity Scheduled during 1970's* b/d
1954	Caltex	13,000	60,000	100,000+
1960	Bataan	25,000	50,700	110,000
1962	Shell	25,000	62,000	130,000
1962	Filoil	10,000	28,000	100,000

b/d = barrels per day

Source: Petroleum Institute of the Philippines, The Refining and Marketing of Petroleum in the Philippines; and Topics on the Oil Industry, 1971.

*Scheduled capacity for the following years: Shell and Filoil, post-1976; Caltex, 1976; Bataan, 1972/73.

TABLE II

PHILIPPINES, MANUFACTURING SECTOR: PRODUCTION BY INDUSTRY GROUPS S.I.T.C. 31 AND 32, CHEMICALS, PETROLEUM AND COAL, 1958-1965

Year							
1958	1959	1960	1961	1962	1963	1964	1965
value added at factor cost, millions of 1963 pesos							
102	106	116	350@	360	427	497	539
percentage of total manufacturing sector							
6.4	6.1	6.1	15.8	14.8	15.6	16.1	16.2
percentage of total manufacturing sector minus industry group Food, Beverages and Tobacco							
11.6	10.8	11.1	26.5	25.3	25.8	26.5	26.2

@ Output of Petroleum and Coal industries included in total S.I.T.C. groups 31 and 32 from 1961 onwards; in earlier years output figures of these industries included in the miscellaneous group of "Other manufacturing".

Source: United Nations, The Growth of World Industry, U.N., New York, 1968. For greater detail of Philippine manufacturing sector, see table A-III.

TABLE III

PHILIPPINES: CRUDE OIL IMPORTATIONS, 1964-1970 PERCENTAGE DISTRIBUTION BY SOURCES

Year	Sources % Middle East	% Indonesia/Borneo	Total Imports (000 Barrels)
1964	55.7	44.3	31,635
65	63.0	37.0	34,245
66	59.0	41.0	38,937
67	60.0	40.0	47,496
68	61.5	38.5	57,192
69	58.8	41.2	61,097
70	57.5	42.5	64,771
1964-70	59.5	40.5	335,373

Source: Records of The Petroleum Institute of the Philippines.

TABLE IV

DOMESTIC DEMAND FOR REFINED PRODUCTS: SOUTHEAST ASIA AND OTHER COUNTRIES, 1968

Countries	Domestic Demand* ('000 barrels)	Domestic Demand per capita (barrels)
Southeast Asia:		
Philippines	55,157	1.54
Thailand	34,022	1.01
Indonesia	39,615	0.35
Malaysia and Singapore	61,827	5.02
South Vietnam@	56,962	2.40
Laos	860	0.30
Burma	7,007	0.30
Other Asian Countries		
Japan	881,101	8.71
India	112,522	0.22
Europe		
United Kingdom	665,925	12.04
West Germany	728,423	12.56
Italy	518,783	9.80
Netherlands	229,538	18.05
Denmark	99,409	20.41
Spain	166,911	5.12
Developing Countries		
Brazil	169,928	1.90
Argentina	139,265	5.90
Chile	30,523	3.26
Uruguay	11,350	4.03
Venezuela	70,888	7.31
North America		
U.S.A.	4,901,789	24.37
Canada	491,813	23.68

* Domestic demand including bunkers.
@ Including Cambodia.
Source: U.S. Dept. of the Interior, Bureau of Mines, Washington, D.C., International Petroleum Annual, February 1970.
Population estimates from International Monetary Fund, International Financial Statistics.

TABLE V

CRUDE OIL PRICES: PHILIPPINES AND JAPAN, 1964-1968

Year	Average per barrel price: crude oil		Average per barrel price: crude and partly refined oil	
	Philippines c.i.f.	Japan c.i.f.	Philippines f.o.b.	Japan c.i.f.
	$	$	$	$
1964	2.131	n.a.	1.83	2.05
65	2.075	1.977	1.73	1.98
66	2.043	1.906	1.68	1.91
67	2.027	1.912	1.66	1.91
68	1.933	1.901	1.59	2.00

Source: United Nations, Yearbook of International Trade Statistics (various issues) (Conversion rate of 7.4 barrels/metric ton has been assumed reflecting an average world gravity.)

Average per barrel c.i.f. price of crude for the Philippines are estimates prepared by The Petroleum Institute of the Philippines.

TABLE A-I

PHILIPPINES: IMPORTS OF MINERAL FUELS AND LUBRICANT 1950-1969

Year	Imports S.I.T.C.3 f.o.b. U.S. $ m.	S.I.T.C.3 as % of Total Imports	Year	Imports S.I.T.C.3 f.o.b. U.S. $ m.	S.I.T.C.3 as % of Total Imports
1950	34.46	9.6	1960	59.78	9.9
51	35.71	7.4	61	49.72	8.0
52	41.83	9.9	62	57.27	9.8
53	54.14	10.7	63	61.34	9.6
54	53.83	11.2	64	69.54	8.7
55	52.39	9.8	65	72.83	8.7
56	57.86	10.4	66	85.66	9.8
57	60.99	9.4	67	93.18	8.8
58	59.72	10.9	68	105.80	8.7
59	59.78	11.4	69	106.80	9.4

Source: United Nations, Yearbook of International Trade Statistics (various issu

TABLE A-II

PHILIPPINES: DOMESTIC SALES OF PETROLEUM PRODUCTS 1953-1970 (thousand barrels)

Year	Domestic Sales	Year	Domestic Sales
1953	11,995	1963	25,067
54	11,820	64	28,317
55	12,980	65	31,444
56	14,055	66	34,969
57	15,592	67	38,687
58	16,876	68	44,446
59	17,871	69	47,925
60	18,190	70	48,291
61	19,705		
62	21,741		

Source: Estimates prepared from records of The Petroleum Institute of the Philippines.

TABLE A-III

PHILIPPINES: MANUFACTURING SECTOR, PRODUCTION BY INDUSTRY GROUPS

(Value added at factor cost millions of 1963 pesos)

International Standard Industrial Classification		1958	1959	1960	1961	1962	1963	1964	1965
2-3)	Manufacturing (total)	1588	1752	1917	2222	2434	2738	3089	3335
20,21,22)	Food, beverages, tobacco	708	771	871	903	1012	1082	1211	1275
23,24)	Textiles, footwear, clothing and made-up textiles	176	179	194	203	219	259	248	268
25,26)	Wood, cork and furnitures	127	116	118	132	146	160	161	170
27,28)	Paper, printing	92	97	112	126	140	146	169	187
29,30)	Rubber and leather	44	46	47	61	76	85	91	106
31,32)	Chemicals, petroleum and coal	102	106	116	350*	360	427	497	539
33)	Non-metallic minerals	61	70	70	93	102	113	118	121
34)	Basic metals	20	30	31	30	28	40	49	54
35,36,37,38)	Metal products and equipment	178	235	265	304	330	403	518	589
39)	Other manufacturing	80	102	93	20	21	23	27	26
	Mfg. minus food, beverages and tobacco	880	981	1046	1319	1422	1656	1878	2060

Source: United Nations, The Growth of World Industry, U.N., New York, 1968.

* : Output of petroleum and coal industries included in total from 1961 onwards; in earlier years output figures of these industries were included in miscellaneous group of "Other manufacturing".

TABLE A-IV

CRUDE OIL PRICES BY TYPE OF CRUDE, PHILIPPINES AND JAPAN

f.o.b. U.S. dollars per barrel

Type of Crude	Philippines	Japan	Price Difference (–) in favor of (+) against the Philippines
Arabian Light	1.520	1.540	–.020
Arabian Heavy	1.290	1.326	–.036
Iranian Light	1.400	1.464	–.064
Iranian Heavy	1.320	1.352	–.032
Kuwait	1.340	1.395	–.055
Kuwait Special	1.411	1.488	–.037
Minas (Sumatra)	1.640	1.620	+.020
Seria (Sarawak)	2.000	2.000	

Sources: Philippine prices from Petroleum Institute of the Philippine Reports, June 1968. Japan prices from Ministry of Trade and Industry Reports, June 1968.

Table published in Facts About the Petroleum Industry, prepared by The Petroleum Institute of the Philippines, 1968.

TABLE A-V

PETROLEUM INDUSTRY, PHILIPPINES: SALES AND NET PROFIT, 1968-1970

Company	Sales		Net Profit		Net Profit as % of Sales	
	1969	1970	1969	1970	1969	1970
	P million		P million		%	
Refineries						
Bataan	166.8	241.8	5.6	8.5	3.36	3.52
Caltex*	371.6*	481.1*	29.6	26.6	7.79	5.53
Shell	342.6*	390.5*	30.4	25.1	8.88	6.43
Filoil	104.9	134.2	2.1	1.3	1.99	0.97
Marketing Companies						
Esso	270.6	325.3	6.2	4.7	2.29	1.45
Mobil	223.2	286.5	10.4	9.8	4.65	3.42
Filoil	125.8	155.2	0.4	0.6	0.32	0.42
Arabay	120.7	153.8	0.1	0.1	0.12	0.09
Getty	71.7	91.1	7.5	5.0	10.05	5.49

*Consolidated figures of refining and marketing activities.

Data taken from financial statements submitted to Securities and Exchange Commission, Republic of the Philippines.

Sale is net sale and net profit is income after corporate income tax, but includes dividends on preferred stocks.

TABLE A-VI

PHILIPPINES: OUTPUT OF REFINED PRODUCTS, IMPORTS AND EXPORTS
1969
(thousands of barrels)

	Gasoline	Kerosene and Jet Fuel	Distillate Fuel Oil	Residual Fuel Oil	Lubricants including grease	Other	Refinery Fuel and Loss	Total Output Refined Products
(1)	14,561	5,744	12,853	21,337	0	1,744	4,271	60,510
(2)	200	119	0	32	607	260		1,218
(3)	0	0	94	2,307	0	1,041		3,442

Source: U.S. Dept. of the Interior, Bureau of Mines, Washington, D.C., 1971.
International Petroleum Annual, 1969.
(1) Output, (2) Imports, (3) Exports and re-exports.
Also imported: Aviation Gasoline, 63,000 barrels.

TABLE A-VII

PHILIPPINES: DOMESTIC DEMAND FOR REFINED PRODUCTS, BY TYPE, 1966-1969

Year	Gasoline	Kerosene and Jet Fuel	Distillate Fuel Oil	Residual Fuel Oil	Lubricants	Other Products	Refinery Fuel and Loss	Total Domestic Demand
1966	12,204	3,459	8,137	13,680	718	1,141	2,333	41,672
1967	12,756	3,852	9,191	16,028	642	1,568	2,913	46,950
1968	14,962	4,565	11,371	19,390	759	1,707	2,403	55,157
1969	14,761	5,863	12,759	19,062	607	963	4,271	58,286

All figures in thousands of barrels.

Source: U.S. Dept. of the Interior, Bureau of Mines, Washington, D.C., 1971.
International Petroleum Annual, 1969.

Note: Domestic demand differ from those in table A-II owing, presumably, to different methods of estimation.