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# THE DEVELOPING ECONOMIES, TAX AND ROYALTY PAYMENTS BY THE PETROLEUM INDUSTRY, AND THE UNITED STATES INCOME TAX

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A group of developing economies had the good fortune to be endowed with substantial petroleum or mineral resources. Venezuela, Libya, Saudi Arabia, Kuwait, Iraq, Iran, Nigeria, and Indonesia have enjoyed oil bonanzas. Zambia, Chile, Peru, and Congo (Kinshasa) have a large portion of the world's copper deposits. Other countries have bauxite, iron ore, and other minerals. These resources can be of great value to the countries in aiding economic development, but their contribution is greatly dependent upon the royalty and tax policies employed in the countries, which, in turn, are influenced to some extent by the tax policies of the United States and other developed economies.

## I

### THE CONTRIBUTION OF PETROLEUM AND MINERAL RESOURCES TO DEVELOPING ECONOMIES

#### *A. Potential Contribution*

The significance of these resources to the countries may be clarified by the use of a simple analogy. Assume that a country has a great pyramid of gold bars neatly provided by nature ready for shipment abroad. As these bars are sold to foreign buyers, gross domestic product is increased by the amounts received from the sale. These amounts are potential elements in national income, which determines the economic well-being of the residents of the country; they become actual elements if they are paid to residents of the country. If they are, they may be exchanged for foreign capital goods necessary for optimal economic development; they may be used to pay expatriate teachers and technicians and managers, also important for development; or they may be exchanged for consumption goods and raise per capita real consumption directly and immediately—with a slower rate of growth. The transactions also provide a convenient "handle" whereby the government may gain command over resources to use in conformity with development plans. Tax handles are typically scarce in developing countries. The petroleum and mineral deposits are very similar to the gold bars, with exceptions subsequently noted.

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*B. The Optimal Rate of Exploitation*<sup>1</sup>

Let us continue the gold bar analogy for a moment and continue to disregard the differences between the bars and the actual resource deposits. So long as the world price of gold is fixed and is expected to remain fixed regardless of the quantity of gold the country sells, it is obviously advantageous for the country to convert the gold bars to foreign funds as quickly as ships can load them and carry them away. The bars, as such, contribute nothing to economic development or to current consumption. The amounts received for them can be used immediately to acquire goods that will aid development or raise consumption. It is true that a developing economy can absorb new capital goods only at a given rate without drastic decline in marginal productivity (increase in ICOR) because of shortages of personnel, inability to introduce some capital goods until others have been placed in operation (a new steel mill cannot function until the railroad has been completed to bring in the ore and a new harbor built to haul away the product), and the problems of acquiring equipment quickly.<sup>2</sup> However, assuming the availability of interest payments on foreign investments, the country can benefit in the interim years through growth in capital available for eventual use.

If the assumption of a fixed price is dropped, immediate conversion of the entire stock of bars would not necessarily be advantageous. The gains from immediate conversion, in the form of returns from the goods acquired and interest on interim sums, must be compared with the cost in the form of lower prices from the sales of various quantities now instead of in the future. The significance of increased sales for the market price and the expectations of future prices would determine the exact optimal rate—the rate at which the marginal gain from additional current sales just equals the loss from conversion now instead of delaying conversion to the future, with the appropriate discounting of future gains to the present.

The actual situation with petroleum and minerals differs in several aspects from that of the gold bars. First, while the fixed price assumption is reasonable for gold, it is not necessarily reasonable for other minerals and oil, at least for countries supplying any significant portion of the total world supply. Accordingly, the optimal rate of exploitation will be slower. Secondly, the deposits are not sitting in neat pyramids or oil tanks waiting for ships to

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1. An intensive discussion of optimal rates of exploitation of natural resources is provided in the symposium volume, *Extractive Resources and Taxation* (M. Gaffney ed., Univ. of Wisconsin, 1967).

2. In recent years, for example, Zambia has been spending less than the amounts appropriated because of the inability to obtain delivery of goods at a fast enough rate.

carry them away. Economic activity is necessary to extract the products from the ground, store them, and transport them to the point of shipment. The mere existence of these costs is likely to render some of the deposits uneconomic and thus they will not be exploited. If the costs per unit are constant as the rate of exploitation increases, the existence of the costs would not reduce the rate of exploitation of the economically usable deposits. But, in fact, the costs per unit of product are not independent of output in the extractive industries. Beyond a certain point they rise because of limited capital facilities, which makes the marginal cost of additional output almost prohibitive once capacity is reached. Over a longer period the costs per unit rise because output will rise less rapidly than investment. New wells will be less productive per dollar of investment than old ones since they tap less productive parts of the field and they result in less intensive use of the old ones and higher capital cost per unit. This tendency for marginal cost to rise complicates the ascertainment of the optimal rate of exploitation and clearly reduces it still further.

A third difference arises from the hidden character of oil and mineral deposits. The situation is comparable to one in which the gold bars had been hidden around the country like Easter eggs. No country knows exactly what its petroleum or mineral reserves actually are, and continued exploration of new areas and drilling are required to find additional reserves. A new variable is thereby introduced: the optimal rate of exploration must be determined. While definition of the optimum is simple, application is not because of the unpredictability of the results. Furthermore, the lack of knowledge of reserves complicates the task of defining the optimal rate of exploitation, because it increases uncertainty about future costs of production and future prices of the product.

In summary, the optimal rate of exploitation of petroleum and mineral resources depends upon:

1. Expectations of future prices for the product compared to present prices. These in turn depend in part upon the effect of changes in the rate of production upon current world prices for the products.

2. Expectations of costs of production in the future compared to the present. These are influenced by effects of changes in the rate of exploitation upon marginal costs and by expectations about technological changes and changes in factor prices.

3. The return available from use of the funds obtained from the export of the petroleum or minerals, domestically through use

for development purposes, or externally through the earning of interest.

4. The interest rate employed to discount future earnings and costs to the present. This would appear to be identical with the figure in 3.

The third figure—the return from use of economic development—is likely to be much higher in a developing country than in a highly developed one.

These determinants are economic ones; others may influence decision making about the rate of exploitation. The objective of a rapid rate of economic growth may be so strongly sought that the government may push the exploitation of the resources even faster than is dictated by economic determinants alone. On the other side of the picture, the government may currently be unable or unwilling to follow policies that optimize the use of the funds. Thus the people of the country might gain from delay in exploitation until the government has become more honest and more concerned about the welfare of the population as a whole. The people of Venezuela would probably have benefited if oil development had not occurred until after the overthrow of the Jiménez government in 1958.

### C. *Realization of Benefits*

The potential gains to a developing country are not automatically realized; the resources may be exploited with little or no benefit to the country. This can best be illustrated with an extreme example. Returning again to the gold bar analogy, let us assume that some night a foreign ship docks alongside the pyramid of bars, sends its crew ashore to load the gold aboard, and sails away across the horizon before the populace is aware of what has happened. Obviously the country has gained nothing whatever. Similar events may occur with the petroleum. A foreign firm gains a concession from the government—or in earlier years simply seized the land—to explore for and develop oil or mineral production in a sector of the country. The firm sends in its own exploration and drilling crews as well as supplies and food for them, buying nothing locally. Oil is discovered, wells are drilled and other facilities built with foreign labor. A pipeline is laid to a loading point on the shore, and the petroleum moves off to foreign refineries. Personnel to operate the facilities are likewise sent from the home country and spend their income in the latter. No taxes or royalty are paid in this extreme example. Obviously the developing country gains nothing whatever except a fictitious increase in gross national product—

no foreign exchange, no increase in real national income or employment, no tax revenue for the government. The oil reserves have simply been donated to the developed world.

This is an extreme example, of course. No country today will permit this form of exploitation in full measure and no foreign firm would seriously suggest it. But it illustrates the dangers and the actual consequences to the extent that the foreign firm earns and retains abroad amounts in excess of those required to insure exploration, development, and production. Benefits from the development of the petroleum resources accrue to the developing economy only as a result of payments by the foreign firm to persons within the country that result in greater real consumption or an increase in the net wealth of the persons of the country, individually or collectively. The payments, per se, may take several forms: wages and salaries paid to residents, interest or dividends paid to local investors in the enterprise, amounts paid for local materials which in turn become factor incomes, royalty and taxes paid to the government, and payments to nationals arising out of reinvestment in the country of profits of the firm, either in the same activity or others.

The payments will increase income in real terms only if they (1) are used to import consumption goods or capital goods, or (2) by increasing aggregate demand, lead to an equivalent increase in domestic output through better utilization of resources, or (3) are invested abroad, increasing the economy's claims to foreign assets. The long run increase in per capita real income will be greater to the extent that the payments are saved and reflected in real investment in those capital goods with the highest productivity, with the assumption that this return exceeds the amount that can be obtained from foreign investments. If the payments are used to buy domestic output without an equivalent increase in domestic production, they will cause inflation, although the country's foreign holdings rise. Sale of natural resource products abroad is similar in domestic effects to money creation if the amount is spent internally. The great difference is that the sale creates command over foreign goods that can be used to aid economic development, while money creation does not.

## II

### GOALS OF GOVERNMENTAL POLICY TOWARD NATURAL RESOURCES

Governments of developing economies almost universally stress two primary goals (although with varying relative emphasis): as rapid an increase in per capita real income as is possible, and an

acceptable pattern of income distribution. Avoidance of inflation is also frequently regarded as desirable, partly for distributional reasons. In conformity with these general goals, governments of developing economies frequently seek to attain several objectives relating to the development of petroleum and other natural resources:

1. Optimization of the rate of exploration and development, as previously noted. This rate is almost certain to be higher than in more developed countries.

2. Payment of as much of the proceeds from the sale of the petroleum and minerals to persons within the economy, individually or collectively, as possible, in a pattern consistent with distributional goals.

3. Optimal use of the payments in conformity with the development objectives. Under usual theories of economic growth, maximum growth will be attained by minimizing the purchase of luxury consumption goods and use of the funds saved for real investment yielding the maximum gain for development.

4. Avoidance of inflation caused by excessive aggregate demand created by the payments, or through wage increases arising in the resources industry and spreading to other parts of the economy.

#### *A. Policies to Attain These Objectives*

A variety of techniques may be used to aid in attainment of the objectives, such as control over repatriation of earnings and requirements for hiring local personnel. The most important technique, however, is absorption by government of net earnings from the sale of the petroleum over and above the amounts required to ensure continued exploration, development, and production. By so doing the government prevents repatriation of these amounts and gains control over them to ensure that they are used in such a way as to provide maximum contribution to economic development. There is one possible modification: if capital is required for expansion of facilities for further development of the industry, the government may wish to leave a portion of the excess earnings in the hands of the firm for use in this fashion. In other words, apart from this possible modification, the government seeks to obtain the entire amount of economic rent arising out of the exploitation of the resources, since this amount represents the value of the resource deposits. It is, therefore, a true economic surplus and can be acquired by the government without injury to development and production of petroleum. Failure to acquire it would lessen the potential rate of growth of the economy.

Attainment of this objective is difficult, mainly because of the

problems involved in ascertaining the return necessary to ensure continued exploration, development, and production at desired levels. There are several possible approaches for establishment of the payments to the government:

1. Competitive bidding for leases

If the government owns the mineral rights, as is true in most developing countries,<sup>3</sup> it may employ a system of competitive bids for the privilege of developing oil resources, in the same fashion as the United States Forest Service does in the sale of standing timber. If the quantity of the resources and cost of exploiting were known (as is largely true with lumber) and if bidding were actually competitive, the system would work reasonably well, as it has with some offshore oil leases of the State of California. The companies would bid the rental figure up to the level of the full economic rent. But the quantity of resources is not known at all accurately, especially before exploration, and the top bid therefore may be much less than the economic rent. More seriously, bidding is often not truly competitive because of implicit or explicit collusion, as in the lumber industry. When the system is used, the leases often take the form of a percentage of royalty, a system which, as noted below, may reduce output below the optimal figure.

2. Specification of percentage payments

The most common approach actually used involves the establishment by law or agreement of payment of a percentage of net earnings, gross proceeds, or both. Initially many countries used the 50% of earnings formula, and profits were divided equally between the firm and the government. In years of low prices, however, payments were drastically reduced under this method. Accordingly, many countries now require a royalty payment based on gross proceeds, often 12½%, in addition to 50% or more of net profits.

The percentage system provides substantial revenue from profitable operations. But there is no assurance whatever that the government obtains the maximum possible amount. With many petroleum developments, the proceeds are such that much more than half of the profits is essentially economic rent. Secondly, the use of a uniform percentage unrelated to cost will discourage the exploitation of marginal resources.<sup>4</sup>

The percentage-of-gross royalty system is particularly injurious,

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3. Either by retention when land originally passed into private hands, as in much of Latin America and western Canada, or by subsequent purchase, as in Zambia.

4. A detailed analysis is found in Polanyi, *The Taxation of Profits from Middle East Oil Production*, 76 Econ. J. 768 (1966).



because a payment of  $12\frac{1}{2}\%$  on low-profit developments will result in net losses and the projects will not be undertaken. Even the percentage-of-net system will discourage those projects in which the after-tax return is less than that regarded as a necessary minimum. No matter how profitable the overall operations are, a company will not undertake barely-profitable projects if the after-charge return is less than the minimum required. The consequences are particularly serious with mining. The percentage system will cause the company to leave marginal ore behind with eventual recovery at a later date virtually prohibitive, and the company will not develop new marginal levels, shafts, or mines.

The most adverse form of charge is a fixed amount of money per physical unit. This system will render a still wider range of developments unprofitable.

Finally, the percentage systems encourage the firms to overstate expenses in every way possible, as subsequently noted.

### 3. More precise calculation of economic rent

There are various possible approaches to ascertain economic rent more precisely. One approach, suggested by G. Polanyi, involves estimation of the cost and the minimum necessary profit per barrel of oil, and subtraction of this sum from gross proceeds to ascertain economic rent, which the government would take in its entirety.<sup>5</sup> This approach suffers from several limitations. Cost per unit is significantly dependent upon the rate of output and may differ greatly for various portions of the firm's output. The system, therefore, has the same adverse effects upon output as a percentage approach, even though in form it gives more recognition to the cost element. The 100% marginal rate on additional earnings increases the dangers of loss in efficiency and the making of purely wasteful expenditures, particularly ones that provide amenities for the officials of the firm.

A related approach involves annual calculation of the payment to the government by deducting from total proceeds the necessary return, ascertained by applying the necessary return rate to total investment in the enterprise. The government might take the entire excess, or leave a portion of it with the firm to avoid the dangers of a 100% marginal rate. A variant would use the previous year's figure, or determine the payment on the basis of a five year moving average, to minimize the impact of a high marginal rate, and give the charge more of a lump-sum character for any one year, thus minimizing adverse effects.

This approach should come closer to ascertainment of the eco-

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5. *Id.*

conomic rent with adequate regard for varying costs in different parts of the firm's operations and variations in cost as output varies. But many practical problems would remain in calculating the total investment and preventing the firm from overstating the figure. One of the most significant objections is the probable dislike of the companies for any system that provides annual calculation of the payment instead of use of a standard percentage formula because of fear that in each annual calculation they would fare progressively worse and would have to fight a constantly recurring battle to protect their interests.<sup>6</sup>

### *B. Inherent Conflicts*

All of these approaches and variants of them suffer from several inherent conflicts between the government and the firms:

#### 1. Rate of exploitation

Both the government and the firms are influenced by the same general factors affecting the optimal rate of exploitation of the resources. But some differences are likely. The potential gain from the use of the proceeds for purposes aiding economic development may appear very much greater to the government than the relative advantage of immediate production to the company, especially when the proceeds will allow the provision of infrastructure that will bring a "breakthrough" in economic development. The economic benefits from various externalities are not significant for the exploiting company. Demands of the populace for development may lead the government to move even faster than would purely economic considerations. The reverse situation may develop when prices of petroleum drop. The nation may have greater waiting power than the company, seeking to delay exploitation of the resources until prices improve; but the company may have obligations that force it to continue to produce and sell.

The government can, it is true, influence the rates of exploration and exploitation by policies relating to the deductibility of exploration and drilling costs. If these are made fully deductible when they are incurred, with the enterprise treated as a unit for the purpose and thus the costs of dry wells being expensable against total proceeds, the most profitable rate of exploration and drilling can be increased. But full current deductibility coupled with a 100% marginal rate on additional earnings can easily result in excessive exploration activities. The firm has nothing to lose by additional ex-

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6. This point of view has been expressed to the author by officials of mining companies operating in developing countries.

ploration spending, while the government is sacrificing revenue. Further exploration expenditures become disadvantageous to the government far short of the point at which they become disadvantageous to the firm under the assumptions made. Adjustment of deductibility to ensure optimal exploration activity is virtually impossible.

## 2. Price for the product

The firm has strong incentive to understate the price at which the product is sold and thus reduce the payment to the government. This may be done by simple falsification of records, but more commonly by the sale to a controlled firm at less than the market price. This problem has led a number of countries to establish a constructive price on the basis of which payments are determined whether the commodity actually sells at this figure or not. The figure may be a purely arbitrary one or an index. Zambia, for example, has long used London Metal Exchange prices for determining the price of copper even though little Zambian copper is actually sold through the Exchange. An increase in an artificial price is a convenient way of getting more revenue without disturbing the basic system employed. But this device converts the payment system into essentially a specific-rate severance tax, the most objectionable of all systems from the standpoint of effects upon marginal operations.

Other conflicts arise over prices. The firm may seek to "dump" a portion of the output at low prices in certain markets in order not to disturb prices in primary markets, yet maintain a high level of production. The country, on the other hand, may prefer a slower rate of sale so that all the oil may be disposed of in the higher priced markets. Both country and firm seek to maximize net revenue from the enterprise and therefore will seek to adjust the output to obtain this result when the country's production affects world prices, provided the firm is an independent producer. But if the firm is a part of a large complex (the typical case) with production in a number of countries, the optimal price from the standpoint of the international enterprise may be very different from that optimal for the particular country.

## 3. Ascertainment of expenses

The firm always has the incentive to maximize *reported* expenses and thus to overstate or to increase payments to controlled companies outside the country. Charges for management advice or various forms of engineering and other technical assistance are good examples; overpayment of freight for shipment on controlled carriers is another. Only the most careful examination of the firm's

accounts and records may unearth these. This sort of examination may be beyond the capacity of the developing country.

#### 4. Necessary rate of return

In the absence of truly competitive bidding, it is difficult to ascertain the rate of return necessary for desired objectives. The company will inevitably state its demand price as high as possible. The government will seek to pay no more than necessary, but may be unable to judge at all correctly what this is. In view of the capital intensive nature of the activity the return figure is of great importance.

### *C. The Alternative of Government Ownership or Partnership*

There has been a tendency in both oil and mineral production for countries to shift from complete private enterprise with governmental charges in the form of royalty and taxes to partial or complete governmental operation of petroleum and mineral production. Such a system offers several advantages. First, it ensures that the policies followed—in such matters as exploration, rate of exploitation, selection of markets and the like—will be those that best serve the interests of the developing country. Endless conflicts over policy are lessened. Secondly, governmental operation eliminates the risk premium that must be paid to obtain private capital. The return necessary to induce foreign firms to develop the resources may be very high relative to necessary rates of profit in developed countries. Given the political instability of many developing countries and the bias against foreign ownership, the risk of higher taxes, restrictive legislation, control over repatriation of earnings, and possible confiscation without compensation, the return must be high. These are not true risks from the standpoint of the economy of the developing country, but risks only to an outside foreign-owned business firm. The amount may be very large. With private ownership this element must be paid to the outside owners if the firm is to operate. With governmental operation it is retained by the government and is available for developmental purposes. Thirdly, the government automatically receives the economic rent without the use of royalty and tax charges that may seriously distort production patterns from those optimal in terms of the interests of the country. Fourthly, governmental participation or operation lessens the danger of disproportionately high wages for employees. Foreign management is inevitably influenced by wage scales in the home country, particularly for technical personnel, and foreign-owned companies are vulnerable targets for labor union demands. Workers in oil fields and mines are typically among the first to organize in developing

countries. As a consequence wages may be pushed far out of line compared with average incomes of persons in the country. The high wages spread to other unionized fields and aggravate still more the extreme inequality of labor incomes. This is a source of political unrest and a bar to optimal economic development.<sup>7</sup> A government-owned enterprise is in a better position to combat this tendency. Finally, as noted in conjunction with the risk and labor problems, foreign-owned firms are always the targets for opponents of the government in any developing country, because they constitute a symbol of foreign domination and "economic imperialism," even if the policies they follow coincide with those optimal from the standpoint of the country.<sup>8</sup> As a consequence, they are subject to punitive legislation and constitute a continuing source of instability for the government and potential targets for physical destruction.

Complete governmental operation would maximize the attainment of these advantages. But it is beset with serious problems, especially in the least developed countries. The most serious is that many developing economies have virtually no persons qualified for the work. Expatriates can be hired, but it may be very difficult to get adequate numbers in the various fields and to put them together into a working organization. Standards of honesty and integrity are not well established in some developing countries, and efficiency may be difficult to attain. Marketing of the product by a producer that has no connections with refinery complexes in other countries may result in lower prices, particularly when world supply is relatively excessive. The government may find it impossible to raise the necessary capital, much of the advantage of lower risk may be lost, and total sums available may be inadequate as a result of credit rationing by lenders. The only solution may be a slow step-up of production, proceeds from initial sales being used to expand the operations. In this way for instance, office buildings are erected in Buenos Aires. Takeover of existing facilities can usually be financed out of a pledge of a portion of future earnings, as with Chilean, Zambian, and Congolese partial or complete nationalization of copper production.<sup>9</sup>

The personnel, marketing, and capital problems suggest the need for a modified alternative. One of these involves complete government ownership but conduct of operations under contract by a

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7. W. Lewis, *Development Planning 77-78* (1966).

8. See Roberts, *Mine Taxation in Developing Countries*, in *Extractive Resources and Taxation* 197 (M. Gaffney ed. 1967).

9. Under a 1969 agreement, GECOMIN, the Congo-government corporation that owns the mines, will pay Société Générale des Minerais 6% of the proceeds each year for fifteen years to cover compensation for the taking of the property and for the technical advice.

foreign firm, as in the case of the Congo copper mines. This alternative, provided the contract is negotiated satisfactorily, ensures the company a reasonable compensation for its work, yet provides the government with full returns from the minerals and allows it to determine general policy. The foreign firm provides the trained personnel and the marketing assistance, and may aid in raising capital, partly because investors are more certain of efficient operation. This is a transitional technique, however; over one or two decades local personnel can be trained to take over most of the work, and ultimately overall management and operation. Provisions ensuring training and absorption of such personnel must be included in the contract.

The other form of compromise approach involves partial—often 51%—ownership of the operating company by the government, the remainder continuing in private foreign hands. This system was developed by the Chilean government for the copper mines, and is now established in Zambia, which uses the system for other types of business activity as well. This method gives the government power to establish general policy and ensure reinvestment of earnings, yet leaves routine management under the direction of the firm. The government ensures the adaptation of policy in conformity with development objectives, while the company minimizes risk and vulnerability to labor union pressures and drives for confiscation, and continues to earn a return from administrative operations and partial investment in the facilities. The amount of capital required by the government is less. On the other hand, the government may be sacrificing a portion of the revenue that theoretically it could obtain. If it could not raise the full capital, however, or operate the enterprise effectively, this could not be attained in any event. There are certain to be conflicts of interest, but this method is less hazardous to either government or the firm than other approaches may be.

### III

#### THE SIGNIFICANCE OF THE UNITED STATES INCOME TAX

When the enterprises exploiting oil or mineral resources in a developing country are foreign-owned, as they almost always are initially, the tax treatment of the relevant income by the home country of the foreign firm is of great significance for the policies of the developing country. If the tax laws of the home country require full taxation of the income earned in the developing country without regard to the tax and royalty paid to the latter, the ability of the developing country to obtain appropriate revenue from the

exploitation of the resources will be seriously impaired. Such a policy on the part of a developed country is objectionable for two primary reasons. First, since the oil or mineral resources are located in the developing country, the latter has obviously prior claim to revenue from them. Secondly, by any usual standards, the revenue is much more significant to the developing country in terms of its contribution to the economic welfare of the people of the country. Such countries urgently need additional capital formation, possible only with substantial importation of capital goods from the outside world. The governments urgently need additional revenue. Fortunately, the United States tax policy is liberal from the standpoint of the developing countries, much more so than that of some countries.<sup>10</sup>

First, full credit is given against United States tax liability for taxes paid by foreign branches of U.S. corporations (that is, foreign operations not separately incorporated in the country but operated as an integral part of the parent U.S. firm), and by foreign subsidiaries of U.S. corporations, as defined. The U.S. parent must own at least 10% of the stock of the foreign firm. The credit is limited to income taxes, and cannot exceed the U.S. tax liability on the foreign-earned income. It cannot be used to reduce income tax liability on U.S.-earned income in the case of subsidiaries.

Thus the developing economy is given prior claim to the income, so long as it is reached by the government via income taxes. Accordingly, strong incentive is given the developing country to impose income taxes in amounts up to the tax liability due the United States, since otherwise the firm will pay the same tax but the revenue will accrue to the United States. The developing country may of course go still further than this, subject to the ability to attract and retain capital. The U.S. practice encourages developing countries to use income taxes rather than other forms of levies on the oil companies, but presumably they would do this anyway, apart from the royalty question discussed below.

Secondly, credit against U.S. income tax is not allowed on royalty payments, whether to private owners or foreign governments, although these payments are deductible expenses in calculating taxable income. Accordingly, developing countries are given strong incentive to designate all payments by the firms as income tax rather than royalty up to the amount of the allowable federal tax credit.

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10. See generally P. Musgrave, *United States Taxation of Foreign Investment Income* (1969); L. Krause & K. Dam, *Federal Tax Treatment of Foreign Income* (1964); Tax Institute, *Taxation of Foreign Income* (1966); E. Owens, *The Foreign Tax Credit* (Harvard Law School, 1961).

There is little harm in so doing. There is in fact little advantage in distinguishing between royalty and income tax anyway, except that companies may resist "royalty" less than "tax."

Thirdly, branch operations, but not subsidiary corporations, receive full privileges of deducting, on a current basis, all intangible drilling costs and certain exploration costs, in the same fashion as on domestic operations. Furthermore, the branch, but not subsidiary, operations receive the same percentage depletion allowances as do firms on domestic operations and the privilege of deduction of losses against U.S. profits. One consequence is that United States firms have incentive to conduct their foreign petroleum operations on a branch rather than subsidiary basis, unless the tax deferral allowed by the use of subsidiaries would more than compensate for the loss in exploration cost deduction and percentage depletion, or if foreign taxes exceed U.S. taxes even without the allowance. The system also results in pressure on developing economies to provide equivalent allowances themselves.

This objective runs counter to the desire of many developing countries that foreign firms establish separate subsidiary corporations, over which the countries have better control on such matters as accounting and personnel. The problem would be avoided if the U.S. disallowed these deductions on all foreign-source income; the House tax reform bill in 1969 contained a provision to eliminate the depreciation allowance on foreign operations. With disallowance there would no longer be tax objections to creating a subsidiary, and the developing countries would be under less pressure to provide allowances. To use the opposite route and liberalize the U.S. treatment still more to allow the deductions by subsidiaries is questionable in light of basic objections in principle to percentage depletion.

Fourthly, profits of subsidiaries (but not branches) of U.S. firms operating in the developing economies, as designated, are not taxed to U.S. corporate or individual stockholders until repatriated to the United States. This rule once applied to all foreign subsidiaries, but in 1962 the privilege was partially restricted except to those in developing economies.<sup>11</sup> The privilege is of value to the developing economies in two ways. The most important is the encouragement that the rule gives to reinvest earnings in other activities in the developing economy instead of repatriating it, thus aiding economic development. Secondly, it lessens the opposition of American firms to

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11. See Walmsley, *The Less Developed Country Exclusion from Subpart F*, 22 Nat'l Tax J. 425 (1969).



requirements that foreign branch operation be replaced by use of subsidiaries.

Finally, the United States allows credit only for taxes actually paid, not those saved as a result of special tax holidays and other tax incentive programs introduced in developing countries to encourage investment. Some other countries, particularly the United Kingdom, do provide for deduction of these shadow or phantom taxes, under what are known as tax-sparing agreements. Such provisions were included in several United States tax treaties with developing countries but were never approved by Congress. The danger of tax sparing is that the developing economies would be given strong incentive to adopt tax holiday techniques, despite the fact that there is grave doubt about their desirability. Tax sparing would discriminate against countries using low income tax rates instead. Actually, deferral of tax on U.S. subsidiaries greatly lessens the need for tax sparing.

On the whole, therefore, U.S. tax treatment is liberal from the standpoint of the interests of the developing economies; in fact, few countries are so liberal. The full credit against U.S. tax insures that no double taxation will result, and the countries can adjust their charges without regard to U.S. tax liability. The liberal U.S. depletion allowances tend to lessen U.S. tax liability, and place some pressure on the foreign governments to grant equivalent allowances. In one other respect U.S. treatment does affect policy: it virtually compels the developing countries to establish most of the charge as tax rather than royalty—but this is of little practical significance.

### CONCLUSIONS

1. Petroleum and mineral deposits can be of tremendous value to developing economies in financing economic development, particularly by providing foreign exchange. These benefits can be realized, however, only when payments from the sale of the petroleum or minerals are made to residents of the country, individually or collectively.

2. Ascertainment of the precise optimal rate of exploitation of petroleum resources is a very complex one, but the optimal rate is almost certain to be greater than in a highly developed economy.

3. If the resources are to contribute the maximum to economic development, the government must take, in royalty or taxes, the entire amount of economic rent and use it for purposes making the greatest contribution to development. Usual royalty and tax formu-

las are not likely to recover full economic rent and are often established in such a manner as to discourage development of marginal resources. Levies of a flat amount per physical unit are the worst, but levies consisting of percentages of total proceeds will also reduce output. Even a levy taking a given percentage of net profit will have some adverse effect. Annual calculation of economic rent is likely to come closer to the desired objectives but this raises many questions and conflicts between the government and the firm.

4. A developing country must allow a foreign firm to earn a large risk premium if it is to invest in the country, to compensate for risk that is not a true economic cost. This premium can be avoided, conflicts between country and firm lessened, and popular antagonism toward the firm removed if the government undertakes production itself, gains a majority interest in the firm, or contracts with the firm for operation on a fee basis. Complete governmental operation is not usually feasible in a developing economy, but various other partial arrangements are workable.

5. The income tax laws of the United States appropriately give the developing countries prior claim to taxes on American firms developing natural resources. They do, however, require that the charge take the legal form of tax rather than royalty, and they put some unfortunate pressure on foreign governments to provide percentage depletion allowances.