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**VI. PERCENTAGE DEPLETION CONTINUES TO BE AN EFFICIENT AND EFFECTIVE INCENTIVE.** With higher prices and profits, the industry is said no longer to need percentage depletion.

*Have Higher Prices Substituted for Percentage Depletion?* A \$7.50 increase in the price of new oil from \$3.50 to \$11 is a powerful incentive. But eliminating percentage depletion would reduce the effectiveness of the price increase because the incentive effect of percentage depletion is additive to the effect of price. At any given level of price, there will be more exploration with percentage depletion than without.

*Could a Higher Price for New Oil Offset Elimination of Percentage Depletion on New Oil?* Since the price of new domestic crude oil now reflects world crude oil prices, economic theory would say that—in the absence of offsetting legislation to limit imports or raise their delivered cost—an increase in taxes on domestic new oil could not be passed on to consumers. Elimination of percentage depletion would, therefore, mean lower profits and less exploration.

*Could Market Forces Operate to Offset Elimination of Percentage Depletion on Old Oil?* During the debate, Senator Humphrey made an eloquent plea for market forces: "Let the market forces work." However, his policy proposal does *not* establish a free market. It does not require elimination of price controls. It does not even require a pass-through of the loss of percentage depletion on gas or old oil. Price ceilings create an artificial shortage which would not exist with market forces operating. Then, the government allocates the supplies and the shortage. Holding price below the market always causes problems of arbitrarily taking benefits from one group and conferring them on another.

*Does OPEC Pricing Require Reimposition of Price Controls on New Oil?* The proponents of eliminating percentage depletion were concerned because the price of uncontrolled domestic oil reflects the price of foreign oil, which is not related to the cost of foreign oil. But regardless of how the world price is set, any domestic oil that is available at or below that price—or, indeed, somewhat *above* it—is a bargain. Domestic oil is secure. It creates no balance-of-payments problems. And the tax and royalty component of its cost is simply a transfer of money within the United States economy, whereas the tax and royalty component of the cost of imported oil is a payment to foreigners.

*Are Higher Prices Cost-Based?* Higher prices are *replacement* cost-based. In the extractive industries, higher-cost new prospects must be sought out in frontier areas as time passes because firms tap the lower-cost ones first. In order to achieve energy independence, the oil industry must turn to such higher-cost projects.

Since older, low-cost production is already in place, a higher price for it would allegedly only enrich the producer. But higher profits on "old" oil are a source of funds for reinvestment in exploration and development in an industry which, on the whole, borrows about to the extent of its credit-carrying capacity. They are also justified in view of general price inflation.

Price controls on old oil have a perverse effect on efforts to improve the productive capacity of existing fields. And they artificially stimulate oil consumption when we should be conserving.

*Are Higher Prices High Enough for Energy Independence?* How much incentive is enough? It is impossible to say with any accuracy because forecasting import dependence is inherently subject to substantial uncertainty. Required imports are the difference between expected domestic supply and demand, both of which are difficult to forecast in a world of sharply higher energy prices. Accurate forecasting of the difference between two uncertain numbers is virtually impossible.

We can say with confidence that higher prices will mean more domestic production and less consumption. How much more is uncertain. Elimination of percentage depletion would be equivalent to rolling the price back by close to \$2 per barrel. When the Nation's security is involved, it is clearly better to err on the side of developing somewhat too much oil than to eliminate percentage depletion and not reach our goals for domestic self-sufficiency.

Might it be possible to fill the domestic independence gap by using synthetics as well as conventional oil and gas? A rapid development program for synthetics is essential, but the long lead times for plant construction make it most unlikely that it will be physically possible to fill the domestic independence gap by 1985 by using synthetics. In any event, synthetic liquid fuels will be no bargain. Recent estimates state that a profitable shale plant would require roughly \$10 to \$15 per barrel in 1974 dollars.

**VII. PERCENTAGE DEPLETION AND COMPETITION.** It has been argued that percentage depletion for large integrated oil companies gives them an incentive to raise crude oil prices artificially, thus squeezing profits of non-integrated refiners. This ignores the facts:

(1) In an industry characterized by low concentration and free entry—as in the oil producing business—companies have no discretion as to where they take their profits.

(2) Neither the Internal Revenue Service nor state tax authorities permit companies to adjust their internal crude oil prices arbitrarily in order to minimize taxes.

(3) The benefits from lower Federal income taxes would be more than offset by increases in landowner's royalty and state severance taxes and the cost of purchased oil.

The facts show that independent refiners have improved their market share in recent years.

Percentage depletion is clearly not anti-competitive in the producing stage of the industry, where the depletion allowance is one advantage which many of the independents have over the majors—consider the 70 percent personal income tax and compare it with the 48 percent rate on corporations.

**VIII. PRICE EQUIVALENT OF PERCENTAGE DEPLETION.** Considerable confusion has arisen over the effect on industry costs and cash flows of losing percentage depletion.

*Erroneous Computations of the Price Equivalent of Percentage Depletion.* Wholly incorrect estimates of the price required to offset loss of percentage depletion were offered during the debate. One asserted one-third of a cent a gallon. Another asserted 0.6 cents per gallon. Three cents is more like it.

*The Average Value of Percentage Depletion.* Assuming an average price of \$7.50 per barrel and an average industry tax rate of 52 percent, the price increase that would be needed to make the producers "whole" again after eliminating percentage depletion works out to \$1.40 per barrel or 3.3 cents per gallon of domestic crude oil. The average price of old domestic crude oil in 1974 is now about \$5.25 per barrel; that would call for a price increase of \$.79 per barrel or 1.9 cents per gallon of domestic crude oil.

*Percentage Depletion and Economic Incentives.* The critical economic effect of percentage depletion is found in its impact on new investments in petroleum exploration and production, as well as introduction of secondary recovery and reworking of older, low-yield wells. (Its average value measures the total flow of funds attributable to the allowance.) Newly-discovered domestic crude oil in the United States is selling at a price of around \$11 a barrel. Removing percentage depletion on new developments would call for crude oil price increases in the range of \$1.77 to \$4.47 per barrel, or 4 to 11 cents per gallon for a corporation and an individual in a 70 percent marginal tax bracket, respectively.

Without a compensating increase in revenue, abolishing percentage depletion would cut the oil producer's cash flow by 15 to 30 percent at the margin, and drain the industry of \$2-3 billion per year of funds badly needed for reinvestment.

**CONCLUSION.** A major effort is under way in the United States, Canada, Europe, and Asia to decrease consuming country dependence on OPEC oil. Market forces are spurring an intensive worldwide effort to bring on new supplies. (Domestic capital expenditures by the larger American companies in the first half of 1974 were over twice the 1973 level.) But further effort is needed. Market forces will be more productive of increased indigenous energy supplies with percentage depletion and an unimpaired foreign tax credit than without. "Let the market forces operate" without governmental impairment and without increased taxation.

# PETROLEUM TAXATION AND ENERGY INDEPENDENCE

Are Percentage Depletion and the Foreign Tax Credit Obsolete?

## INTRODUCTION

A number of proposals have been made to change the tax treatment of the petroleum industry. Despite the obvious and growing problems our country has had in producing enough energy, most of these proposals unwisely seek to increase petroleum taxes. They mark the petroleum industry for punitive legislative action.

How can supplies be increased by increasing taxes? Is there not a dangerous contradiction in such an approach?

During the course of the recent Senate debate on tax amendments to the debt ceiling bill (H. R. 14832), proponents of a tax increase attempted to explain this apparent contradiction in a number of ways: They alleged that petroleum industry profits are too high—higher than are needed—and that the industry pays little or no taxes. U.S. tax rules on foreign earnings were said to subsidize foreign operations at the expense of greater domestic effort, and the petroleum industry was accused of excessive use of the foreign tax credit. Percentage depletion was said to be “inefficient” and “obsolete” as an incentive. Percentage depletion was also alleged to be anti-competitive. Higher prices were said to be all the incentive that is needed for energy independence, but free market prices were said to be too high and to require controls because they are not justified by costs of production.

It was agreed that the national interest requires increased domestic output of oil and gas. Senator Fannin asked:

We want to get petroleum production in this country, we do not want to be dependent on foreign oil; is that true?

Senator Humphrey responded:

Senator, the more we can be dependent on our own resources, the better. [*Congressional Record—Senate*, June 25, 1974, p. S 11459\*]

“The more we can be dependent on our own resources, the better.” That should be the Nation’s watchword for energy policy. Yet Senator Humphrey and his co-sponsor colleagues paradoxically proposed elimination of percentage depletion retroactive to the beginning of 1974. Normally, one would think that higher taxes would lead to lower supplies, but the proponents concurrently call for energy independence and for higher petroleum taxes.

What are the facts? Can the country have both the increased supplies it needs and a heavier tax burden on the petroleum industry? Has the time come to eliminate percentage depletion and to increase taxes on foreign-source income by significantly limiting the foreign tax credit applicable to oil and gas produced in foreign countries? How could increased petroleum tax costs be compatible with decreased dependence on oil from insecure foreign sources? This paper will attempt to deal with the urgent policy issues implicit in these many important questions.

\*Page citations listed in this way in the text refer to the *Congressional Record*, 93rd Congress, 2nd Session.

## RECENT INDUSTRY PROFITABILITY

Throughout the debate, the proponents asserted that the petroleum industry has become inordinately profitable:

So what we are really talking about here is excessive funds in the hands of oil companies . . . [S 11461]

If you take 1974 on both domestic and foreign [profits], Mr. President, we really get up in the stratosphere . . . [S 11473]

The multinational oil companies are now profiting beyond the dreams of avarice from higher oil prices. [S 11478]

Independents currently are getting the largest profits in the domestic industry. [S 11460]

What are the facts? Is the oil industry making too much money?

In testimony on August 13, 1974, before the Subcommittee on Government Regulation of the Senate Select Committee on Small Business, Secretary of the Treasury William E. Simon stated that "... the facts about the profitability of the oil industry are being obscured by a smoke screen of hyperbole and demagoguery—from both sides." Oil company profit reports for 1973 and the first part of 1974 show large increases compared with 1972 and 1973. However, the earlier period represented the lowest profit return on investment since 1964.

Through 1973, oil industry profitability was in the central range of the profit performance of American business generally. The FTC data submitted by Secretary Simon showed the industry averaging eighth or ninth place in the 1958-1973 period among 29 manufacturing industries covered. During the Senate debate, the FTC data were misinterpreted as showing superior petroleum profit performance:

Mr. President, for the industry over the last 23 years, in 17 of these 23 years the relationship of profits to equity in the oil industry was better than that of, I think, all other manufacturing companies. For every year, I cannot say so, but for 17 out of 23, that is not bad. [S 11473]

In fact, the oil industry was better only by a paper thin margin. The FTC data showed that the petroleum average rate of return over the period was 11.7 percent, while the return for all manufacturing was 10.9 percent—a difference of only 0.8 percentage points. Similar but more comprehensive data from the First National City Bank show oil ahead in only 12 of 23 years with an average return of 12.5 percent for oil and 12.3

percent for all manufacturing.\* Inadequate petroleum profits from 1956-1972 contributed directly to a precipitous decline in exploration and to a depressed pace of refinery construction.

Petroleum industry profits increased in 1973 and again have increased in 1974. In the first nine months of 1974, profits of the five largest American international oil companies were up 50 percent from the first nine months of 1973. Profits of a representative group of 27 American companies were up 66 percent to an annual rate of about \$14.5 billion. This indicates a rate of return of 21 percent on shareholders' equity in comparison with 14 percent in the first nine months of 1973.

However, a Treasury Department survey of 19 companies showed that 52 percent of the first quarter profit increase was attributable to one-time inventory profits, occasioned by normal sales of crude and product carried on inventory records at the lower prices of an earlier period but sold at today's higher prices. As the Secretary pointed out, these inventories must be replaced at a higher price, and inventory profits do not generate a cash flow that can be used for investment in new capital facilities or for other ongoing corporate purposes. Another 17 percent of the first quarter 1974 profit increase came from chemical operations, and 8 percent from gains on currency fluctuations and profits on tanker operations. Only 26 percent of the first quarter profit increase came from mainstream petroleum operations. Inventory profits persisted in the second quarter, but to a lesser degree than in the first.

Based on inventory profits reported by seven of the 27 American companies, the industry's annual profit rate in the first nine months of 1974 would have been about \$2 billion lower, with about an 18 percent return in the absence of inventory profits (but including the chemicals increase). That is a good return, but it is by no means too high. The Chase Manhattan Bank has estimated that if the oil industry is to raise sufficient funds to meet demand, "The rate of return on invested capital will need to range between 15 and 20

\*—The City Bank sample for the oil industry includes several major oil producing companies as well as integrated firms and refiners, while the FTC sample includes only those oil companies which engage in refining. The FTC drastically revised the reporting basis for its data series beginning with the first quarter of 1974. Overlapping data for the last quarter of 1973 show that the new data series are not comparable to earlier years.

percent."<sup>1</sup> In recent testimony before the Federal Energy Administration, representatives of two large oil companies were in general agreement with this required range of rates of return.<sup>2</sup> If the Energy Tax Act, H. R. 17488, had been in effect, the 18 percent return would have been less than 14 percent, apart from the Windfall Profits Tax. Enactment of the Windfall Profits Tax proposed by the Committee on Ways and Means would have reduced the 14 percent return further, with the amount of the reduction dependent on how well the industry could satisfy a stringent plowback provision.

It is the mainstream petroleum profitability which must act as the foundation for greater investment to bring on more energy supplies. Unfortunately, there are strong reasons for concluding that it has not yet become a dependable foundation—even beyond the danger of higher taxes.

Petroleum industry profits are reported in accordance with generally accepted financial accounting practices, contrary to allegations made during the debate:

... one must recognize that oil profits are always understated in comparison to the profits of other industries ... The immediate write-off of drilling expenses is a deduction from profits that is unique to the oil industry, and the vast bulk of percentage depletion also is taken by that industry. Thus, the oil industry enjoys extraordinary opportunities ... to generate tax-free cash flow that firms in other industries would have to report to profits. [S 11469-11470]

This allegation is wholly unfounded. (A similar comment in a recent letter to *The New York Times* was categorically denied by Price Waterhouse & Co.)<sup>3</sup> The profit data reported by the First National City Bank and the FTC are from financial accounting records which properly allow for these tax savings and which report them as profits. Furthermore, these accounts generally include intangible drilling costs of productive wells as capitalized items; hence, the asset data which are divided into profits to give rate of return are comparable to other industries.

Under stable conditions, generally accepted accounting practices give an accurate picture of a firm's and an industry's performance and health. However, in a period of severe inflation, they give a distorted picture which overstates real profits. Under generally accepted accounting practices, the long-lived assets of a firm are valued at historical dollar costs; and these historical valuations provide the basis for capital amortization charges which allow the firm gradually to recover the capital invested in its long-lived assets. In a period of inflation, however, the real purchasing-power value of the dollar steadily shrinks, and the charges for capital

amortization are insufficient to recover the firm's real capital. Amounts set aside to cover capital amortization increasingly fail to reflect the true replacement cost of long-lived assets. Thus, currently reported profits are actually overstated to the extent that they reflect these inadequate capital-recovery provisions. The profit distortion is higher for capital-intensive industries because such a large part of their total costs is accounted for by capital amortization. In what can only be termed a form of economic double jeopardy, these inflation-swollen profits often attract demands for increasing the tax burden of industry on the erroneous pretext of "ability to pay".

The problem is particularly acute for the petroleum industry, which is among the most capital-intensive major industries. The First National City Bank has estimated the eroding impact of inflation on petroleum industry profits since 1950.<sup>4</sup> Its estimate shows that reported industry profits of \$10 billion in 1973 amounted to only \$5.2 billion when corrected by the gross national product implicit price deflator. The Bank reports that throughout the period since 1950, the gap between real and reported earnings has widened and now accounts for almost half the reported total. Deflated industry rate of return data are not available, but the City Bank study cites one major international oil company which recomputed its profit and asset data in constant dollars. Its rate of return fell to 9 percent from an unadjusted figure almost twice as high.

Quite apart from the problem of inflation, petroleum and the other extractive industries operate in an environment of increasing real costs because, over time, more and more resources must be employed to find and develop new petroleum supplies to replace those that are consumed. This serious problem is analyzed in detail in Section VI-E, but it should be noted here that generally accepted accounting practices do not allow firms to utilize the true replacement costs of their long-lived assets in calculating income. Thus, the true profits of the petroleum industry are further distorted. Even if the United States should soon bring inflation under control, this problem of increasing real replacement costs will continue to plague petroleum industry financial reports.

Whether or not petroleum industry profits will continue at the same levels over the next several years is an exceedingly clouded question. An independent analysis of the profit situation during the last half of 1974 states that:

Inventory profits cannot be expected to make much of a contribution. Profit margins on worldwide product sales and on foreign crude production have come under pressure because oil output is in excess of demand at present and inventories are high.<sup>5</sup>

This analysis shows no glittering expectation of further increases in rates of return.

Over the longer term, costs are increasing rapidly as much higher-cost, harder-to-find, harder-to-develop replacements are pursued. Foreign production profits, which have been a significant source of funds for increased investment in the United States, are threatened by a variety of host government actions. As the previously mentioned City Bank memo puts it:

The underlying assets of petroleum companies are presently exposed to erosion from inflation, from nationalization and from reserve-exhaustion. A new investment effort is needed immediately, if this process is to be reversed. Last winter's crisis brought forth the necessary good resolutions; but their fulfillment remains uncertain and the time lags will inevitably be long.<sup>6</sup>

The key question is whether current and expected petroleum industry profitability, even under the present tax rules, will be enough to bring on needed supplies. The magnitude of the task of regaining safe

levels of energy self-sufficiency is enormous. Secretary Simon referred to one "representative study" which estimated the requirements for energy capital in the United States between 1974 and 1985 at \$850 billion (in 1974 prices), over \$400 billion of which would be for the domestic petroleum industry. That is \$36 billion per year for petroleum apart from further inflation—four times the expenditure rate of the past five years.

These capital needs cannot be met by any combination of reinvested earnings and debt and equity financing unless there is a substantial and sustained increase in the earnings of the many companies making up what is known as the petroleum industry. Unprecedented 1974 earnings—composed in part of one-time inventory profits, affected by inflation, aided by recovery in the long-depressed chemicals business, and reflecting production out of older, lower-cost reserves—do not furnish support for the assertion that "the industry has all the profits it needs."

## II

### RECENT INDUSTRY TAX BURDEN

Some oil industry critics direct attention to published compilations of income and tax data which purport to show that the United States income taxes paid by 19 of the largest oil companies constitute only a negligible percentage of their net incomes. The more outraged of the critics take note of the allegedly higher tax burden borne by the "janitors who clean up the offices of these companies" as final and incontrovertible proof that oil industry taxes must be increased.

The most recent of these compilations, published in the *Congressional Record* of June 20, 1974, [page S 11163], states that the Federal income taxes paid in 1973 by the listed oil companies averaged only about 6 percent of their net incomes, with one company paying at a rate of only 1.1 percent.

This compilation is falsely done, as has been true of similar ones in the past. The fallacious basis of the method has been repeatedly pointed out. And during the debate, Senator Bartlett again demonstrated the fallacy in response to a quotation from the table purporting to show that the 1973 Exxon tax rate, for example, was 5.4 percent:

He does not say whether that is Federal tax as a percentage of U.S. income or Federal tax as a percentage of worldwide income. What it is, it is Federal taxes ... [as a] percentage of worldwide income. If we list all the taxes for Exxon, it would amount to 60.6 percent in taxes, not royalties, that they are paying as a percentage of their total net income worldwide. [S 11467]

By comparing apples and oranges, the tabulation inevitably shows a distorted view and creates an erroneous impression. The apparently negligible income tax burden of United States oil companies is "proved" by comparing worldwide income, on which both United States and foreign tax is paid, with United States income taxes alone, rather than comparing worldwide income with worldwide income taxes. When compared on the latter basis, the data in the table show that the worldwide effective income tax rate for all of the companies was over 49 percent—not 6 percent. Moreover, the tax data for some companies do not include taxes paid by some of their largest foreign affiliates. Inclusion of these taxes would increase the 49 percent effective tax rate.

It was argued during the debate that the worldwide tax rate is irrelevant for purposes of the United States Congress because that body cannot control foreign tax laws:

We do not have control over taxes on foreign oil. Other countries control them ... therefore, I thought most likely we ought to kind of confine ourselves to the tax laws of our own country. [S 11473]

But the tax laws of our country (and all other major industrial countries) *do* recognize the primacy of host country taxation. And the Congress should not permit itself to ignore foreign taxes to the extent of imposing unreasonable overall tax requirements on American companies.

Perhaps the basic illogic of the 6 percent tax burden computation can best be illustrated by considering how much tax the Congress would have to impose in order to raise the 6 percent rate to 48 percent (United States tax divided by worldwide income). A tabulation of 1972 tax and income data for 18 American oil companies showed worldwide net income before foreign and domestic taxes of \$13.3 billion and profit after taxes of \$5.5 billion.<sup>7</sup> The United States tax was \$0.9 billion, for a 6.8 percent ratio [ $0.9 \div 13.3 = 6.8$  percent]. To raise that ratio to 48 percent would require a total United States tax of \$6.4 billion [ $48 \times 13.3 = 6.4$ ]. That would be a United States tax increase of \$5.5 billion, *which would wipe out 100 percent of the companies' worldwide profits*. Their total United States tax would be 136 percent of their domestic-source income. (The incomplete data in the tabulation in the *Congressional Record* would indicate a loss of 80 percent of worldwide profits.)

If one wishes to look only at United States income taxes, the base should be United States income. Foreign income, generated by operations conducted outside the United States and subject to the prior taxing rights of the host foreign governments, should be excluded—or excluded at least to the extent that it is subjected to a foreign income tax as high or higher than the United States tax would be on that income. Computed on this basis, the tabulation of data from 18 large American petroleum companies showed that their effective United States income tax rate for 1972 (the most recent year for which such data were available) was 25.6 percent—not 6 percent.<sup>8</sup>

To give the entire picture of comparative tax burden, the analysis should include all taxes paid. The petroleum industry bears more than its share of direct or non-income taxes, levied particularly by state and local governments. *Excluding* sales or excise taxes on products sold to consumers, a greater portion of

petroleum industry revenues is paid over as taxes to Federal, state, and local governments than is paid on the average by other U.S. industries. The total petroleum industry tax burden is 6 percent of gross revenue; other businesses pay 5 percent.<sup>9</sup>

In short, the facts are that the petroleum industry

bears a Federal income tax burden, properly computed, of over 25 percent; and when all taxes paid in the United States to all levels of government are considered, it has a tax burden greater than the average for U.S. businesses.

### III

## FOREIGN OPERATIONS OF AMERICAN COMPANIES ARE CORRECTLY TAXED

Because of its heavy foreign income tax burden, the American petroleum industry pays little United States tax on its foreign operations. Accordingly, some proposals heard in the Senate debate would reduce or eliminate the foreign tax credit provision for American oil companies operating abroad:

... if we were trying to seek some revenue from all American companies which have investments abroad, and if we were to change the foreign tax credit to a deduction instead of a credit, the Nation would gain about \$4 billion in additional revenue. It may be that tax rate would be altogether too high. I would be the first to concede that it would be if we add the American tax upon the foreign tax that has been imposed; but if we were to tax them at just one-half that rate, that would bring more tax revenue of \$2 billion. Of that amount, approximately \$1.25 billion, or about 60 percent, would be revenue derived from U.S.-based multinational oil companies. [S 11484]

In fact, all of these revenue estimates are overstated. There would most likely be *no* revenue gain because taxing on top of the foreign rate at either a full or half United States rate would render American firms non-competitive and drive them out of foreign business. With no foreign business, there would be no tax revenue.

These proposals to eliminate the foreign tax credit for oil companies are grounded in several misconceptions.

#### A. Are Foreign Profits Too High?

The proponents argue that the United States should increase its taxes on foreign operations because a large part of the recent higher petroleum industry profits has come from those activities:

... [in 1973] the seven largest international oil companies reported a percentage increase of 6.4 of their profits in the United States, while they reported a profit increase of 136 percent in their foreign earnings. [S 11473]

However profits on foreign operations are still not excessive despite substantial increases since 1972.

Most production from foreign oil fields, particularly in the Middle East, has a low unit cost. The reservoirs are large, and the production per well is much greater than in the United States. However, taxes are also very high; and per barrel profit generally has been very

modest—contrary to a popular misconception:

... Middle East oil sells for about \$10.00 per barrel, which leaves an awfully large profit of some \$3.00 per barrel. [S 11262]

The complete story is quite different.

Gulf Oil Corporation recently stated that for the first half of 1974 in Kuwait, it purchased an average of 663,000 barrels per day of government oil at a buyback price of \$10.85 for the first five months and \$10.95 for June. Gulf's entitlement of equity oil was 510,000 barrels per day. This equity oil cost Gulf \$7.03 per barrel, after taxes, royalties, and operating costs. Thus, Gulf's composite cost per barrel (the only relevant cost because one barrel would not be available without the other) was \$9.19, not \$7.00. Published estimates indicate that Gulf probably sold this oil at an average price of about \$9.50 per barrel, giving a per barrel profit of something over 30 cents.<sup>10</sup> Similarly, Exxon Corporation has stated that its profit on Middle East oil is considerably less than 50 cents per barrel.<sup>11</sup>

Profit margins under 50 cents per barrel are not enough to provide the funds needed to meet the capital requirements necessary to supply future worldwide energy demands. It is important to the United States that supplies be generated to meet these demands, both from the wider viewpoint of world economic and political stability and from the narrower concern of the price we ourselves will have to pay for imported supplies pending the time when greatly increased domestic production can be brought on stream.

Foreign producing countries are well aware that if there is any room left to reduce the overseas production profits of American companies, it is they as the host governments who will exact the tax increases. OPEC Resolution 90 of June 25, 1968, is a declaratory statement of petroleum policy in member countries. It includes a renegotiation clause stating that:

Notwithstanding any guarantee of fiscal stability that may have been granted to the operator, the operator shall not have the right to obtain excessively high net earnings after taxes. The financial provisions of contracts which actually result in such excessively high net earnings shall be open to renegotiation.

It goes on to define excessively high net earnings as:

... net profits after taxes which are significantly in excess, during any twelve-month period, of the level of net earnings the reasonable expectation of

which would have been sufficient to induce the operator to take the entrepreneurial risks necessary.

This policy clearly does not leave any room for additional United States income tax which is proposed contrary to the universally accepted policy of international taxation that the host government has prior rights to tax income having a source within its boundaries. On September 12, most of the OPEC countries once again asserted their primacy in tax jurisdiction by raising oil taxes; three countries raised taxes again in November.

Nor do foreign refining and marketing profits offer a more likely source for new taxes. A study released by the First National City Bank showed that 25 companies in Western Europe realized a rate of return of only about 5 percent on refining and marketing activities for the decade before 1973.<sup>12</sup> Even though these profits increased substantially in 1973, along with profits from chemicals operations, they barely reached acceptable levels. Demand has gone down in 1974 in Europe and Japan (as well as in the United States) due to the increased prices, high inflation, and unsettled business conditions. When this is coupled with price controls which are in effect, it is probable that foreign refining and marketing profits will have shown no improvement in 1974.

#### **B. Is The Foreign Tax Credit A Tax Incentive?**

Some critics further argue that the foreign tax credit is an incentive for American companies to go abroad, rather than explore for and develop domestic resources:

... this Nation, imprudently in my judgment, has had policies in effect that made it more profitable for people to find and produce oil overseas than to find and produce it here. [S 11260]

The foreign tax credit is not an incentive. Foreign taxes on petroleum operations are higher, not lower, than United States taxes. The foreign tax credit mechanism—which is applicable to all companies in all industries, not just oil companies—only assures that American companies will not have to pay double taxes when the foreign tax burden is already as high or higher than the United States tax burden would be if the same operations were conducted in the United States. It makes the United States tax treatment of business ventures neutral as between domestic and foreign operations.

If the foreign tax credit is eliminated for American petroleum companies, the effect will be to drive them out of foreign exploration and production. As former Assistant Secretary of the Treasury, Stanley S. Surrey stated,

American investment would not proceed at all without the foreign tax credit because then two

taxes would be imposed and the overall burden of two taxes would be so great that international investment would practically cease.<sup>13</sup>

Profits on foreign operations do not represent a source which either should or, realistically, can be taxed by the United States. The United States, of course, could change its laws and eliminate or reduce the foreign tax credit in an attempt to tax these profits, but the clearly predictable result would be to make U.S. companies non-competitive and force them to surrender the operations to the competitor companies of other nations.

#### **C. Is The Foreign Tax Credit Over-Used By Oil Companies?**

Some critics say that the oil industry uses the foreign tax credit to excess:

... Recently I learned that no other U.S. industry uses the foreign tax credit on the same massive scale as the oil industry. The U.S. oil companies take more than 45 percent of all foreign tax credits claimed by U.S. industry. For U.S. industry as a whole, foreign tax credits reduced U.S. tax bills by less than 15 percent in 1971, compared to more than 75 percent for the oil companies. [S 11468]

Of course the oil industry uses the most foreign tax credits. It has the most foreign income of any American industry. And its foreign earnings are a higher percentage of its total earnings.

A straight-forward explanation of the foreign tax credit was given by George P. Shultz, then Secretary of the Treasury, in his February 4, 1974, testimony before the Committee on Ways and Means:

The major nations of the world have a network of systems designed to avoid excessive double taxation of income. Those systems vary in detail but fall into two general categories. Under some systems, income earned abroad is simply not taxed in the home country. France, and the Netherlands, for example, have systems which generally follow that basic concept. Other countries, including the United States, Great Britain, Germany, Canada, and Japan—our major trading partners—have tax credit systems.

The basic concept of a tax credit system is that the country in which the business activity is carried on has the first right to tax the income from it even though the activity is carried on by a foreigner. The foreigner's home country also taxes the income, but only to the extent the home tax does not duplicate the tax of the country where the income is earned. The duplication is eliminated by a foreign tax credit . . .

Note that the foreign tax credit only affects income earned in some foreign country through ac-

tivities conducted in that country. Income arising out of operations conducted in the U.S. and the taxes on that income are totally unaffected by the credit.<sup>14</sup>

The foreign tax credit prevents double taxation and does not result in lower taxes on domestic-source income.

Secretary Shultz then presented a graphic table which clearly demonstrates why the oil industry uses more foreign tax credits than other industries:

The following table permits one to understand the fact that high taxes are being paid by the oil industry to foreign governments on the large proportion of non-U.S. income that is earned by these corporations; that the United States gives a credit for U.S. taxes on the foreign-source income that results in an excess credit; that these credits do not reduce U.S. income taxes on the income earned from U.S. operations; and that the same basic tax credit principle operates for all U.S. industries, not merely oil.<sup>15</sup>

The table referred to appears on the next page as Exhibit A.

The table shows that oil companies had \$3.2 billion of taxable foreign income in 1970 and used about \$1.6 billion of foreign tax credits (48 percent normal corporate rate plus a surtax of 1.2 percent):

	<u>Foreign</u>	<u>Domestic</u>	<u>Total</u>
	----- Billion Dollars -----		
Taxable Income	\$3.2	\$1.6	\$4.8
Potential U.S. Tax	1.6	0.8	2.4
Foreign Tax Credit	2.4	—	2.4
Unused Credit	0.8	—	0.8
Actual U.S. Tax	—	0.8	0.8

The companies had another \$0.8 billion of unused credits. These unused credits did not reduce their United States tax on United States-source income. United States source-taxable income was \$1.6 billion with a tax of about \$0.8 billion (48 percent plus surtax). The total potential United States tax was about \$2.4 billion on a worldwide income of \$4.8 billion, and the usable foreign tax credit of \$1.6 billion "reduced" the potential tax by two-thirds to \$0.8 billion [ $1.6 \div 2.4 = 2/3$ ]. (A 75 percent reduction was cited above for 1971, when foreign taxes were higher.) But there is nothing sinful about that two-thirds "reduction". It merely reflects the fact that two-thirds of the taxable income was earned abroad [ $2.4 \div 3.6 = 2/3$ ].

Consider, as a random example, firms in the Computers and Business Machine Industry. The table shows that they had taxable income of about \$0.8 billion abroad and had a usable foreign tax credit of \$0.4 billion:

	<u>Foreign</u>	<u>Domestic</u>	<u>Total</u>
	----- Billion Dollars -----		
Taxable Income	\$0.8	\$1.2	\$2.0
Potential U.S. Tax	0.4	0.6	1.0
Foreign Tax Credit	0.5	—	0.5
Unused Credit	0.1	—	0.1
Actual U.S. Tax	—	0.6	0.6

They had about \$1.2 billion of taxable income at home and paid about \$0.6 billion in domestic taxes. Their total potential tax was about \$1 billion on \$2 billion of worldwide taxable income. Their usable foreign tax credit saved \$0.4 billion in taxes, a "reduction" of "only" 40 percent, in comparison with a "reduction" of two-thirds for oil. But their taxable foreign earnings were also only 40 percent of their worldwide total. As with oil, their "reduction" in United States tax equals the ratio of foreign taxable income to worldwide taxable income. It is all the same foreign tax credit for everyone, and the oil industry does not use it to excess.

#### D. Is An American Presence In The International Oil Industry Desirable?

If the foreign tax credit were denied to American oil companies, they could no longer compete abroad with foreign-owned companies. Sooner or later, American companies would have to surrender their position in the supply and distribution of crude in world markets, including the United States import market. This would leave the international oil business in the hands of foreign-owned companies, many of which are owned in whole or in part by foreign governments. Nonetheless, some have urged that this would be an entirely acceptable, indeed desirable result. They charge that United States oil companies are investing abroad at the expense of domestic investments and that increasing foreign oil production is of little or no benefit to the United States:

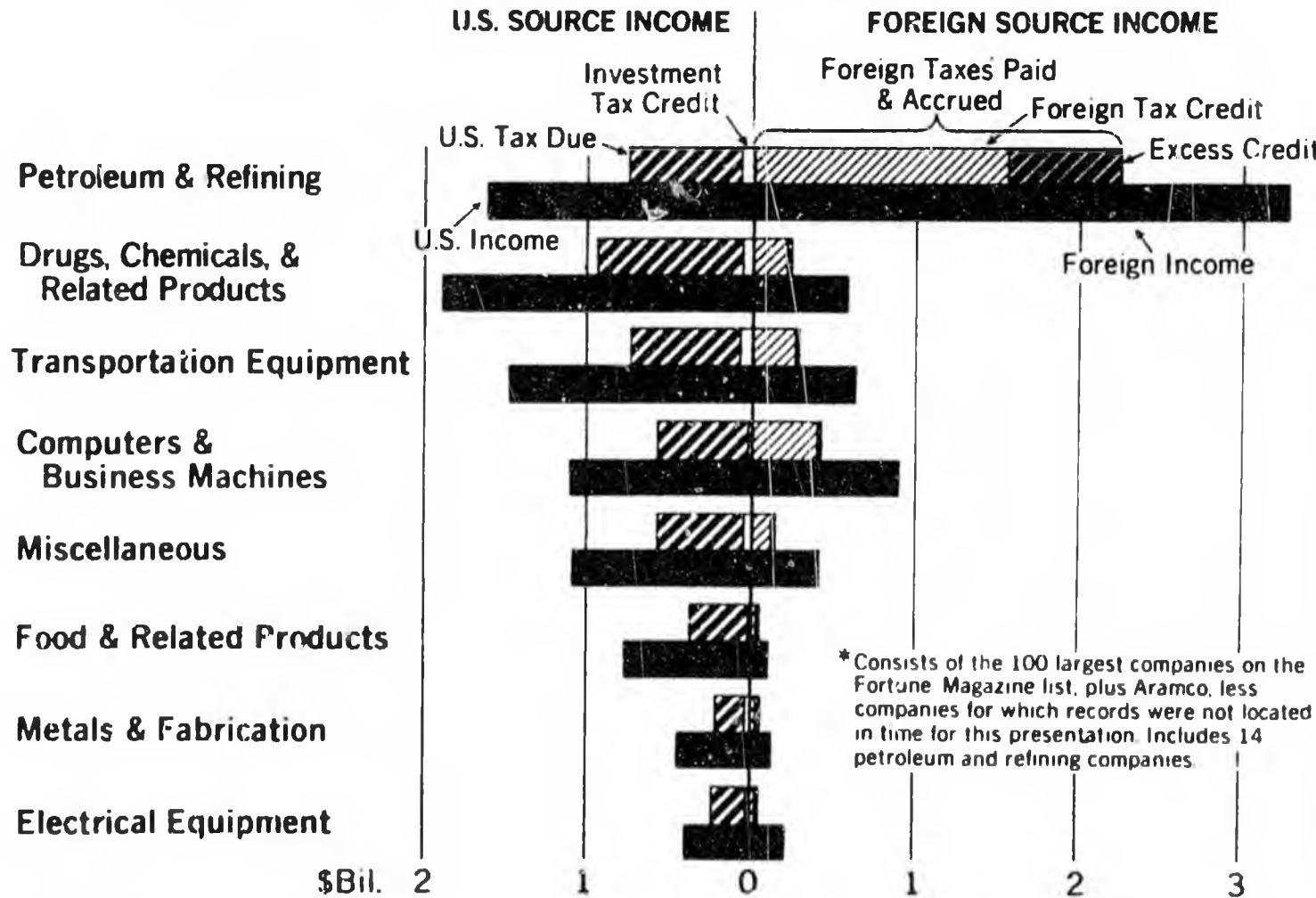
... that economic policy ... resulted in our drilling rigs and investment capital being used to drill and produce more oil in foreign countries ... than in producing it here.

... this Nation is still fabricating drilling platforms and drilling rigs to be placed on the bottom of the North Sea to produce oil for England and European nations generally ... In time of need, we cannot rely on one barrel of that oil. It will go to Europe. [S 11260]

Neither charge will stand up under close analysis.

There is a shortage of drilling equipment at that moment, but that is a transitory matter which will be corrected as new manufacturing capacity is developed. It has not prevented a 25 percent gain in domestic drilling (first half 1974 vs. 1973), and it must not be used as an excuse to change tax policies which are in the long-run interest of the country.

# INCOME AND TAXES PAID, OF THE 79 LARGEST U.S. COMPANIES,\* 1970



\* Consists of the 100 largest companies on the Fortune Magazine list, plus Aramco, less companies for which records were not located in time for this presentation. Includes 14 petroleum and refining companies.

Investment capital, whether it is provided by large oil companies or small individual investors, flows into projects based on each project's anticipated, risk-weighted, after-tax return on investment. If United States prices are higher and the United States economic and political climate more favorable, more domestic projects will be undertaken and more supplies brought forth than if the opposite is true. But a domestic energy project which is unattractive does not magically become attractive if the potential investor is told that he is no longer free to consider a potential foreign project. The unattractive United States energy project will not be undertaken until it becomes attractive *on its own terms*, compared with all other alternatives, foreign or domestic, inside or outside the energy field, including the alternative of making no long-term investment commitment until conditions improve. Since raising United States taxes on foreign petroleum investments would not improve the rate of return on domestic projects, eliminating the foreign tax credit would not increase petroleum exploration in the United States.

Foreign petroleum investment by American companies is in the national interest. Unquestionably, with oil imports approaching 40 percent of total domestic consumption, the United States is now overly dependent upon imported petroleum. We must increase our self-sufficiency ratio to a reasonable level, but it will take several years even to reverse the trend toward increasing imports. Some safe level of imports probably will be either desirable, or necessary, or both, for a good many years. As an importer and a member of a world of increasingly interdependent countries, it is in the direct interests of the United States to see world oil supplies increased, particularly to see that they originate from more diversified sources, and to ensure that American oil companies play a major role in this effort.

Foreign investment does not destroy American jobs. Indeed, there have been a number of studies by both government and academicians which indicate that foreign investment by American companies does not reduce employment in the United States. Rather it creates premium pay jobs. For example, the Department of Commerce has pointed out that:

the rate of employment growth in United States companies with large direct investments overseas was larger than the nation as a whole and that the jobs in these firms earn more pay and are supported by higher capital than those in other sectors of the economy.<sup>16</sup>

Moreover, commerce believes that United States investment abroad is responsible for one quarter of all United States exports of manufactures.

A study by Professor Robert Stobaugh (of Harvard University) commissioned by the Commerce Department estimated that 600,000 American jobs are created

by United States direct foreign investment.<sup>17</sup> This is not to say that these workers would remain unemployed without the export of United States goods and services to foreign subsidiaries of American companies (although that might be the outcome in an economy which has rarely had less than 5 percent peacetime unemployment since the 1920's). However, . . . alternate jobs would pay lower wages, since the average wage rates in U.S. export industries are considerably higher than those in other sectors of the economy.<sup>18</sup>

Foreign investment is an economic plus for the domestic economy.

Not only are domestic jobs benefited from foreign investment and the net United States balance of payments improved, but the United States voice in the current movement of international supplies is protected. Almost every other consuming government is supporting and even subsidizing its oil companies to strengthen their position in international oil operations in order to establish more positive control over their own imports (see Exhibit B). It is almost bizarre that at the same time legislative proposals in the nature of penalties are seriously urged in this country to discourage foreign operations of American companies, other consuming countries are pursuing an antipodal course.

Beyond the direct benefit of foreign oil investment to the American economy, rapid and significant diversification of world sources of foreign oil supplies is crucial to the health of the world economy. The observation that North Sea oil will not flow to the United States is very likely correct. Nonetheless, North Sea oil and gas *will* certainly help the United States; and the more that is found, the better. More petroleum production in Europe will diminish the massive European balance-of-payments problem created by the OPEC cartel when it quadrupled oil prices late last year. Europe's imported oil bill will be about \$60 billion this year. Japan will spend some \$20 billion for oil imports this year, and this country will spend \$25 billion. That is more than \$100 billion for the industrialized countries—an increase of more than \$60 billion over 1973.

Since the oil exporting countries cannot import anything like \$100 billion worth of goods and services from the consuming countries, the producing countries are building up huge balances of liquid assets in Europe and the United States. In 1974 alone, OPEC imports of, say, \$30 billion of goods and services would leave them an investable surplus of some \$70 billion. The imbalances that could occur if even a part of these funds were shifted from one country to another constitute a grave potential menace to the stability of the international monetary system. As long as the principal consuming countries are heavily dependent on im-

## Exhibit B

### Summary Statement of Tax Treatment and Other Incentives for Foreign Petroleum Operations by Companies Domiciled In:

- (1) *France*  
*Other Incentives:* *Does not tax.*  
None for private companies. (Government finances wholly-owned government company and owns substantial interest in large private company.)
- (2) *Japan*  
*Other Incentives:* *Taxes on overall basis with credit.*  
Exploration loans of up to 50% not repayable in the event of failure; government guarantees of bank loans for exploration and development; percentage depletion at 15% with reinvestment requirement; expensing of dry holes.
- (3) *Netherlands*  
*Other Incentives:* *Does not tax.*  
Allows deduction of foreign losses from domestic income.
- (4) *United Kingdom*  
*Other Incentives:* *Taxes on per country basis with credit.*  
Expensing of all pre-discovery costs; expensing of plant and machinery expenditures; rapid depreciation of other post-discovery expenditures. Allows a form of averaging of foreign losses and profits similar to U.S. overall method. Allows deduction of a net foreign loss. (Government owns substantial interest in large private company.)
- (5) *West Germany*  
*Other Incentives:* *Taxes on the per country basis with credit.*  
Outside the Common Market, exploration loans up to 75%, not repayable in the event of failure—50% of a loan may not be repayable in the event of discovery; expensing of all exploration costs; rapid depreciation of tangibles and intangibles. Allows deduction of a net foreign loss.
- (6) *United States*  
*Other Incentives:* *Taxes on the per country or the overall basis with credit.*  
Percentage depletion; expensing of dry holes and intangibles on producing wells (but no deduction of pre-discovery costs other than dry holes, until properties are abandoned). Allows deduction of a net foreign loss.

Source: U.S. House Committee on Ways and Means, Hearings on *The Administration Emergency Windfall Profits Tax* (Washington, February 4, 5, 6, and 7, 1974) p. 472.

ported oil, these financial surpluses owned by OPEC countries will continue to mount. Collapse of the international monetary system because of European and Japanese balance-of-payments deficits would be as disastrous for the United States as for Europe and Japan.

The world economy is now seeing desperate attempts by a number of the major industrial nations to deal with double-digit inflation and their oil balance-of-payments problems by slashing oil demand, restraining growth, reducing imports, and spurring exports. One country might find that to be a useful policy. But what is going to happen to the world economy if *every* country tries this policy? How can everyone stimulate exports and reduce imports? If pursued by a number of countries, "competitive deflation" could lead to world depression by wiping out the market for exports.

The United States must not forget that the world economy is inescapably interrelated. Anything that this country can do to diminish the world's oil balance-of-payments problem is in our national interest. International diversification of oil supply is the basic way to achieve that goal. Encouraging American oil companies to continue to participate in finding new sources of oil—especially in the consuming nations—is clearly in the national interest. Even if not one barrel of that new oil flows to the United States directly, it will advantage this country indirectly by aiding the economies of our allies and trading partners. Unquestionably, any improvement in the economic outlook in Europe and Japan will help the United States.

#### E. Are Foreign Income Taxes Actually Royalties?

The ancient charge that income taxes paid to foreign producing countries are actually royalties appeared again during the Senate debate.

... By some agreements 20 years ago, the Arabian countries were induced, instead of reserving a royalty on the minerals which they leased to foreign companies ... to disguise those royalties into the form of income taxes ... and since that time ... it was ... executive policy to allow these royalties to be credited against taxes due the Federal Government even though they were properly entitled to treatment only as ordinary and deductible business expenses. [S 11483]

In fact, Saudi Arabia *added* an income tax which is separate and distinct from the existing royalty. And royalties are never credited against United States income tax; they are deducted from taxable income, as is done with business expenses generally.

These allegations were given widespread attention in recent hearings of the Subcommittee on Multinational Corporations of the Senate Committee on Foreign Relations (Church Subcommittee). The facts of the Saudi Arabian case were succinctly and accurately de-

scribed in sworn testimony before that Subcommittee:

The fact is that no royalty was, or ever has been, converted in Saudi Arabia to an income tax. A royalty was paid prior to 1950 and has been paid continuously since that date to the Saudi Arab Government. Furthermore, it has always been treated as a deduction, not as a tax credit, for the purpose of calculating U.S. income tax liability. All that happened in 1950 was that Saudi Arabia did what almost every developed western country had already done, namely, to adopt an income tax. It was also following the precedent of Venezuela, one of the major oil-producing competitors of Saudi Arabia. Saudi Arabia could not afford to adopt a tax structure which would put its oil at a competitive disadvantage with Venezuela, which, at that time, was its major competitor for European outlets. Once the income tax was adopted, the income tax paid to the Saudi Arab Government became creditable against the U.S. tax liability of the producing company with respect to income earned in Saudi Arabia as a result of provisions of the Internal Revenue Code which had been around since 1918 and which in one form or another appear in the tax laws of the other principal industrialized countries of the world.<sup>19</sup>

Since 1950, Aramco has paid both taxes on its income and a royalty to the Saudi Arabian government. In fact, the royalty is higher today. Around the world, producing country governments collect bonuses for issuance of leases plus royalties which were formerly about 1/8 to 1/6 of the value of oil as it is produced. Most exporting countries have recently raised these royalties. In comparison, the usual royalty collected by the United States government is 1/8 onshore and 1/6 offshore.

A foreign government deals with the oil industry in two capacities: (1) as the owner of natural resources in place; and (2) as a sovereign taxing power. The foreign government collects a royalty as the owner of the natural resources; and it levies an income tax on the profits in its capacity as the taxing sovereign. Each payment is separate, and each is made for different reasons. In recognition of this distinction, a United States tax deduction is allowed for the royalty; and a United States tax credit is allowed for the income tax to the extent that the United States would tax the same income. Thus, a tax credit is *not* allowed for oil royalties paid to foreign governments. This system of payments is used in Canada, the United Kingdom, Australia, Venezuela, and the Persian Gulf. It parallels payments to the United States government on its own oil lands. The United States government collects a royalty as the landowner and levies an income tax on the profits as the taxing sovereign. There is no reason to treat payments to foreign governments differently,

The argument that the entire payment to foreign governments is a royalty is without merit because it implicitly denies a sovereign government the right to levy an income tax in addition to a royalty on oil production in its jurisdiction. The United States can surely not deny the right of a sovereign foreign government to tax corporate profits. As Mr. Sanford Ross recently told the Church Subcommittee:

Oil companies as well as manufacturing and other multinational companies should expect to pay

some reasonable amount of income taxes to host or source countries and, in fairness, only a part of what is paid to Middle Eastern countries could equitably be treated as a royalty.<sup>20</sup>

At least part of the payment to governments must be a tax. Since royalty rates abroad are similar to those in the United States, the contention that foreign taxes should also be considered royalties cannot be sustained.

## IV

# BACKGROUND TO THE JUNE 1974 SENATE DEBATE ON PERCENTAGE DEPLETION

For about six decades, the Internal Revenue Code has provided that an allowance for depletion of the value of oil, gas, and other natural deposits, may be deducted from revenues when computing taxable income. Prior to 1926, the allowance was based on the discovery value of the property. The allowance is now computed as a percentage of the gross income from the property (excluding rents or royalties), so long as the allowance does not exceed 50 percent of the taxable income from the property. This "percentage depletion" allowance was designed to simplify calculations of the discovery value of oil and gas deposits which are depleted by production. From 1926 to 1969, the allowance for oil and gas was 27-1/2 percent.

In 1969, the allowance was decreased to 22 percent. Moreover, the depletion allowance was subjected to the 10 percent minimum tax on tax preferences, which can reduce the effective allowance to a rate as low as 17.4 percent. (The difference between 22 percent and 17.4 percent is 4.6 percentage points—which is the amount of gross income required to generate taxes equal to 10 percent of the 22 percent allowance, at a tax rate of 48 percent on profits [ $2.2 \div 48 = 4.58\%$ ].)

Under various proposals made in Congress in 1974, the allowance is to be retroactively eliminated, phased out, or decreased. A bill entitled "The Oil and Gas Energy Tax Act of 1974" was reported out by the Committee on Ways and Means of the House. It has now been tentatively incorporated in a proposed general tax reform act. The Energy tax bill (as later amended by tentative decisions of the Committee) proposes to reduce the percentage depletion allowance to 15 percent retroactive to the beginning of 1974, reduce it further to 8 percent in 1975, and eliminate it on January 1, 1976. However, the 15 percent allowance would continue from 1974 until January 1, 1979, and be eliminated thereafter for any one of the following: (a) the first 3,000 barrels per day produced, (b) all wells with production of 10 barrels per day or less of crude oil (generally known as "stripper wells"), or (c) all wells within the Arctic Circle. Each taxpayer would elect one of these three exemptions.

The limitation of the allowance to 50 percent of taxable income on a property would be increased to 100 percent. This would provide temporary additional incentive for producing oil from marginal wells.

For regulated natural gas and natural gas sold under existing fixed price contracts, percentage depletion would remain as long as the average price does not ex-

ceed the equivalent price of oil, as measured by heat value. The allowance for percentage depletion on all foreign oil and gas production would be eliminated.

Under the Energy tax bill, the tax burden for oil producers would be further increased in two ways. First, oil prices which exceed the December 1, 1973, ceiling prices established by the Cost of Living Council would be taxed at rates up to 85 percent of the excess. Second, this tax would lower the base on which depletion allowances are calculated, thus further decreasing the effective depletion allowance. After 1975, the tax could be offset by most new investments in the oil and gas business, provided that total investment exceeds a stringent threshold level. A similar offset of up to 50 percent of the tax could be obtained in 1975, but there would be no offset in 1974. Starting in 1974, producers of 3,000 barrels per day or less could obtain full credits against the tax for such investment.

It was against this background of impending punitive taxation of petroleum profits that a group of Senators launched a determined effort to eliminate percentage depletion by attempting to attach a tax reform rider to the debt ceiling bill at the end of June 1974.

The ensuing Senate debate on the debt ceiling bill generated considerable heat, but very little light, as to the merits of the allowance for percentage depletion as an incentive to increase domestic oil and gas supplies. Before considering the merits of the Senators' case against percentage depletion, one must question their continual labeling of the deduction as a "subsidy." While long popular among oil industry critics, this designation certainly departs from the accepted definition of "subsidy" as a payment by government, unless one assumes that some fixed portion of all income belongs to the Federal Government, which then "pays out" that portion remaining after deduction of Federal income taxes.<sup>21</sup>

For a corporation, for example, the difference between any lower tax rate and 48 percent is said to be equivalent to a payment from the Federal Treasury to the "favored" company. It is a "tax expenditure." It seems doubtful that most people in the United States are prepared to accept this thesis, which is alien to the United States constitutional system. Sovereignty rests with the people; and governments at all levels are entitled only to those revenues which the people—through their elected representatives—see fit to give them.

Percentage depletion (or its antecedent, discovery value) has been in the tax laws for almost six decades. The depletion deduction was enacted by Congress in recognition that the national interest requires that income arising from the exploration, development, and depletion of natural resources be taxed on a basis differing from that applicable to industries that do not exploit natural resources. Congress has made many such distinctions in taxing the income of differing industries. These distinctions do not constitute "subsidies." Recognition by the Congress that all income

ought not to be taxed in the same manner is the result of long-standing Congressional policy that the national interest requires, among other things, that capital formation not be disrupted, in any industry, by failing to take into account the special and peculiar sources of income involved. This is what Congress has deliberately done with respect to petroleum and over 100 other minerals by enacting depletion laws, not as subsidies but as provisions appropriate to capital recovery and capital formation.

## V

# PERCENTAGE DEPLETION HAS BEEN AN EFFICIENT AND EFFECTIVE INCENTIVE

One recurring theme of the critics during the Senate debate was that percentage depletion has been ineffective as an incentive and should therefore be abolished:

... percentage depletion is an ineffective incentive for oil exploration. [S 11454]

Percentage depletion is accused of being too costly, misdirected, ineffective, and counterproductive to achieving energy independence.

### A. Does Percentage Depletion Cost More Than It Is Worth?

In the record of the Senate debate, we find great reliance still being placed on the 1968 CONSAD study even though it has been thoroughly discredited.\*

One cost-benefit study of the oil depletion provision found that the average annual revenue loss of approximately \$1.4 billion generated additional petroleum reserves valued at an average of only \$150 million per year. So ... the percentage depletion subsidy is highly ineffective. [S 11454]

The CONSAD study was, in fact, inappropriately conceived. Its basic mathematical model contained fundamental flaws. As described by an independent team of university economists in 1973, it was "a dry hole."<sup>22</sup> (The oil industry made this clear to the Congress shortly after the study was released in 1969.)<sup>23</sup> The quoted cost-benefit conclusions of the study are of no use—if for no other reason than that it assumed that oil production would remain constant regardless of the level of price. As a matter of fact, the CONSAD study was never intended to determine how exploration and the total level of reserves would respond to changes in price. It was designed to determine how the optimum amount of reserves held in the ground would vary with price *assuming a constant level of production*. That exercise is quite similar to determining how the optimum level of inventories in a retail store would change if price were to change *assuming a constant level of sales*. The model was so flawed that the study did not even succeed in providing a meaningful evaluation of the inventory question. More important, this inventory problem is a very different matter from the really significant national security question, which is how

petroleum exploration and the entire scale of operations in the industry will change as price changes. In fact, higher prices (or price plus depletion) will mean more production and reserves.

It is not correct that:

... careful economic studies have indicated unambiguously that ... [percentage depletion] is very ineffective relative to its large cost in stimulating exploration. [S 11146]

On the contrary, economic studies other than the misformulated CONSAD endeavor have shown quite the opposite. One such effort showed that crude oil imports in 1971 would have been double the actual level in the absence of percentage depletion because petroleum reserves would have been 22.5 percent lower.<sup>24</sup> (Actually, this study probably understated the effect on production because it indicates a variability in the possible ratio of production to reserves which is wider than appears reasonable.) Another careful study in 1969 showed that, in the long run, a 33 percent reduction in price would mean a 55 percent reduction in discoveries.<sup>25</sup> Since the effective percentage depletion rate in excess of cost depletion was something over 15 percent after 1969, that study implied at least a 25 percent decrease in the level of reserves if percentage depletion had been eliminated [(55 ÷ 33) × 15 = 25].\*

### B. Does Percentage Depletion Encourage Production, Not Exploration?

A second criticism of the efficiency of percentage depletion as an incentive is that:

Because depletion is given for oil production, it encourages drilling in known oil reserves and pumping from existing wells, not exploration for new resources. [S 11458]

It is a depletion incentive, not an exploration incentive. [S 11454]

It must be emphasized that percentage depletion is a function of price—indeed, it is 22 percent of price. The fallacious logic in these statements could just as well be applied to price which is, of course, paid only for oil *produced*. Would anyone contend that a higher price

\*—The CONSAD study was an attempt by a consulting firm to quantify some of the economic consequences of the petroleum tax provisions. The study was commissioned by the Treasury during the Johnson Administration. It was cited in Treasury materials late in 1968, but it was never endorsed as an official Treasury document. It was published early in 1969 at the insistence of Members of Congress.

\*—Both of these studies were evaluating the responsiveness of domestic exploration to changes in price in the \$2.00-\$3.50 range. Precise extrapolation of the results for price changes in the \$5-\$10 range would be of questionable validity. There would still be a positive relationship between price and exploration, but the magnitude could differ.

aids or production, not exploration, and does nothing to expand petroleum supplies? Exploration for exploration's sake will not fill many gasoline tanks. The results of exploration—producible oil and gas—are what count. What is needed is more domestic oil and gas production as an alternative for at least a portion of high-priced and insecure foreign imports. The way to achieve this is to stimulate exploration, discovery, development, and production. A higher price does all of this by rewarding the successful explorer. In a parallel way, percentage depletion also does all of this by rewarding the successful explorer.

The basic incentive of the oil industry to search for, develop, and produce oil and gas is the anticipation of an acceptable profit on exploration ventures after taking into account all costs including Federal income taxes. Each proposed exploration and development project is separately analyzed as to its potential after-tax return or profit on investment, based on its (uncertain) geological possibilities and price outlook as foreseen by the company. Those projects that meet the minimum profit criteria move forward—to success or failure depending on whether oil is really there. Those that fall below the minimum are shelved until changing circumstances warrant a new analysis.

The expected after-tax profit is, of course, affected by changes in both income and expense. Thus if the price of crude oil goes up (with no change in costs) thereby increasing expected profits, some prospects which failed the profit test at previous prices may become viable at the new level. By the same token, an increase in costs—such as increasing the Federal income tax through repeal of percentage depletion (with no increase in sales price)—would eliminate prospects which might otherwise have met the minimum profit criteria. It is simply incorrect to contend that:

... the only time the depletion allowance has any bearing upon the economics of the oil industry is when oil is discovered. [S 11464]

The presence or absence of percentage depletion influences the original economic assessment on whether to drill or not to drill just as does the expected level of the price of oil and gas. Either lower price or lower percentage depletion means a lower level of exploration. And the fewer prospects drilled, the less oil and gas found.

### C. Does Percentage Depletion Favor Low-Cost Oil?

The depletion allowance is also falsely accused of discouraging production of high-cost oil:

... the tax benefit is the same for low-cost oil, which will always be produced, as for high-cost oil ... the result is to divert scarce resources in the search for oil into low-cost drilling in known reserves, where the depletion payoff is the highest. [S 11458]

The logic of this position is dubious to start with: If the low-cost fuel will "always be produced" in any event, how could resources be diverted into it by tax policy? Moreover, resources have not been the limiting factor in the search for oil. Profitability was insufficient to attract adequate capital to maintain or expand wildcat drilling. In addition, insufficient offshore acreage was made available for large-scale exploratory drilling, e.g., in the Atlantic and the Gulf of Alaska. In any event, a company does not divert funds from exploration to development. In the long run, there can be no development without exploration. A company accepts exploration projects which are attractive. And it will naturally utilize any attractive opportunity for producing oil from known fields commensurate with maximum efficient rates of production.

Under such circumstances, the depletion allowance provides additional incentive to find, develop, or continue operation of marginal properties. For example, in a high-cost operation, the depletion allowance can more than double the producer's anticipated profits and render certain projects viable which would otherwise fail to meet minimum acceptable profit criteria. The following simplified example demonstrates how a high-cost project is benefited by percentage depletion:

	Without Depletion	With Depletion	Change in Profit
Uncontrolled Price	\$10.00	\$10.00	
Lifting Costs (including depreciation)	9.00	9.00	
Percentage Depletion (50% of net income)	0	.50	
Taxable Income	\$ 1.00	\$ .50	
Tax at Individual Marginal Rate of 70%	.70	.35	
Profit After Tax	\$ .30	\$ .65	+ \$ .35 (+117%)

The profit after tax and the rate of return are 117 percent higher with depletion [ $.65 - .30 = .35$ ;  $.35 \div .30 = 117\%$ ]. If the return on the project was not acceptable with a profit of only 30 cents, it might have been made acceptable by percentage depletion, which leads to a profit of 65 cents. Moreover, the allowance improves the prospective rate of return on additional investment in secondary or tertiary recovery projects and will render some such projects economically viable which would not otherwise meet the minimum profit criteria. If the limitation of percentage depletion to 50 percent of net income were removed or relaxed (say, to 100 percent, as proposed by the Committee on Ways and Means in 1974), the allowance would be even more useful in high-cost operations.

Thus, simple logic tells us that drilling, development, and production of oil and gas will be greater at any given price level *with* percentage depletion than without it. Experience with the 20 percent reduction in the depletion rate in 1969 tends to support that conclusion. In 1970, exploratory drilling in the United States dropped by 2,000 wells, a 21 percent decline from 1969—the largest year-to-year decline in history. The basic issue is whether we want to encourage domestic exploration and development during this period of scarcity, or whether we prefer to eliminate depletion, achieve a lower level of exploration and development activity, and suffer a greater dependence on foreign petroleum subject to the pricing and production decisions of foreign powers.

#### D. Does Percentage Depletion Cause Over-Drilling?

It is also argued that percentage depletion causes wasteful over-drilling of fields:

... It stimulates overdrilling of existing fields. . . . overdrilling can damage overall production from an oil field . . . [S 11458]

... it serves as an incentive to extract the oil as fast as possible and to overdrill and hasten depletion. [S 11454]

What is "overdrilling"? With higher prices (or price plus depletion), it may be economical to produce a reservoir faster, but that does not mean that oil will be wasted in the sense of diminishing total recovery from the field. When there is a shortage, obtaining oil sooner is certainly not undesirable so long as the producing rates do not damage the reservoir by exceeding the maximum efficient rates for the wells in the reservoir. This does not happen because the maximum efficient rate of production for each well is normally determined by state or Federal regulatory agencies based on the physical characteristics of the reservoir. To the extent that wasteful over-drilling and over-production of reservoirs may have occurred in the past, the basic cause was the "Rule of Capture." The oil beneath an individual's land could be legally drained off by any neighbor who could produce it from wells located on adjacent properties. It was diverse ownership of mineral properties and lack of effective unitization and conservation laws rather than percentage depletion that caused such over-drilling as may have occurred in past years.

Insofar as preference for drilling in existing fields is concerned, the fact that the industry has spent billions of dollars in the past few years in the hostile environment of the United States Arctic and offshore areas in the quest for new reserves belies the assertion that oil companies "prefer to spend money drilling in existing oil fields."

#### E. Is Percentage Depletion Wasted On Landowners?

The critics also contended that "most" of the depletion benefit goes either to royalty owners or to foreign oil producers:

Most of the benefit of depletion goes to foreign operations and to people who cannot and do not produce oil. A . . . landowner has nothing to do with exploring and drilling for new oil. In 1968 . . . the CONSAD study . . . concluded that 42 percent of the depletion allowance goes to such nonoperating interests in domestic production or to foreign oil producers. [S 11476]

In the first place, 42 percent is not "most." Furthermore, over half of what CONSAD included in the 42 percent was the nominal depletion allowance on foreign oil. This was done despite the well-known fact that foreign depletion usually does not lead to a reduction in United States income taxes because the foreign tax rate is usually higher than the United States rate. Hence, the foreign tax credit offsets potential United States tax liability with or without depletion. (An important exception is in Canada, which also has a form of percentage depletion.) Anyone who has studied the question recognizes that virtually all of the benefit of the depletion allowance accrues to domestic operations. Quoting from the Report of the Committee on Ways and Means on H.R. 11462, the Oil and Gas Energy Tax Act of 1974: "... your committee is aware that the limitation on the amount of creditable foreign taxes takes away most of the advantage of the deduction for foreign percentage depletion. . . ." [p. 49]

The royalty owners' share of the total amount of percentage depletion taken annually cannot be very great. The average royalty in the United States is about 15 percent of gross revenue. And perhaps 35 percent of that goes to governments (Federal, state, and local) which, of course, take no depletion. Thus, it would appear that about 10 percent of the annual percentage depletion allowance goes to landowners.

It is also inaccurate to contend that royalty owners have "nothing to do" with the exploration process. They contribute significantly to the finding and developing of new reserves by making available for exploration the land under which the reserves are located. Moreover, the royalty owners' capital values are reduced as the oil is produced from their land; and they are entitled to an appropriate allowance in recognition of this fact. Also, it must not be thought that the landowners who retain their mineral rights simply "sit back and collect royalties" and "take no risks." They could sell their mineral rights *before* exploratory drilling, but they elect to share in the risks of exploration by contributing the pre-exploration capital value of their mineral rights to the exploratory process. Hence, they

are entitled to share in the success—if any—of the operation.

It was also contended that percentage depletion is dissipated to landowners in the form of lease bonus payments:

Landowners get depletion on their royalty income, and they also get higher prices for leasing their land, because the availability of depletion encourages producers to bid the value up. [S 11458]

The essence of this argument is that if percentage depletion were eliminated, lease bonuses would decline accordingly. And the loss of percentage depletion would, in effect, have been shifted back to landowners—not forward to consumers via higher prices.

It is clear that loss of the operator's share of percentage depletion on *existing* properties could not be shifted back to the landowner. The lease acquisition cost is long since paid, and the per barrel royalty is contractually fixed. Thus, the contention in the quotation could only be an argument for eliminating percentage depletion on completely *new* properties, the exploration rights for which have not yet been acquired. It cannot justify retroactive elimination of percentage depletion on existing properties—including those acquired but not yet explored or developed.

In the case of future property acquisitions, bonuses would only be expected to be "bid up" significantly on those properties where producers expect the total economic costs of producing the underlying oil (costs of exploration plus development plus operation) to be well below the price they will receive. But if such attractive properties exist today in an increasing cost industry, why were they not acquired and drilled yesterday? There are thousands of separate and independent firms actively engaged in oil exploration in the United States. In this aggressively competitive environment it is hard to visualize how any substantial number of attractive "bargain" prospects could be simply going around undrilled unless they have been kept off the market by government action.

In general, properties which are made economically attractive by higher prices in an increasing cost industry are only those (e.g., the deepwater offshore) which did not appear economic to any one of several thousand explorers at lower prices. Thus, there would be little or no windfall "bonus" revenue for the landowner to be able to command on such new properties as they become attractive. Economic theory would say that "bonuses" on these properties would be no more than required to compensate the landowner for entry onto his land. Indeed, "bonus" is a misnomer in the case of high-cost projects which become economic as price rises in an increasing cost industry. Initial payments are merely minimal lease acquisition costs, and

they would not be reducible in the event of loss of percentage depletion.

How can it be, then, that there are domestic oil properties which have commanded significant bonuses in recent years? These were Federal offshore lands which had been held back from leasing either for environmental reasons or, perhaps, to maximize government revenues. To the extent that the per barrel bonuses on any remaining low-cost lands which were held back from exploration may exceed minimal lease acquisition costs, some part of lost percentage depletion could be shifted back to the landowner, that is, to the Federal Government (provided that percentage depletion had been eliminated before the acquisition bidding). The part of the depletion loss on such future properties which could be shifted cannot be computed because the amounts of the contemplated bonuses per barrel cannot be known today. All that is known is the bonus *per acre* on recent Federal lease sales, not the bonus *per barrel*. How many barrels per acre the winning geologists expected at the time of bidding is not a matter of public record. And recent sales may not foretell the future in any event.

What would shifting the loss of percentage depletion to the government accomplish? It would merely transfer funds from the bonus pocket of the Department of the Interior to the tax pocket of the United States Treasury. And that transfer would be of doubtful net benefit to the government, since the bonus is collected *before* exploratory drilling. The higher tax—like percentage depletion—would only materialize some years later in the event of success.

Can substitution of uncertain future tax revenues for initial certain bonuses on whatever low-cost properties may remain on the Federal shelf be a valid reason for depriving other new properties of percentage depletion? Surely not.

#### **F. Is Percentage Depletion Inferior To A Cash Subsidy?**

The suggestion was advanced during the debate that a direct cash subsidy to exploration would be preferable to the percentage depletion allowance:

Benefits which are proportional to the cost of exploration or development . . . are more effective in stimulating the actual expenditures necessary for additional exploration and development . . . [S 11476]

What is our objective? Is it to drill holes in the ground or to find oil and gas? Obviously, we want more oil and gas. However, a cash subsidy to all exploration rewards both success and failure. A dry hole cash subsidy wastes the taxpayers' money as compared to an incentive such as percentage depletion. There may be a place

for supplemental new incentives which are tied to effort, but percentage depletion is a proved mechanism which appropriately rewards the productive venture.

### G. Does Percentage Depletion Discourage Alternative Energy Sources?

The allegation was made during the debate that the depletion allowance discourages development of alternative energy sources:

... depletion is a highly discriminatory incentive for oil, to the disadvantage of other energy sources. [S 11458]

... If oil is produced through an alternative process, such as extraction of oil from shale or liquefaction of coal, the percentage depletion deduction available is much less. This encourages continuing exploitation of a scarce resource as opposed to development of the alternative resource which will obviously be needed in the future ... [S 11476]

This argument proceeds from a correct premise to an incorrect conclusion. In shale oil extraction, for example, percentage depletion is computed on the value of the "kerogen," that is, the raw oil-type material after it has been separated from the shale. Then, it is necessary to upgrade the kerogen by a refining process to make it into a synthetic crude oil comparable to conventional crude oil from the well. Thus, percentage depletion applies to the full value of conventional crude but to only part of the value of the synthetic crude.

The easy way to solve this problem is to put the computation of allowable percentage depletion for shale at that point in the process where it becomes a synthetic crude oil comparable to conventional crude. In order to equate the incentives, it is not necessary to destroy the incentive on conventional crude oil—a move clearly counter to the national interest in achieving more domestic energy, conventional or otherwise.

Moreover, elimination of percentage depletion on conventional oil and gas would do nothing to improve the rate of return on alternative sources and, hence, to encourage accelerated development of those sources. Making one domestic energy source less attractive does not make another domestic source more attractive. It makes domestic sources, in *total*, less attractive relative to imports. Alternative sources have been slow to develop because their higher costs have required selling prices far in excess of the equivalent price of conventional crude oil or gas in order to generate an acceptable rate of return. That rate of return would not rise because the rate of return on conventional oil and gas would fall with higher taxes on conventional sources.

Today, the price available for alternative energy sources—as well as new conventional crude oil—is set by the world price of crude. That price has risen to levels which should stimulate investment in at least some alternative energy sources.\* Thus, there is no point in attempting to make conventional oil and gas exploration less attractive in a vain attempt to stimulate synthetics. The Nation needs a maximum effort—which has begun—to find and develop conventional energy sources for many years until the alternatives can make a significant contribution to our energy needs. Raising taxes on conventional oil and gas cannot help that effort.

### H. Has Percentage Depletion Promoted Energy Independence?

One of the numerous rhetorical questions raised during the debate observed that if depletion were such a fine exploration incentive, why did exploration and the number of independent operators decline so sharply after 1956:

... if ... this depletion allowance was so beneficial ... we would not be dependent on foreign sources ... [S 11457]

... the oil depletion allowance is not worth a lot because the oilmen have had it and they have gone out of business anyway. [S 11459]

This is said to be "the best argument for doing away with the oil depletion allowance." The fact is that without percentage depletion and import restrictions the domestic industry would have suffered substantially more than it did. And the impact of the recent Arab oil embargo would have been much worse.

We have seen that the sharpest decline in drilling was experienced when depletion was reduced in 1969. It is frequently overlooked that the political and policy climates affect investment. These climates must be ones in which all investors, large and small, have a reasonable degree of certainty that the ground rules regarding such basics as prices, taxation, and profits will not be altered drastically. The primary motivation for development of additional supplies for any commodity in free enterprise economies is the prospect of making reasonable profits on each new project. Without this prospect, there will be little or no new competition because there will be little or no investment by firms of any size and little or no new entry into the industry.

Percentage depletion allowances have served the Nation well by encouraging widespread new investment and providing sources of funds for a large United States oil and gas industry made up of thousands of

\*—See section VI-E below.

firms and individuals. However, starting with the 1950's, the potential financial contribution of the depletion allowance has been partially offset through price controls. Prices and profits of oil were controlled indirectly to 1971 through jaw-boning and the controlled importation of low-priced oil. In addition, prices and profits of interstate natural gas sales have been controlled by the Federal Power Commission since 1954. In August 1971, the Federal Government started limiting prices and profits through direct controls on all commodities. Although direct controls have been removed from almost all other commodities, they still apply to oil and gas.

These government price controls on oil and gas since the 1950's have diminished the attractiveness of the oil industry. As a result, domestic petroleum exploration and development expenditures (in constant 1970 dollars) declined from \$7.2 billion in the early and mid-1950's to under \$4.2 billion in 1971.

As the energy industry came under more severe price limitations, inflation pushed its costs up. The net effect of various negative factors including inflation and price and profit controls was to depress exploratory drilling in the United States, encourage imports of oil, and dampen investment. And counterproductive political action has not ceased. As was noted above, a number of proposals to limit the profits of energy companies and investors have been made in the past year. It is not surprising that exploration declined in the United States after 1956 despite percentage depletion and oil import controls. The political climate could only have discouraged investment.

The value of depletion as an incentive was also questioned in view of the current decline in production in

the face of higher prices and correspondingly higher amounts of percentage depletion:

... production in this country has actually dropped by 2 percent ... One wonders, if higher prices automatically bring forth more production, where it is. [S 11467]

Rome wasn't built in a day. It will take several years for the effects of the current accelerating growth in exploration, development, and workover activity now under way to be reflected in production rates. Active rotary rigs in the first half of 1974 were up more than 25 percent over the number active in the first half of 1973. And, according to the Chase Bank, domestic petroleum capital expenditures by 30 companies in the first half of 1974 were up by 122 percent over the first half of 1973. Spending by these companies was at an annual rate of \$13 billion about the level of their worldwide profits.

Thus, the industry is clearly responding as quickly as it can to the prospect of improved after-tax profits through higher prices and continuation of the depletion allowance. Just as production in future years will reflect today's increased activity, production today reflects curtailed activity in the past. The recent sharp increase in activity should not mislead us however. It should be remembered that substantially greater levels of investment are necessary even if we are just to maintain the current ratio of domestic oil to imports. And we have seen that the industry's past investment rate must be increased several-fold to some \$36 billion annually (in 1974 prices) to achieve a reasonable degree of energy independence.

## VI

# PERCENTAGE DEPLETION CONTINUES TO BE AN EFFICIENT AND EFFECTIVE INCENTIVE

The distinguished principal spokesman for the proponents of eliminating percentage depletion (Senator Humphrey) contended that:

... there might have been a time when one could make a strong argument in this body for the percentage depletion allowance, whether it be 27.5 percent or 22 percent. The argument could be made then on the basis that the profitability of the industry required it, or the lack of profitability to be more exact. Second, one could make the argument on the basis that cost was so high relative to price that they needed a subsidy.

But that argument cannot be made today ... the profitability in this industry is clear and inevitable, and the price they get for the product is a high price. That is the incentive we need, the incentive for further exploration. [S 11463]

Thus with higher prices and profits, the industry is said no longer to need percentage depletion.

### A. Have Higher Prices Substituted For Percentage Depletion?

A misconception of the additive incentive effect of percentage depletion appeared continuously throughout the Senate debate. For example, one Senator cited Professor Otto Eckstein (of Harvard University), who contends that the depletion allowance is obsolete because the increased

market price of oil provides a far stronger incentive to the development of additional reserves than any tax incentive such as the depletion allowance could provide. [S 11488]

Arithmetically, it is quite true that a \$7.50 increase in the price of new oil from \$3.50 to \$11 is a more powerful incentive than deducting 71 cents (22 percent of the \$3.50 price) from taxable income—\$7.50 is always better than 71 cents. But, it is also true that eliminating percentage depletion on the \$11 would have the same type of effect as reducing the higher price and hence reducing the effectiveness of the price increase. (The magnitude of the price increase required to offset loss of depletion is discussed in Section VIII below; for a taxpayer in a 48 percent marginal bracket, a \$2.23 increase in the \$11 price would be required to offset the loss of 22 percent depletion.) Moreover, a given price increase with percentage depletion is more effective than the same increase without depletion—since the company receives the percentage depletion allowance on the increase in price as well as on the base price.

Conversely, it loses the depletion on the amount by which a price is reduced.

From the point of view of the producer, eliminating percentage depletion at any given level of price has the same type of effect as cutting the price. And that can only mean less petroleum exploration and development. As we have seen, more prospects become economically attractive with a higher price—especially those prospects in costly frontier areas such as the North Slope of Alaska, the deepwater offshore, and very deep geological horizons onshore. And fewer prospects are attractive with a lower price. Hence, a price rollback would mean less exploration (and less development). A reduction in percentage depletion would have the same sort of effect—unless there were a compensating price increase. Actually, a 22 percent reduction in price with depletion in effect would be somewhat more serious than the elimination of 22 percent depletion because the effect of the price reduction would be compounded by loss of part of the depletion formerly received.\*

In short, the incentive effect of percentage depletion is additive to the effect of price. At any given level of price, there will be more exploration with percentage depletion than without.

### B. Could A Higher Price For New Oil Offset Elimination Of Percentage Depletion On New Oil?

Since the price of new oil is not controlled and there are no import restraints, the price of new domestic crude oil now reflects world crude oil prices. Hence, in the absence of offsetting legislation to limit imports or raise their delivered cost, an increase in taxes on domestic new oil probably could not be passed on to consumers.

The price of already decontrolled domestic oil surely will not be affected by the repeal, because this price is determined by the highest level set by the OPEC cartel—now about \$10.50 for oil sold directly by the OPEC governments. [S 11471]

A tax increase levied by one country on a freely traded commodity cannot be passed on by producers domiciled in that country because the higher tax would not affect the costs of foreign-owned competitors. That is a basic principle of international economics.

\*—This ignores cost depletion and the 50 percent of net income limitation.

If Congress were to levy a tariff on imported oil equal to the before-tax value of percentage depletion on new oil, the price of new domestic oil could rise *in lieu* of percentage depletion. Alternatively, import quotas could be re-imposed to insulate domestic prices from world prices. Otherwise, elimination of percentage depletion would mean higher tax costs on new oil and, accordingly, lower profits and less exploration. We have seen that some of the effect might be absorbed in lower lease acquisition bonus payments on any low-cost properties that have not yet been leased by the Federal Government. (That would be money out of the government's bonus pocket and into its tax pocket.) But on high-cost properties which bear only nominal land acquisition fees, the incentive effect of depletion would be lost without import protection. Exploration would, therefore, decline.

The proposal to eliminate percentage depletion on new oil with the thought that the tax increase would not be passed on to consumers is actually *anti-consumer*. And it is contrary to the agreed national interest in increased domestic output of oil and gas. The proposal to eliminate percentage depletion has deceptive appeal: It would raise oil company taxes so that individual income taxes could be reduced (by about \$15 per person per year); but it would hold oil prices constant so that individuals' gasoline and oil bills would not rise. In effect, the proponents promise consumers a free lunch—the same amount of oil at the same price with a lower income tax bill. However, it is crystal clear that elimination of percentage depletion would mean a lower level of indigenous petroleum supply in the absence of correspondingly higher fuel prices. Thus, the proposal is incompatible with the generally agreed policy goal of decreased dependence on costly and insecure foreign energy sources.

### C. Could Market Forces Operate To Offset Elimination Of Percentage Depletion On Old Oil?

During the debate, Senator Humphrey made an eloquent plea for market forces:

The Senator from Minnesota believes in the profit system; he believes in the capitalistic system. He believes they ought to have a chance to make a fair return on their investment. [S 11457]

... when the price is up ... [t]hat is the incentive. That is the incentive for the farmer to produce wheat; that is the incentive for a factory to produce a car; price and profit ... Let the market forces work. And the market forces are at work.

What is the market force? Price. [S 11460]

These remarks would seem logically to require that any proposal to eliminate percentage depletion apply only when petroleum market forces are permitted to oper-

ate. However, that requirement is not met today in two important petroleum categories: interstate natural gas and so-called "old" crude oil. Those prices are rigidly controlled by the Government of the United States. Market forces are suppressed. How, then, can Senator Humphrey and his colleagues justify a petroleum tax increase?

They did, in fact, recognize the impact of the suppression of market forces in the case of regulated natural gas. Their proposal would postpone the date of elimination of percentage depletion on such gas until the end of 1975 in order to "give producers time to obtain price adjustments from the Federal Power Commission." [S 11452]

However, the sponsors of the proposal would deny any such treatment to "old" crude oil:

Some people may propose to make a similar exception for price-controlled oil. The situation for oil, however, is very different. Such an exception is completely unjustified because price ceilings on oil are not even remotely related to cost. [S 11456]

This is *not* a free market proposal—even for interstate gas. In fact, the proposal envisions continuation of price controls on both interstate gas and old oil. It does not require relaxation of gas price controls to compensate for the loss of percentage depletion. It merely grants producers a year to try to persuade the Federal Power Commission to allow a pass-through. And the proponents reject outright any pass-through of the loss of percentage depletion on old oil. At one point, Senator Humphrey admitted the desirability of a pass-through on old oil, but he quickly retracted this sound position when prompted by a colleague. [S 11475]

Thus, contrary to the eloquent words of their distinguished spokesman, the sponsors of the proposal do not propose to let market forces operate. They demand, instead, continued government suppression of market forces. It is incredible to witness the persistence of the notion that a better society lies in the direction of giving to the Federal Government, rather than consumers, the power to determine what goods and services are produced and which members of society will be permitted to get more or less of what is produced.

Price controls by definition mean that the competitive free enterprise, marketplace system is replaced by government commands and orders in those sectors which are affected by the price controls. Supply and demand forces, made up of the sum of billions of individual decisions of savers, consumers, businesses, and workers, cannot operate when prices are controlled below market clearing levels by commands grounded in the police powers of the government. Government cannot repeal the Law of Supply and Demand by imposing price controls.

Where there is a free marketplace, the people determine among themselves what is to be produced, whether more or less of this item or more or less of that service. Through the marketplace, each person is free to determine within his means whether he prefers more of one thing and less of another, and spend his money accordingly.

Under any system of price ceilings, the government must make these decisions. There is not enough of the price-controlled item to equal the quantity people want and would be willing to pay for at that price, because price ceilings have held prices below market clearing levels and created an artificial shortage which would not exist with market forces operating. Yet somehow the price-controlled item must be allocated. Who will be allowed to have it at the advantageous, controlled price?

There is only one possible answer. The government will allocate the supplies and the shortage. The call for price controls, with their inevitable accompanying allocation controls, is a call for a major transfer of economic power from the people to the Federal Government.

One need not look only to other countries to see the effects of an established price control-allocation system. Here at home we have the example of Federal regulation of natural gas prices. Lower prices have great political appeal. This has been no less true for natural gas than it would be for oil and oil products. Estimates of the prices required to bring forth new supplies are difficult to make and strain the predictive capacity even of those government experts most convinced of their superiority over the decision-making abilities of a free market. Many critics believe, of course, that industry estimates are gravely suspect of being self-serving and are to be dismissed or appropriately discounted.

Thus, it is no accident that after two decades under a natural gas regulation scheme which started with plentiful supplies in an energy self-sufficient country, we have rapidly depleting gas supplies; wholly insufficient to meet demands, and an energy-deficient country. Some citizens and business firms are permitted to buy and use cheap natural gas while their neighbors and competitors are less fortunate, for there is nowhere near enough gas to go around at the controlled price. Low natural gas prices affected the price levels of competing fuels, particularly oil and coal, and put a severe limitation on the level of investment effort which could be mounted to bring on new supplies of those fuels. It may be anticipated that in similar fashion, oil price controls will have effects far beyond the petroleum industry if they long persist. Allocation problems already exist within the industry because of the dual price system for old and new crude oil. Hold-

ing price below the market always causes problems of arbitrarily taking benefits from one group and conferring them on another, usually with capricious and counterproductive results.

#### **D. Does OPEC Pricing Require Reimposition Of Price Controls On New Oil?**

The proponents of eliminating percentage depletion almost seemed to be suggesting a reimposition of controls on *new* oil because they believe that new oil prices are not now competitive prices, as in agriculture:

... the prices of uncontrolled oil are not exactly competitive prices. They are cartel prices ... The OPEC countries just set the price. It is not related to the cost. [S 11464]

It is not in the national interest to contend that a market price for United States oil is unjustified because it reflects an international price which exceeds the before-tax cost of producing oil abroad. Since the cost of producing oil in the Middle East is by far the lowest in the world, diminished dependence on oil from that source will perforce mean higher costs. If the world price were equal to the before-tax cost in the Middle East, the delivered price of foreign oil in the United States would be some \$2 per barrel as it once was—perhaps less. No one would now seriously contend that such a price could stimulate sufficient domestic energy development for United States energy independence.

Furthermore, there have been a number of public indications from OPEC leaders that they intend to key their prices to costs of alternative energy sources or frontier area production of conventional oil. For example, Prince Sa'ud al-Faisal, Deputy Minister of Petroleum and Mineral Resources of Saudi Arabia stated:

... I believe that the most effective and simplest way of preventing the misuse of oil is to let oil prices reach their true level so that it will only be put to vital uses. I believe that this price should be derived from the cost of alternative sources of energy. The main complaint against the new level of oil prices was the abruptness with which the increase occurred, spanning a short period of time, and this is understandable. But the price of oil must rise sooner or later to its true level and this, in the final analysis, is not harmful to the consumer but is in his best interest.<sup>26</sup>

Prices set by OPEC at the level of United States replacement costs are at the level which economic theory tells us free market forces would ultimately set.

Regardless of how the world price is set, any domestic oil that is available at or below that price—or, indeed, somewhat *above* it—is a bargain. Domestic oil is secure. It creates no balance-of-payments problems. And the tax and royalty component of its cost is simply

a transfer of money within the United States economy; it is not a real resource cost. In contrast, the tax and royalty component of a barrel of foreign oil (85 or 90 percent of its total cost) is a real resource cost to the United States. It gives the foreign government a call on American goods and services or a share in American wealth. Obtaining secure domestic oil at the world price is in the national interest regardless of the relationship of that price to foreign costs.

#### E. Are Higher Prices Cost-Based?

It is incorrect to contend that higher current petroleum prices "are not related to the cost of production." [S 11461] Higher prices reflect higher replacement costs. In the extractive industries, higher-cost new prospects must be sought out in frontier areas as time passes because firms tap the lower-cost ones first. Since the exploratory process is uncertain, some prospects which were thought in past years to be poor may turn out to be relatively good (or *vice versa*) when they are ultimately tested. But it is the *expected* attractiveness which matters in deciding which prospects to drill or not to drill.

In order to achieve energy independence, the industry must turn to higher-cost projects:

... The lower investment and operating costs of fields discovered and developed years ago are irrelevant to what it will cost to bring on new supplies. New supplies will cost much more in terms of the real resources of men, materials, and invested capital required to bring them into production. Hence, expansion requires increasing prices and profits in order to maintain acceptable rates of return on the new, higher-cost investments ... The petroleum industry is now ... mov[ing] to exploration in the Arctic and deepwater offshore areas, as well as to the exploitation of new energy sources requiring unproved and costly technology. Such increased uncertainty requires increased rates of return in order to attract capital.<sup>27</sup>

Replacement costs are higher; hence, prices must be higher. Higher prices *are* cost-based—*replacement* cost-based.

One might contend that while a higher price is required to compensate investors for the higher cost of new production in an increasing cost industry, there is no reason to let producers earn that price on older, low-cost production. That production is already in place, and a higher price for it would allegedly accomplish nothing more than enrichment of the producer:

I do not deny that the cost of drilling wells has gone up ... [b]ut ... [m]uch of the increase in domestic prices ... is on old oil wells already drilled. Prices went up, but the costs of production or drilling those wells were incurred years before. [S 11464]

What this implies is that oil and gas producers are only entitled to recoup the dollars they originally spent and a modest profit thereon, regardless of the erosion of the buying power of these dollars by inflation—and regardless of current replacement costs and competing market prices.

The price of wheat has gone up dramatically, but no one has suggested dual pricing for farmers. That would require a lower price for "old" wheat produced from lands which were profitable at the former price and a higher price for new production from less productive acreage. The wheat farmer is entitled to receive the market value of his crop—and does—even if this means a substantially higher rate of return on low-cost acreage purchased and brought into production years ago than on new acreage currently being cultivated. However, the oil producer is said to be entitled to receive only a low price on production from old, lower-cost acreage despite inflation and high replacement costs of operating in frontier areas. What justification is there for singling out oil producers and denying them the higher profits which flow from past investments as market prices rise?

It must not be thought that higher profits on "old" oil render no useful function. They are a source of funds for reinvestment in exploration and development. And the industry should be spending more than the profits from old oil if the Nation is to achieve energy independence. Increased internal generation of funds is essential in an industry where the results of investments are so uncertain. Some critics assert that the industry should borrow more:

... the oil industry has the lowest debt-equity ratio in manufacturing. It has a tremendous untapped borrowing capacity. [S 11461]

That is simply incorrect. In the past, the low debt-equity ratio has reflected the uncertainty of the exploration stage of the business. Today, new refining investment has also become significantly more risky because of the uncertainty of flow of foreign crude supplies. The industry borrows about to the extent of its credit-carrying capacity. Moreover, a high rate of return on the existing business is needed for the companies to be able to attract new debt capital to supplement internally generated funds. Bankers are most reluctant to lend only on the strength of great expectations of success in new exploration ventures. They demand concrete evidence of existing accomplishment. The view of the Chase Manhattan Bank is that raising the money needed for energy independence

... will represent an enormous task. Part of it can be borrowed but at least three-fourths will have to be generated internally from profits and capital recovery. Nearly half must be obtained from profits alone ...<sup>28</sup>

Not only do higher profits on "old" oil render a useful economic function, they are also justified in view of general price inflation—entirely apart from any consideration of higher replacement costs of operating in frontier areas. The present controlled "old" oil price of about \$5.25 per barrel does not bring old oil prices in line with the general inflation of the past quarter century. In the third quarter of 1974, the implicit price deflator for the Gross National Product had increased by 116 percent from the 1948 average. At \$5.25, "old" oil was up 102 percent from the 1948 average price of \$2.60.

Price controls and restricted profits on old oil also have a perverse effect on efforts to improve the productive capacity of existing fields. A secondary recovery project which increases production of a new field earns new oil prices on every barrel of production in excess of the 1972 level, plus the new oil price on a matching bonus barrel. But what if the secondary recovery project does not lead to higher field production than in 1972? This could easily happen in fields where the productive capacity is naturally declining. Secondary recovery may only arrest the decline—but that is certainly an accomplishment which would promote energy independence because there would be more oil than otherwise. Yet controls on "old" oil deprive this sort of project of the market price. Restoration of market forces would eliminate this problem.

Finally, price ceilings on old oil depress the price of a composite barrel of old and new domestic crude oil and, hence, artificially stimulate oil consumption at a time when we should be conserving.

#### F. Are Higher Prices High Enough For Energy Independence?

During the Senate debate, the national need for petroleum exploration incentives was repeatedly recognized by the proponents of eliminating percentage depletion. But the need for the extra depletion incentive on top of an \$11 price for new oil was questioned:

... this kind of profit permits the exploration and development that we need, and if it does not, there is something wrong with the oil industry. [S 11469]

We all agree that the domestic oil industry needs incentives to drill, to build refineries, to build pipelines, to expand production of energy for this nation's needs. I know of no one who disagrees with that.

... The question is, when is enough enough? [S 11466]

The present levels of oil prices and profits do permit some of the exploration and development that we

need—drilling is up 25 percent in a year, and capital spending has doubled. But do they permit *all* that we need? How much incentive is enough?

Senator Humphrey said that "The more we can be dependent on our own resources, the better." From that policy position, it follows that percentage depletion is required at the present crude price unless we can be confident that the \$11 price *without* percentage depletion would give the country the amount of domestic oil supply it will consume at that price.

In order to apply this test, it is first necessary to forecast domestic production and consumption at prices of \$11 and about \$9 over a period of years sufficiently long to permit full reaction to price change (eliminating percentage depletion would be equivalent to rolling the price back by about \$2 per barrel). Any such forecasts of supply and demand are most difficult to make with precision because of:

- (1) the geological uncertainty inherent in the petroleum exploration process;
- (2) the uncertainty of the effect of higher crude oil prices on petroleum consumption; and
- (3) the long time periods required to develop new petroleum supplies and effect a full response of demand to higher prices.

This is not to say that long-term petroleum supply and demand forecasting is a useless exercise. Rather, the results should be viewed with caution and given in ranges rather than as single numbers which imply undue precision.

The United States has substantial untested acreage which is highly prospective for oil and gas, especially offshore on all three coasts and on the North Slope of Alaska. But we shall not *know* how much oil is actually there until the prospects are tested by the drill bit and developed. And that process can take a good many years, especially if environmental protests are carried to the courts. When the first North Slope oil moves to market, almost ten years will have elapsed since its discovery.

Furthermore, we have no precisely comparable historical experience on which to base predictions of the precise effect of large increases in domestic crude oil prices on consumption of petroleum products. Price changes over the past quarter century have been small—35 cents per barrel at most. Indeed, crude oil prices were about constant for a decade and a half while other prices rose. In 1974, however, uncontrolled domestic crude oil prices have risen by a much larger amount following the world price rise. One can safely say that such a price increase will decrease consumption, but by how much? Also, as with the supply response to higher prices, a full demand response will take many years. For example, higher gasoline prices stimulate purchases of more efficient automobiles; but

consumers cannot be expected to junk their investments in the 1972-74 models overnight.

The first forecasting problem, then, is to estimate a range of uncertain supply and demand responses to price changes as those responses will materialize a decade or so in the future. However, even if this can be done within reasonable ranges in which one can have some confidence, it will still be almost impossible to predict the level of imports required to fill the supply-demand gap, if any. Consider the following example of hypothetical supply and demand forecast ranges at a given price in a future year (assuming any level within the range is equally likely):

	Million Barrels per Day
Domestic Supply Forecast	15 plus or minus 20%, or 18 to 12
Domestic Demand Forecast	20 plus or minus 10%, or 18 to 22
Required Imports	5 plus or minus 100%, or 0 to 10

At the mid-points of each range (20 demand and 15 supply), required imports would be five million barrels per day—or 25 percent import dependency. However, required imports could be anywhere from zero to 10 million barrels per day—a dependency range of zero to 45 percent.

Moreover, the price is uncertain; forecasting it requires an economic and geopolitical assessment of future OPEC pricing policies. Hence, there would be comparable ranges for each of a number of feasible world crude oil prices. In short, the level of import dependency is highly uncertain. We can say with confidence that higher prices will mean more domestic production and less domestic consumption. How much more is arguable but predictable within ranges. Predictions of the difference between those ranges are necessarily extremely uncertain.

When the Nation's security is involved, it is clearly better to err on the side of developing somewhat too much oil than to eliminate percentage depletion and, effectively, roll back the price by about \$2 per barrel. The consequence of a surplus would be that the United States would have some oil to sell to Europe and Japan and, accordingly, to help the consuming countries' joint balance-of-payments problem *vis a vis* OPEC. The consequence of eliminating percentage depletion could be an even greater American dependence on OPEC oil. There is really no choice between these uncertainties: the United States must opt for more domestic supply. It needs the new prices *and* percentage depletion in order to assure itself of adequate supplies of oil and gas.

Might it be possible to fill the domestic independence gap by using synthetics as well as conventional oil and gas? A rapid development program for syn-

thetics is essential—as American Petroleum Institute witnesses told the Congress in 1970:

... it is imperative that we begin now [1970] to formulate a framework of national policy for the orderly development of synthetic resources. The long lead times required dictate that a carefully planned program be initiated now if those sources are to make a significant contribution to our energy needs in the 1980's.<sup>31</sup>

Four years have passed, but only one new synthetics plant has been started—and that one in Canada. The long lead times for plant construction and the technological problems not fully solved make it most unlikely that it will be physically possible to produce the huge needed quantities of synthetics by 1985—even with diligent development.

In any event, synthetic liquid fuels will be no bargain. For example, Cameron Engineers, Inc., an eminent firm experienced in evaluating shale oil processing, recently stated:

Thus for a 50,000 bbl./day pioneer plant, operating on 30 GPT [gallons per ton] shale the crude price today should be about \$10/bbl. *in terms of constant 1974 dollars*. Further increases would thus be required to compensate for future inflation during the construction and operation period.<sup>32</sup>

This required price of \$10 per barrel is for a synthetic crude comparable with conventional crudes delivered to refining centers. The estimate is an adjustment of the results of a National Petroleum Council study which computed a crude parity (at the plant gate) of \$6.35 per barrel in 1970 dollars. The NPC study assumed a large plant operating on high grade ore with no startup problems. The Cameron estimate updates the costs to 1974 dollars and allows for the plant size and ore quality currently being considered.

Colony Development Operation recently announced indefinite postponement of its commercial shale plant because inflation had caused its estimated construction costs to increase about 40 percent, from \$450 million to \$800 million. Robert O. Anderson, Chairman of ARCO, which is a member of Colony Development stated recently that the price of oil would have to increase to about \$15 per barrel before this plant would be economic.<sup>33</sup> Bob R. Dorsey of Gulf stated recently that Gulf's estimated costs for its joint venture with Standard of Indiana had also increased. He noted that instead of an oil price of \$8 to \$10 per barrel Gulf was now estimating that the price of oil would have to be in the range of \$10 to \$12 per barrel before this project could be economical.<sup>34</sup> It is clear from these cost estimates that there must be assurances that oil prices will continue at present levels or even increase before oil shale development can make any substantial contribution to domestic energy supplies.

Another source of synthetic liquid fuels could be coal. A recent statement by Exxon Research and Engineering Company observed that:

Based on the current high cost for imported natural crude, there are now substantial driving forces to complete the development and commercial demonstration of coal liquefaction technology as soon as practical.<sup>35</sup>

The Exxon cost estimate for direct liquefaction of coal is roughly \$10 per barrel of synthetic oil in 1973 dollars. An alternative route to synthetic liquids from coal would be to gasify the coal and then liquefy the gas. That could cost another \$2 to \$5 per barrel.

"When is enough enough?" Enough is no less than present new oil prices *with percentage depletion*.

## VII

### PERCENTAGE DEPLETION AND COMPETITION

It has been argued that percentage depletion for large integrated oil companies gives them an advantage over non-integrated refiners and should be eliminated for large integrated companies to improve competition in refining and marketing:

... depletion encourages oil producers to keep their oil prices high, at the expense of independent refiners and manufacturers of petroleum products, whose profit margins are thereby squeezed.... In effect, the integrated firms are selling crude oil to themselves at artificially high prices and thereby driving independent refiners ... out of business. [S 11458]

On the contrary, integrated companies have neither the ability nor the incentive to attempt any such shifting. And they would lose, not gain, after-tax dollars if they were successful in any attempt to shift income from marketing and refining to production. What would happen to profits? The answer is that profits would decrease. The integrated companies' lack of market power is confirmed by the facts, which show that over the past decade independent refiners have improved their market share.

#### A. Competition In Refining

The charge implies that at any level of market prices for products, integrated companies allegedly raise crude oil prices artificially, thus squeezing refining profits. This ignores the facts.

First, the integrated companies cannot raise prices individually. Integrated companies produce only about three-fifths of domestic crude oil production and thus could not control the market. The largest company has only about 10 percent. In an industry characterized by low concentration and free entry—as in the oil producing business—companies have no discretion as to where they take their profits.

Second, neither the Internal Revenue Service nor state tax authorities will permit companies to adjust their internal crude oil prices arbitrarily in order to minimize taxes. Such internal prices must be related to market prices.

Third, the integrated companies would lose money on a price increase designed to increase the depletion allowance and decrease taxes. For a company whose gross production equals its refinery runs, the benefits from lower Federal income taxes would be more than offset by increases in landowner's royalty and state severance taxes. The effect is even more pronounced in situations where the integrated producer is unable to satisfy the requirements of his refineries from his own

gross production and must purchase part of his requirement from outsiders. To the extent that is the case, the increase represents an additional net direct increase in costs.

The accompanying schedules in Exhibit C reflect the effect of crude oil price increases to an integrated petroleum company. For a completely integrated company whose gross production equals its refinery runs, Case I shows that profits are reduced by about 2 percent of the amount of the increase. Case I assumes that the integrated company purchases no oil beyond its gross production. In fact, the gross production of 20 of the largest oil companies is about 75 percent of their runs of domestic crude. As a result, the average large integrated company must purchase about 25 percent of its crude oil from outsiders. Case II reflects this purchase assumption, which results in a reduction in profits equal to about 15 percent of the amount of the increase. A further adverse effect on profits results if the tax on tax preferences is applicable. In that event, as is shown in Case III, profits are additionally impaired by another 4 percent of the amount of any crude increase.

Consistent with these computations, the actual facts show that independent refiners have improved their market share in recent years. According to the Office of Oil and Gas, Department of the Interior, refinery capacity in the United States increased from 9.6 million barrels per day in 1960 to 12.3 million barrels per day in 1970, a net increase of 2.7 million barrels per day—or about 28 percent. The Treasury Department has calculated that in the area east of the Rockies, independents competed so successfully that they gained about 1 percent of refinery capacity between 1960 and 1970.<sup>36</sup> On the West Coast, the independents gained 2.5 percent of refinery capacity from 1964 to 1970.

One would assume that if profitability were concentrated in production, then the large companies with the funds and experience in all facets of the oil industry would invest primarily in *production*. The facts show that while most large companies invest heavily in all stages of the industry, they actually have a larger share of the *downstream* end of the business—transportation, refining, and marketing. As previously listed, the average degree of integration on gross production is about 75 percent. After deducting royalty oil due to others, the level of integration would be substantially less—about 64 percent.

Some integration in the producing side of the business is desirable, not because of high profits there, but

**EXHIBIT C—CASE I**

Effect Of An Increase Of \$1 In Price Of Crude Oil On A  
Company That Produces All Its Crude Oil Requirements

Additional royalty paid to the landowner (based on national average royalty interest of 15%).....	\$ .1500
Additional severance and ad valorem tax on the 85% working interest (based on estimated national average taxes of 8%).....	.0680
Total .....	<u>\$ .2180</u>
Reduction in Federal income tax @48% attributable to the above items.....	.1046
Net cost of royalty & severance tax .....	<u>\$ .1134</u>
Less reduction in Federal income tax attributable to increase in percentage depletion @22% of 85% x 48%.....	.0898
Net cost of increasing the price of crude oil, assuming the tax on tax preferences is not applicable .....	<u>\$ .0236</u>

**EXHIBIT C CONTINUED—CASE II**

Effect Of An Increase Of \$1 In Price Of Crude Oil On A  
Company That Produces 75 Percent Of Its Crude Oil Requirements

Additional royalty paid to landowner (15% of .75) .....	\$ .1125
Additional severance and ad valorem tax (8% of .75 less .1125).....	.0510
Additional cost of crude purchased from other producers (1.00 less .75) .....	.2500
Total .....	<u>\$ .4135</u>
Reduction in Federal income tax @48% attributable to the above items.....	.1985
Net cost of royalty, severance tax, and outside purchases .....	<u>\$ .2150</u>
Less reduction in Federal income taxes attributable to increase in percentage depletion (48% of 22% of .75 less .1125).....	.0673
Net cost of increasing the price of crude oil, assuming the tax on tax preferences is not applicable.....	<u>\$ .1477</u>

**EXHIBIT C CONTINUED—CASE III**

Effect Of An Increase Of \$1 In Price Of Crude Oil  
Assuming The Tax On Tax Preferences Applies

	Company With No Outside Purchases	Company That Purchases 25% of its Crude Requirements
Increase in Preference Items (Increase in Depletion on Own Produced Oil) .....	\$ 1870	\$ 1403
Add Reduction in Income Tax:		
Due to Additional Royalty, Severance and Outside Purchases .....	.1046	.1985
Due to Additional Depletion .....	.0898	.0673
Increase in Preference Tax Base .....	<u>\$ 3814</u>	<u>\$ 4061</u>
Preference Tax at 10% .....	<u>\$ .0381</u>	<u>\$ .0406</u>
Net Cost of Increasing the Price of Crude Oil per Cases I and II .....	<u>.0236</u>	<u>.1477</u>
Total Increase in Cost When the Tax on Tax Preferences is Applicable .....	<u>\$ .0617</u>	<u>\$ .1883</u>

because of normal business reasons for vertically integrating. The primary reason is to assure a steady and uninterrupted flow of supplies of crude oil at periods of peak demand. A second reason is to guarantee proper quality of crude oil to match the capabilities of individual refineries—especially crudes that have a proper content of sulfur and metals, and those which provide high gasoline yields.

#### **B. Competition In Producing**

Percentage depletion is clearly not anti-competitive in the producing stage of the industry:

... In any event, what is keeping the independents in business is that depletion allowance and the deduction for intangible drilling costs ... the depletion allowance ... is one advantage of the independents over the majors. Look at the 70 percent personal income tax and compare it with the 48 percent rate on corporations; that depletion allowance attracts money to take a chance on drilling wildcat wells by the independents. That is the only competitive advantage they have. [S 11475]

Since independents drill 75 or 80 percent of the exploratory wells, some might say that they must have other competitive advantages, e.g., flexibility of response to new opportunities. But percentage depletion is surely significant, and it is surely pro-competitive.

Competition in oil and gas exploration and production is intense compared with other industries. The Of-

fice of Oil and Gas, Department of Interior, has calculated that independents outside the top 23 oil companies produced 42 percent of domestic petroleum in 1972.<sup>37</sup> The latest available published statistics of the Federal Trade Commission show that in 1967, 16 percent of steel production, 14 percent of soap and malt liquors, 7 percent of aircraft engines and parts, and 3 percent of tires and tubes came from companies outside of the top 20 in these industries. Essentially all production came from within the top 20 in such industries as motor vehicles, aircraft, cigarettes, and telephone and telegraph apparatus.

The major oil companies have been active primarily in the search for potentially large deposits of oil and natural gas—especially offshore and in the Arctic—utilizing advanced and very expensive exploration and development techniques. The 10,000 or so independent producing companies have tended to concentrate in widespread conventional drilling for smaller deposits onshore. According to Chase Manhattan Bank figures, the top 30 oil companies contributed 70 percent of the funds for exploration during the period 1964 to 1972. Since 1950, 24 giant fields of 100 million barrels or more have been found. Of these about two-thirds were discovered by major companies. The independents drill most of the wells; the majors spend most of the money. And the business is highly competitive.

## VIII

### PRICE EQUIVALENT OF PERCENTAGE DEPLETION

In the debate over the role of percentage depletion as an incentive to domestic petroleum exploration and production, considerable confusion has arisen over the effect on industry costs and cash flows of losing percentage depletion. Much of the confusion over percentage depletion can be traced to misunderstandings of the manner in which percentage depletion shows up in the domestic oil producer's economics. Logical pitfalls which appeared during the Senate debate included:

- (1) Confusing or ignoring the important economic distinction between "marginal" and "average" economic concepts, especially tax rates, and commingling marginal and average data;
- (2) Intermingling data on the U. S. petroleum industry with worldwide data;
- (3) Assuming that a dollar of increased tax cost can be fully offset by a dollar of increased revenue, i.e., price; and
- (4) Confusing the tax concept of "cost depletion" with book depreciation.

It is essential that misimpressions left in the Senate debate be corrected.

#### A. Erroneous Computations Of The Price Equivalent Of Percentage Depletion

Wholly incorrect estimates of the price required to offset loss of percentage depletion were offered during the debate. The estimates were not only incorrect; they did not even agree among themselves. One example:

... those who support the depletion allowance argue that repeal of depletion may raise the cost of gasoline at the pump, possibly by as much as 3 cents per gallon ... the calculation assumes a 48 percent effective tax rate on oil profits. But, in fact, the effective tax rate of America's major oil companies is far lower, only about 5 to 6 percent ... Therefore, ... the increase at the pump would be more like one-third of cent a gallon ... [S 11458]

This calculation is misleading and meaningless.

Indeed, if percentage depletion were deducted from revenues that would otherwise be taxed at "only about 5 to 6 percent," it certainly would not be much of an economic incentive. If percentage depletion is only worth 5 or 6 cents on the dollar, why is there such an effort to repeal it? It would only raise Federal receipts by about \$300 million. Those who so glibly toss out such miscalculated data should recognize that taxing depletion deductions at a mere "5 to 6 percent" clearly will not produce the billions of added tax revenue that the American voter has been promised!

The "5 to 6 percent" figure incorporates two of the four errors in logic mentioned above: it relates U. S. income taxes to total worldwide income, while ignoring foreign income taxes; and it also confuses marginal and average tax rates. As we have seen, comparing U. S. Federal income taxes paid by U. S. oil companies with their total worldwide income—while ignoring the billions of dollars in foreign taxes paid by the companies—is a naive but persistent mistake made in analyzing oil industry economics. That is the source of "5 to 6 percent." It is the false average rate computed by dividing United States tax by worldwide income. If one wanted to use an average rate, he should use 25.6 percent, which is United States tax divided by United States income.

However, it is the *marginal* tax rate on domestic income which matters. If an extra dollar of domestic corporate income is subjected to Federal tax, that dollar will be taxed at a 48 percent rate. Hence—setting aside depletion would cost the corporation 48 cents on the dollar, not 5 or 6 cents.

Another example of computing the price increase required to offset the loss of percentage depletion contained a quadruple error:

If the depletion allowance were taken out, the maximum value of the percentage depletion on old oil at present prices is 55 cents per barrel. If the percentage depletion is withdrawn—that is, on old oil—firms could take the cost depletion. That is normal depletion, which is roughly half of that, and thus the additional tax liability would be 25 cents a barrel at most. If fully passed through to the gas pump, this would translate into about 0.6 cents per gallon ... [S 11474]

Senator Long immediately objected that:

... if the companies are going to make the money back against the 48 percent tax rate, they have got to double the figures used by the Senator.

Senator Humphrey responded:

No. [S 11474-11475]

Yes—and then some.

In the first place, the 22 percent depletion allowance in the computation is valued for a corporation in a 48 percent marginal bracket: 55 cents = 22 percent of \$5.25 per barrel times 48 percent marginal tax rate. However, for an independent producer in a 70 percent marginal bracket, the value would be: 87 cents = 22 percent of \$5.25 per barrel times 70 percent marginal tax rate.

Second, the computation ignores the lost cash flow from percentage depletion on new oil. New oil earns twice as much depletion per barrel and accounts for about one-third of production. For a corporation, the after-tax value of 22 percent depletion for a composite barrel valued at \$7.50 should be 79 cents, not 55 cents.

Third, the implied after-tax value of cost depletion is 30 cents per barrel, since 55 cents less cost depletion allegedly gives a new value of 25 cents per barrel for percentage depletion on old oil. This 30-cent figure for cost depletion on old oil appears to be far overstated. It is totally at variance with estimates presented over the years by the United States Treasury and other sources—three cents is more like it after taxes. Although the genesis of the 30 cents is not entirely clear, it appears to be based on the before-tax value for average total oil industry "depreciation plus depletion" as per financial statements and not "cost depletion" from the tax returns. Such data are simply not equivalent or comparable, and lead to very serious errors in estimating the economics of depletion. "Cost depletion" from the tax returns covers primarily geological and geophysical exploration expense and lease acquisition costs for producing properties. "Depreciation plus depletion" in the financial statements covers virtually all costs except dry holes and, for some companies, geological and geophysical expense. Cost depletion from the tax returns is only a minuscule part of depreciation and depletion from the financial statements.

Fourth, as Senator Long correctly pointed out, since 55 cents is the *after*-tax value of statutory depletion to a corporation, approximately twice that much extra revenue would be required to offset the loss of percentage depletion. Each extra dollar of revenue is taxable at 48 percent, hence, it takes almost \$1.10 of revenue to provide 55 cents after tax—\$1.06 to be precise. For an individual in a 70 percent marginal bracket, it takes \$1.75 to provide 55 cents after tax. The expansion factors for converting the tax benefit into an equivalent price increase are 1.92 for a corporation and 3.33 for an individual in a 70 percent marginal bracket [ $= 1 / (1 - \text{marginal tax rate})$ ].

The net result of the quadruple error is a major understatement. The right average figure for all oil is about 3 cents per gallon, not 0.6 cents.

#### **B. The Average Value Of Percentage Depletion**

Like the "average man," there is no such thing as the average oil producer. However, enough data exist to draw a reasonable statistical composite for purposes of illustrating the aggregate impact of percentage depletion.

To illustrate how such a value might be derived as an industry average, Case I of Exhibit D shows hypotheti-

cal depletion economics for an "average" producer selling crude oil at \$7.50 per barrel, the approximate current industry average price.

Key economic assumptions in Case D-I include:

- Percentage depletion is assumed to be effective at an 18 percent average rate after allowing for the minimum tax on tax preferences and the limitation to 50 percent of net income.
- Average cost depletion of \$0.06 per barrel is in accordance with estimates by government and industry sources in the \$0.04-0.07 range.

The following tax assumptions were used in Case D-I:

- The oil producing industry is assumed to be a composite of 48 percent bracket corporate taxpayers and 50-70 percent bracket individual taxpayers: an average tax rate of 52 percent was assumed representative. (It should be noted that some oil companies may appear to have overall average tax rates less than 48 percent due to consolidation effects of other activities and normal differences between tax and financial reporting. However, for taxable production income after deducting allowed depletion, such taxpayers will normally be subject to taxation at the full rate applicable to ordinary income, i.e., 48 to 70 percent.)
- Although there would be no 10 percent minimum tax due in Case D-I if it were an example at the margin, the producing industry is assumed, on the average, to pay the minimum tax on preferences at one-half the nominal rate or an effective 5 percent rate.

Loss of percentage depletion in Case D-I would reduce the producer's depletion charges by \$1.29. As a consequence, Federal income taxes would be increased by \$0.67. However, if the "average" producer is to be made whole in terms of his net cash flow, he must receive \$1.40 per barrel more for his crude oil, or 3.3 cents per gallon of domestic crude oil [ $1.29 / (1 - .52) = 1.40$ ]. In situations where the full 22 percent rate applies, statutory depletion on the average barrel would be worth 4.1 cents per gallon.

Case D-II shows a \$5.25 per barrel example for "old" oil worked with the same operating assumptions as Case D-I. Again assuming that every producer and every project is average, these calculations indicate that making up loss of percentage depletion on old oil would call for a price increase of \$0.79 per barrel or roughly 1.9 cents per gallon of domestic crude oil. In situations where the full 22 percent rate applies, statutory depletion on old oil would be worth 2.8 cents per gallon.

**Exhibit D**  
**DEPLETION ECONOMICS FOR THE "AVERAGE" PRODUCER**

	<u>Case D-I</u>	<u>Case D-II</u>
	----- \$ per Barrel -----	
(1) Current Sales Price .....	\$7.50	\$5.25
(2) Percentage Depletion @18% Effective Rate .....	1.35	.80
(3) Less: Cost Depletion .....	<u>.06</u>	<u>.06</u>
(4) Equals: Reduction in Depletion .....	\$1.29	\$.74
(5) Increase in Federal Income Tax = 52% of Line (4) .....	.67	.38
(6) Price Increase to Restore Cash Flow =		
Line (5) ÷ (1-.52) .....	1.40	.79
(Memo: cents/gallon) .....	(3.3)	(1.9)
(7) New Sales Price to Make Whole: .....	\$8.90	\$6.04

**Exhibit E**  
**EFFECT OF DEPLETION ON ECONOMIC INCENTIVES**

	<u>Case E-I*</u>	<u>Case E-II*</u>
	----- \$ per Barrel -----	
(1) Current Sales Price .....	\$11.00	\$11.00
(2) Percentage Depletion @ 22% Effective Rate .....	2.42	2.42
(3) Less: Cost Depletion .....	<u>.50</u>	<u>.50</u>
(4) Equals: Reduction in Depletion .....	\$ 1.92	\$ 1.92
(5) Increase in Federal Income Tax .....	.92	1.34
E-I = 48% of line (4); E-II = 70% of line (4)		
(6) Price Increase to Restore Cash Flow =		
Line (5) ÷ (1-tax rate)	1.77	4.47
(Memo: cents/gallon)	(4.2)	(10.6)
(7) New Sales Price to Make Whole: .....	\$12.77	\$15.47

\*Note: Case E-I assumes a 48 percent bracket taxpayer; Case E-II assumes a 70 percent bracket taxpayer.

### C. Percentage Depletion And Economic Incentives

The critical economic effect of percentage depletion is not found in its average impact on total oil production (new plus old) but in the economic incentive it provides at the margin.

In most instances, business investment decisions are based on the marginal costs and revenues involved, and not on average costs and revenues. Thus, the economic incentive value of percentage depletion rests on its independent impact on the marginal investment decisions that the individual petroleum producer is currently considering and not on the historical average operations of the entire industry. (Its average value measures the total flow of funds attributable to the allowance.)

The "margin" in the oil producing industry may be thought of as new, leading-edge investments in petroleum exploration and production, as well as introduction of secondary recovery and reworking of older, low-yield wells (including so-called "stripper" wells) which are close to abandonment because of their low profitability. Percentage depletion must be evaluated in its marginal, incentive role if its implications for sound public policy decisions are to be assessed correctly.

Currently, newly-discovered domestic crude oil in the United States is selling at a price of around \$11 a barrel. This \$11 price incentive has already had a powerful impact on new investment commitments in the oil industry, including a pronounced surge in drilling activity, accelerated programs in secondary recovery of known oil reservoirs, and sharply increased interest in Federal lease sales.

The impact of removing percentage depletion on new, leading-edge developments is illustrated in Exhibit E, where the marginal economics of two hypothetical oil producers are shown; a 48 percent tax bracket corporate taxpayer (Case E-I) and a 70 percent tax bracket individual producer (Case E-II). Because of the impact on current acreage acquisition costs of

sharply higher offshore lease bonus payments, an effective cost depletion rate of \$0.50 per barrel is felt to be more representative of new producing properties recently put up for bid by the government. Percentage depletion is assumed effective at the full 22 percent rate. Neither taxpayer is assumed to have net preference items in his base activities that are subject to the 10 percent tax on preferences; so no incremental minimum tax liabilities or credits are generated at the margin. This figure may not be appropriate for future costly deepwater and Arctic properties.

The data of Exhibit E indicate that to restore leading-edge economic incentives after abolishing percentage depletion would call for crude oil price increases in the range of \$1.75 to \$4.50 per barrel, or 4 cents to 11 cents per gallon.

An essentially similar line of marginal economic analysis may be developed for the case of the "stripper" well, where an increase of \$1.75 or more per barrel in tax liabilities would force premature abandonment of a significant portion of this valuable segment of domestic crude oil production capacity unless offsetting price increases are realized.

In summary, this analysis has shown that abolishing percentage depletion would have its most pronounced impact on marginal investment decisions at the leading-edge of the domestic oil industry. Full restoration of incentives would require price increases of at least \$1.75 a barrel or 4 cents per gallon of domestic crude oil.

Without a compensating increase in revenue, abolishing percentage depletion would cut the oil producer's cash flow by 15 to 30 percent at the margin, and drain the industry of \$2-3 billion per year of funds badly needed for reinvestment. In the wake of a brief but massive interruption in America's ability to import oil, the adoption of such a punitive tax measure aimed squarely at leading-edge incentives for domestic oil exploration can only be deemed short-sighted and contrary to our Nation's best interests.

## IX

# CONCLUSION

During the debate, a crucial set of steps was missing in moving from the facts of higher prices and profits to the conclusions so confidently articulated by advocates who would increase petroleum taxation. They asserted that, "At these profit levels the domestic producing industry is going to be able to raise all the capital it needs . . ." [S 11460] and "The soaring price of oil is enough incentive by itself to stimulate all the additional exploration and production needed by America . . ." [S 11457]. But these were only assertions.

What was missing was rigorous analysis. What rate of return is needed to attract capital? What is the true profitability of the industry? What is its true tax burden? How many investment dollars will be needed?

The Chase Bank states that a 15 to 20 percent rate of return is needed. After allowing for inventory profits, the rate of return for the larger American companies was about 18 percent during the first nine months of 1974. The industry's 1972 income tax burden was about 25 percent domestically and 50 percent worldwide. Its total tax burden is 6 percent of gross revenue—higher than the average for other American companies.

The current uncontrolled price of new oil is about \$11 per barrel. Several sources indicate that synthetic liquid petroleum from oil shale or coal will cost about \$10 per barrel, or more, in 1974 dollars. OPEC leaders have indicated they will key their prices to alternative energy sources. Thus, domestic oil at market price is cost-based relative to replacement costs; and it is an economic and national security bargain.

The industry's domestic capital expenditures averaged about \$9 billion annually during the past five years. In the first half of 1974, capital expenditures by the larger companies were at an annual rate of \$13 billion—more than double the previous year. Their worldwide profits were also at an annual rate of about \$12 or \$13 billion after allowing for one-time inventory profits. The Secretary of the Treasury has cited data indicating a need for \$36 billion of annual capital expenditures, on the average, through 1985—far more than the present profit or expenditure level.

Percentage depletion has been an effective incentive. It pays off for success, just as does market price. It stimulates exploration, development, secondary recovery, and high-cost operations. Its effect is additive to price; and it is not obsolete.

Since the price of new domestic oil is set by world prices, economic theory would say that a pass-through of a domestic tax increase to consumers is not feasible

in the absence of import controls. Ending percentage depletion on new oil could, therefore, mean less exploration and increased dependence on imports. Those imports would probably have to come from the Middle East.

To the extent that Congress eliminates depletion allowances for any portion of the industry, thus increasing taxes, it is likely that internal sources of funds available for investment would decrease further—even with no new limitations on profits. This means that external sources of funds would have to provide more of the capital which will be used to finance all of the new investments of the oil industry. That, in turn, means that rates of return must remain up; but elimination of percentage depletion would reduce the rate of return by about three percentage points. Today, the competition for funds is unprecedented. If the oil industry continues to be surrounded by uncertainty and possible punitive actions by Congress, the outlook for raising external funds will be dismal for all companies—non-integrated refiners, large integrated companies, independent producers, and other energy companies.

Any reduction in percentage depletion would be contrary to the national interest. However, if such a change is made, it should be prospective to make it applicable to properties acquired after the legislation is passed. Projects undertaken in past years would not then be deprived of an allowance which was expected at the time of the investment decision and which, accordingly, entered into the original economic choice: to drill or not to drill.

If any reduction in depletion is made applicable to existing properties, the legislation should at the very least contain a provision for a pass-through of the added tax cost on "old" oil and regulated gas, if not for full restoration of free market forces. Allowing a cost pass-through with continued price controls would require that the effective date of the legislation not be made retroactive. Depletion lost retroactively could not be recovered because the oil would already have been sold.

It might be objected that past exploration decisions never anticipated percentage depletion based on a crude oil price so high as \$5.25, the present ceiling on "old" oil. Hence, this higher price may *already* have offset loss of the originally expected percentage depletion allowance. Senator Humphrey contended that "the price of oil has already gone up." [S 11472] But an "old" oil price of about \$6 is required just to bring the "old" crude oil price in line with inflation. When

one makes an investment decision, it is surely not unreasonable to expect future price increases in accord with general inflation. In fact, price increases substantially *greater* than the inflation rate could be anticipated in an increasing-cost extractive industry which must look to progressively more difficult geological prospects as the years pass. A compensating price increase for "old" oil would prevent the after-tax value of "old" oil prices from being reduced far below the level which offsets general price inflation since World War II, as well as maintaining the flow of internally generated funds needed for new exploration.

Insofar as the foreign operations of American oil companies are concerned, efforts to eliminate or impair the operation of the foreign tax credit are not in the national interest. With United States taxes imposed on top of foreign taxes, American companies could not compete with foreign-owned companies, which pay only the foreign taxes. Since a continued American presence in the international oil industry will not diminish the interest of American companies in economically attractive domestic expansion projects, there is no reason for the Government of the United States to drive them out of the international business.

Indeed, their technical and managerial competence is sorely needed there. The United States will, itself, require substantial oil imports for many years even with spectacular success in domestic exploration. And restoration of the economic health of Europe and Japan may well depend on increased indigenous energy production in those areas, together with diversification of other foreign sources of petroleum. Because of the inevitable and irreversible interrelationships among

the economies of Europe, North America, and Japan, it is in the direct national interest of the United States to do what it can to preserve the economic status of all of these economies and to assure the stability of the international monetary system.

Thus, it makes no national sense to undertake tax policies which would drive American companies out of the international oil business. This is especially true when one recognizes just how invalid are the arguments used to support increased taxation of the foreign-source income of American oil companies. They do not use the foreign tax credit to excess—they have had more foreign tax credits than other businesses merely because they have had more foreign income. And their foreign income taxes are not royalties—they pay both income taxes and royalties, with the royalties comparable in amount to those paid at home.

In summary, a major effort is under way in the United States, Canada, Europe, and Asia to decrease consuming country dependence on OPEC oil. Market forces are spurring an intensive worldwide effort to bring on new supplies. Domestic capital expenditures by the larger American companies in the first half of 1974 were over twice the 1973 level. This confirms the belief we share with Senator Humphrey that, if allowed to operate, the marketplace will call forth new supplies. Our basic disagreement is that we believe that the market forces will be more productive of increased indigenous energy supplies with percentage depletion and an unimpaired foreign tax credit than without. "Let the market forces operate" without governmental impairment.

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10. See, for example, *Petroleum Intelligence Weekly*, February 4, 1974, reporting sales to Japan and other markets.
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12. First National City Bank, Petroleum Department, Energy Memo, "Investment Revival Ahead?" (New York, October, 1973).
13. Hearings before the Committee on Foreign Relations, United States Senate, 90th Congress, 1st Session, on Tax Convention with Brazil, *Executive Journal*, 1967, pp. 19-20. Professor Surrey reaffirmed his view that the foreign tax credit should be retained in his appearance before the Committee on Ways and Means, February 5, 1973.
14. U.S. House Committee on Ways and Means, Hearings on *The Administration Windfall Profits Tax* (Washington, February 4, 5, 6, and 7, 1974), p. 145.
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18. *Ibid.*
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20. Testimony of Sanford G. Ross before the U.S. Senate Subcommittee on Multinational Corporations of the Committee on Foreign Relations, January 30, 1974, p. 49.
21. See Dan T. Smith "Tax Revisions: Theory and Reality" in Tax Foundation's *Tax Review*, September, 1974, p. 1.
22. See Edward W. Erickson, et al., "Taxation and the Petroleum Industry" in Taxation With Representation, *The Petroleum Industry's Tax Burden* (Washington, 1973), pp. 73-48, 49, and 50—especially fn. 1 on p. 73-50.
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26. Interview with the Beirut Weekly *al-Hawadith*, June 21, 1974; reported in *Middle East Economic Survey*, July, 1974, pp. 7-8.
27. Statement of W. L. Henry, Executive Vice President, Gulf Oil Corporation, before the U.S. House Committee on Ways and Means, Hearings on *The Administration's Emergency Windfall Profits Tax* (Washington, February 4, 5, 6, and 7, 1974) p. 480.
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- into the United States" (Washington, September 10, 1974) p. 1<sup>c</sup>.
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  32. Testimony of John Hutchins, President, Cameron Engineers, before the U.S. House Subcommittee on Energy of the Committee on Space and Aeronautics, May 14, 1974.
  33. Statement of Robert O. Anderson before a meeting of Security Analysis in New York City on October 16, 1974.
  34. Statement of Bob R. Dorsey, Chairman of the Board of Gulf Oil Corporation, before a meeting of Security Analysts in Chicago on October 30, 1974.
  35. Statement by Robert Epperly before the 9th Inter-society Energy Conversion Engineering Conference, San Francisco, August 25, 1974.
  36. Submission relating to letter from William Simon to Lewis A. Engman, Chairman, Federal Trade Commission, July 30, 1973, "Staff Analysis . . . of the FTC's July 2, 1973 Preliminary . . . Staff Report on its Investigation of the Petroleum Industry" (Washington, August 27, 1973), p. 10.
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**AMERICAN PETROLEUM INSTITUTE**  
1401 P STREET N.W. WASHINGTON D.C. 20004

March 10, 1975

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Dear

The House Commerce Committee has HB 208 under consideration. A hearing is scheduled for 8:00 a.m. March 21 in Room 203 of the Assembly Building. You are invited to give testimony at that time.

Sincerely,

Bob Bradley

BB/mr

12/21/83  
This is a copy of  
what is on the  
mag card.  
James Henry

H. Com. 1975/76  
bill file

Letter to Lobbyists  
on HB 208

ENCLOSED IS MAG CARD WITH "LETTER TO LOBBYISTS" ON IT. ORIGINAL  
IS STORED IN STATE ARCHIVES, JUNEAU, ALASKA.

HB

209

HB 209

Tape #

10

Date

3/6

# COMMITTEE REPORT

2/20/75

HOUSE

JUDICIARY

Mr. Speaker:

Date \_\_\_\_\_

The Committee on Commerce has had VS 309

under consideration. A Majority of the members of the Committee

recommends it DO PASS

recommends it DO NOT PASS

recommends it DO PASS WITH ATTACHED AMENDMENT(S)

recommends it BE REPLACED WITH CS FOR \_\_\_\_\_ AND THAT

CS FOR \_\_\_\_\_ DO PASS

"and" recommends it BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

reports it back WITHOUT RECOMMENDATION

"other"

Members signing the Majority report:

<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

[Signature] Chairman

## MEMORANDUM

## State of Alaska

TO: R. D. Stevenson, Special Asst.  
Office of the Commissioner  
Department of Revenue

DATE: March 5, 1975

FILE NO:

TELEPHONE NO:

FROM: Frederick P. Boetsch *FPB*  
Deputy Commissioner  
Department of Revenue

SUBJECT: House Bill 209

A recent survey by auditors and enforcement officers of the Department of Revenue indicated that there was a substantial violation of the withholding tax laws by non-resident workers connected with the Trans-Alaska Pipeline. The violation consisted of submitting a Form W-4 (the withholding tax declaration) with an unreasonable number of exemptions claimed which led to a zero withholding tax. In some cases we found as many as 50 or 60 exemptions had been claimed. The obvious objective of claiming so many exemptions would be to insure that there would be no state income taxes withheld from their pay checks. Without withholding it is unlikely that we would ever receive any tax from these individuals.

Although it would be possible to prosecute these individuals under our existing fraud statutes, the standard of proof is quite complicated and the time required to conduct an investigation would be such that many of these individuals may have left the state by the time any action could be brought. In reviewing the federal Internal Revenue Code with respect to this problem we find that they have a specific statute which addresses itself to the question of persons supplying false information to an employer for withholding purposes. The proposed bill is consistent with that provision of the Internal Revenue Code. Basically it allows us to prosecute for fraud, an individual who supplies false information or willfully fails to supply information to his employer for purposes of withholding the Alaska Income Tax. With this kind of provision it is merely necessary for us to establish that such false information was provided to the employer or that such information was withheld. It is not necessary to address ourselves to the more complex question of income tax evasion as such.

Although the punishment is a misdemeanor, and the jail term is for one year, we felt that a \$5000 maximum fine was necessary in order to encourage compliance since in most cases that would be more than the tax itself. A person then would run the risk of having to pay the tax and a fine as well as possibly serving some time in jail.

We feel that a statute providing for a direct penalty for submitting false information to an employer for withholding purposes will allow us to proceed more swiftly against violators and thereby curtail the problem before it gets out of hand.

It is difficult to measure the effects on Treasury of this bill since we do not have a total grasp of the extent of the problem or how much money might come in as a result of withholding on these individuals. However, obviously the effect will be positive since it will bring many more people under the withholding provisions.

We anticipate no additional administrative costs administering this bill since Withholding Tax Audits, in connection with the pipeline project, are a part of the Pipeline Impact Budget.

FPB:lw

HB

210

HB 210

Tape #

10

Date

3/6

"An Act relating to the Alaska business license tax; and providing for an effective date."

# COMMITTEE REPORT

2/26/75

HOUSE

FINANCE

Mr. Speaker:

Date \_\_\_\_\_

The Committee on Commerce has had HB 210

under consideration. A Majority of the members of the Committee

recommends it DO PASS

recommends it DO NOT PASS

recommends it DO PASS WITH ATTACHED AMENDMENT(S)

recommends it BE REPLACED WITH CS FOR \_\_\_\_\_ AND THAT

CS FOR \_\_\_\_\_ DO PASS

"and" recommends it BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

reports it back WITHOUT RECOMMENDATION

"other"

Members signing the Majority report:

<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

[Signature] Chairman

# MEMORANDUM

# State of Alaska

TO: R. D. Stevenson, Special Asst.  
Office of the Commissioner  
Department of Revenue

DATE: March 5, 1975

FILE NO:

TELEPHONE NO:

FROM: Frederick P. Boetsch *fpb*  
Deputy Commissioner  
Department of Revenue

SUBJECT: House Bill 210

This bill arises from an administrative problem which banks have with respect to meeting their obligations under the Alaska Business License Act. Under that Act banks are taxable on 7% of their taxable income as determined for federal income tax purposes with some adjustments. Our Business License tax is due on February 28 but banks typically do not file federal income tax returns until much later. Therefore, the basis upon which our tax is assessed is really not determined until after the due date of the return. This forces banks to file estimates with us and then amended returns at a later date and causes them, as well as ourselves, unnecessary administrative headaches.

This bill would simply change the date for filing the bank tax return to the same date required for federal income tax returns, thereby eliminating unnecessary administrative burdens for us and for them.

This bill would have no effect on Treasury and there are no administrative costs connected with it.

FPB:lw

HB

211

HB 211

Tape #  
15

Date  
3/20

# COMMITTEE REPORT

2/26/75

HOUSE

JUDICIARY  
FINANCE

Mr. Speaker:

Date 2/26/75

The Committee on Commerce has had HR 211

under consideration. A Majority of the members of the Committee

recommends it DO PASS

recommends it DO NOT PASS

recommends it DO PASS WITH ATTACHED AMENDMENT(S)

recommends it BE REPLACED WITH CS FOR \_\_\_\_\_ AND THAT

CS FOR \_\_\_\_\_ DO PASS

"and" recommends It BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

reports it back WITHOUT RECOMMENDATION

"other"

Members signing the Majority report:

[Signature] \_\_\_\_\_ [Signature] \_\_\_\_\_

\_\_\_\_\_

[Signature] \_\_\_\_\_

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

[Signature] Chairman

# STATE OF ALASKA

## DEPARTMENT OF REVENUE

OFFICE OF THE COMMISSIONER

JAY S. HAMMOND, Governor

POUCH S—JUNEAU 99801

March 13, 1975

The Honorable Bob Bradley  
Chairman  
House Commerce Committee  
Alaska State Legislature  
State Capitol  
Juneau, Alaska 99811

*File*

Dear Mr. Bradley:

re House Bill No. 211

House Bill No. 211, an Act relating to the administration of state tax and revenue laws was introduced on February 26, 1975 and was referred to the House Commerce, Judiciary and Finance Committees.

For the consideration of the Commerce Committee, I am enclosing a copy of a memorandum dated March 12, 1975 from Frederick P. Boetsch, Deputy Commissioner of the Department of Revenue outlining the administrative need for the proposed legislation which is housekeeping in nature.

If you or any members of your Committee have any questions on the material submitted, kindly advise the writer by telephone at 465-2397 and I will contact Mr. Boetsch for further material or testimony.

Very truly yours,

*R. D. Stevenson*

R. D. Stevenson  
Special Assistant

RDS:sp  
Enclosure

cc The Honorable Terry Gardiner  
Chairman  
House Judiciary Committee  
The Honorable Hugh Malone  
Chairman  
House Finance Committee  
Frederick P. Boetsch  
Deputy Commissioner for Taxation  
Department of Revenue

STATE  
OF ALASKA

## MEMORANDUM

TO: R. D. Stevenson  
Special Assistant  
Department of Revenue

DATE : March 12, 1975

FROM: Frederick P. Boetsch *FPB*  
Deputy Commissioner for Taxation  
Department of Revenue

SUBJECT: HB 211

House Bill 211 is an administrative housekeeping measure designed to provide uniformity in the administration of our various tax laws. It also provides for the hiring of out-of-state agents to audit the books and records of out-of-state taxpayers, in addition to our present power to enforce collection of taxes by this means.

Presently, each of our tax laws have separate administrative procedures with respect to civil penalty, interest, disclosure of tax returns and reports, taxpayer remedies, and payment of taxes. This frequently creates confusion in the mind of the taxpayer and his representatives. It also causes administrative difficulties since a different procedures apply to each tax type. Finally the lack of uniformity is probably unfair to the taxpayer since it unnecessarily complicates his compliance with our various tax laws.

This bill, then, would eliminate the various administrative procedures mentioned from the different specific tax chapters and place these provisions under the general administrative chapter, of Title 43.

Since the propose of this bill is to provide for administrative uniformity in procedures and ease of compliance with our tax laws by taxpayers, we see no direct effect on Treasury. However, anything which eases compliance and provides for fair and more uniform standards in general has a postive effect on taxpayer compliance and, hence, on the Treasury.

We anticipate no administrative costs in connection with this bill.

FPB: sp

STATE  
of ALASKA

## MEMORANDUM

*File*TO:  R. D. Stevenson  
Special Assistant  
Department of Revenue

DATE : March 12, 1975

FROM: Frederick P. Boetsch *FPB*  
Deputy Commissioner for Taxation  
Department of Revenue

SUBJECT: HB 211

House Bill 211 is an administrative housekeeping measure designed to provide uniformity in the administration of our various tax laws. It also provides for the hiring of out-of-state agents to audit the books and records of out-of-state taxpayers, in addition to our present power to enforce collection of taxes by this means.

Presently, each of our tax laws have separate administrative procedures with respect to civil penalty, interest, disclosure of tax returns and reports, taxpayer remedies, and payment of taxes. This frequently creates confusion in the mind of the taxpayer and his representatives. It also causes administrative difficulties since a different procedures apply to each tax type. Finally the lack of uniformity is probably unfair to the taxpayer since it unnecessarily complicates his compliance with our various tax laws.

This bill, then, would eliminate the various administrative procedures mentioned from the different specific tax chapters and place these provisions under the general administrative chapter, of Title 43.

Since the propose of this bill is to provide for administrative uniformity in procedures and ease of compliance with our tax laws by taxpayers, we see no direct effect on Treasury. However, anything which eases compliance and provides for fair and more uniform standards in general has a positive effect on taxpayer compliance and, hence, on the Treasury.

We anticipate no administrative costs in connection with this bill.

FPB: sp

HB

216

HB 216

Vape #

11

Date

3/11

"An Act relating to motor vehicle licenses."

*Return to Commerce 3/28/75*

COMMITTEE REPORT

HOUSE

FINANCE

Mr. Speaker:

Date 3/28/75

The Committee on Commerce has had HB 216

under consideration. A Majority of the members of the Committee

- ( ) recommends it DO PASS
- ( ) recommends it DO NOT PASS
- ( ) recommends it DO PASS WITH ATTACHED AMENDMENT(S)
- ( ) recommends it BE REPLACED WITH CS FOR \_\_\_\_\_ AND THAT

CS FOR \_\_\_\_\_ DO PASS

( ) "and" recommends it BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

( ) reports it back WITHOUT RECOMMENDATION

(x) "other" *indeterminate*

Members signing the Majority report:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends: *do not pass*

\_\_\_\_\_ recommends: *do not pass*

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends: *NO - DO NOT PASS - NEVER - NEVER*

\_\_\_\_\_ recommends:

*James J. DeLoe* Chairman

# MEMORANDUM

TO: Charles A. Smith  
Federal Projects Coordinator  
Alaska Traffic Safety Bureau

DATE : February 28, 1975

FROM: Dennis Robertson  
Consultant

SUBJECT: IiB 216

Since this bill is focused on motor vehicle licenses, I called Ken Simpson (Registrar) to ascertain MVD's views on this bill as approved draft legislation is being finalized to bring MVD into Public Safety. The following are his views, in which I concur and to which I have no additions:

To alter the wording in AS 28.10.135 to require fully reflectorized plates will principally benefit law enforcement, but will require issuance of a new plate to each person presently having plates. Ken estimates costs at \$3/4 million, and will prepare a fiscal note on this (and other bills) and will send us copies.

On the second page of the bill, amendment is made to AS 28.10.200(b) (8), increasing fees to be levied, as is done with other fees in Sec. 200(b). However, Ken reports serious computer and definition problems with respect to "use" of pick-up trucks. If commercially used, the fee in (b) (8) applies; otherwise pick-up owners pay a different amount under (b) (4). Ken strongly (and preferably) recommends deletion of (b) (8) altogether; or striking any reference to commercial use in (b) (8) if that paragraph is retained.

Ken has another problem, again with the wording, in Sec. 360. He recommends deleting "Before operating or permitting --- or any highway" in lines 5 and 6 of page 3 of the bill (In effect, beginning the section with, "The transferee shall present ---"). The wording problem here arises with respect to operation on highways and the 20-day limitation on transfers imposed on line 16. People will attempt to evade payment of the required fees by saying, "I'm not operating on a highway" etc. Thus, the intent of the section is circumvented, and consistent and equal enforcement is not possible. Ken also recommends that the 20-day limitation be reduced to 10 days.

cc: Ken Simpson  
Motor Vehicle Division (Anchorage)

CITY OF  
ANCHORAGE



ALASKA

POST OFFICE BOX 409  
ANCHORAGE, ALASKA  
99510

*International*

*Polar air crossroads of the world*

November 19, 1974

Kenneth Simpson, Registrar  
Department of Revenue  
Motor Vehicle Section  
509 West Third Avenue  
Anchorage, Alaska 99501

RE: License Plates

Dear Sir:

A "plate year" issue of Alaska vehicle license plates in the near future could be of significant value to law enforcement and all citizens of our State.

Law enforcement's primary concern with license plates is the immediate means of vehicle identification they provide. Additional methods of checking vehicle identity are employed if the car or truck is stopped. However, the license plate remains as the first visible identifier. Accurate visual recognition of the plate is vital and the present alpha-numeric system, unfortunately, leads to greater possibility of error than some other established systems.

Currently many Alaska plates are confusing because of the profusion of alpha-numeric prefixes which can be misread, since some alpha characters are almost identical in design to similar numerals. Many of these combinations would inadvertently lead to the misconception that a truck plate was improperly affixed to a passenger vehicle.

The color combinations (and I doubt the necessity of more than one color scheme) presently in use are not sufficiently contrasting to enhance visibility. The reflective characters seem to be of minimal value -- only a perfectly maintained "new" plate having any meaningful reflectivity. The black and silver commercial plate is even less legible than the blue on yellow.

High color contrast, large characters in predictable quantities and locations through a standardized format, a fully reflectorized surface resistive to our peculiar weather conditions, and a high color contrast reflectorized annual validation tab are some elements that would provide a better license plate. Any of these factors would tend to eliminate the misreading of plates both by law enforcement personnel and private citizens, who often obtain license numbers of vehicles involved in incidents, accidents, traffic offenses and crimes.

License Plates  
November 19, 1974  
Page Two

A reflectorized license plate is a valuable safety feature for a vehicle stalled on a roadway during hours of darkness. However, the present method of achieving a reflectorized surface is not compatible with existing conditions. The reflector surface is extremely rough and seems almost porous, allowing dust, mud, ice and snow to strongly adhere. It seems that a "slick" or at least smoother surface would be easier to clean and might remain clean longer.

A reflectorized high color contrast annual validation tab, serially coded to a valid registration certificate, would be a good system for this necessary item. One tab, affixed to the rear plate in a specific location, would eliminate the current practice of "tab splitting" and assist law enforcement personnel in determining if a plate was valid. Currently it is often difficult to determine if a plate has been validated because the tab is not reflectorized and is not affixed to all plates in the same location.

The issuance of plates to a particular owner who will retain the plates would eliminate the swapping of plates in large, as well as further requiring the owner of a vehicle who sells a vehicle to immediately go to the Department of Motor Vehicles and have the vehicle re-registered and still retain his plates. When the owner purchases a new vehicle, he can re-register his new vehicle using the plates that were retained by him. At least the law enforcement agencies would have current information on who the owner of the plates are at the time a violation was committed.

Sincerely,



Charles G. Anderson  
Chief of Police

CGA/JL/amo

# STATE OF ALASKA

WILLIAM A. EGAN, GOVERNOR

DEPARTMENT OF PUBLIC SAFETY

JAMES P. WELLINGTON  
COMMISSIONER

DIVISION OF STATE TROOPERS

P.O. Box 6188 Annex  
Anchorage, AK 99502

October 28, 1974

Kenneth Y Simpson, Registrar  
Department of Revenue  
Motor Vehicle Section  
509 West Third Avenue  
Anchorage, Alaska 99501

Re: License Plates

Dear Mr. Simpson:

I would support any move for a new plate-year as being in the best interests of law enforcement. In my view, the license plate upon a motor vehicle can serve three purposes: to identify individual vehicles for the purposes of law enforcement and theft recovery; to confirm that the annual license fee has been paid, and that it was appropriate to the proper vehicle classification; and a retro-reflective license plate can serve as a safety feature for a disabled vehicle.

The present license plate is entirely inadequate in all regards. There is a bewildering display of letters, numbers, styles, colors, words, and duplications. The blue-on-yellow plate does not have bright color contrast for legibility. The attempt to retro-reflect the number/letter display was a cost saving tradeoff that failed any benefit. The black and white commercial plate, and the yellow and blue plate, cannot be quickly read, or identified, under any circumstances short of near perfect conditions. There are no surfaces left on the plate to stick more annual tabs.

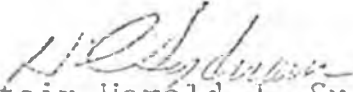
We need a good, clean, well contrasted plate with large letter/number display, hopefully entirely reflective, that is distinctive to classification, generally uniform to national trends, and designed for future annual tab additions.

K. Y. Simpson, Registrar  
October 28, 1974  
Page 2

We do not believe a single plate is sufficient. The only logical place to hang a single plate is upon the rear of the vehicle. In traffic, an officer is then only able to identify the vehicle directly ahead of him. All on-coming identification is disguised.

I believe that I have outlined the above recommendations for at least the past four years, sometimes in greater detail and with appropriate references.

Sincerely,

  
Captain Harold J. Sydnor  
Assistant to the Director

HJS:em

cc Colonel M. E. Dankworth  
Director

LOCATION	Jan. thru Nov. 1973	Jan. thru Nov. 1974	DIFFERENCE
ANCHORAGE	127,171	154,298	27,127
FAIRBANKS	31,990	39,952	7,962
JUNEAU	9,079	9,917	838
KETCHIKAN	6,190	7,586	1,396
KNOX	747	787	40
SITKA	2,761	2,755	(6)
SEATTLE		692	699
MAINES	937	1,318	381
PETERSBURG	1,138	1,691	553
SKAGWAY	221	492	271
BRNA (8231) included in Fbx.			
CORDOVA	793	1,047	254
DELLINGHAM	307	383	76
GLENHALLEN	1,090	956	(134)
HUMER	1,931	2,023	92
KASTLOF (closed)	20		(20)
KENAI	5,885	5,543	(342)
KODIAK	4,479	4,768	289
KOTZESUE		85	85
PALMER	5,266	6,132	866
SEWARD	822	1,328	506
VALDEZ	592	963	371
SELWITNA		2,223	2,223
BETHEL	273	395	122
DELTA JUNCTION	1,553	1,614	61
NEENAH	300	613	313
TOK	908	847	(61)
WRANGELL (closed)	719		(719)
NAKNEK (closed)	14		(14)
	205,186	243,415 *	43,229

21% Increase

\* 243,415 Registration/Renewal count plus  
35,125 No-Charge Transfer Registrations  
equal 283,540 Total Registrations issued.

A. Dept. of Revenue, Division of Motor Vehicles

1. Federal Highway Safety regulations recommend uniformity in license plate numbering systems. Our continuance to ignore this may result in a loss of Federal Highway Funds.
2. The existing series of license plate numbers, in existence since 1970, has grown to many different combinations which has resulted in no systematic method of assignment or designation of plate series to identify proper registration of vehicles. (Attachment #1)
3. Varied license designations have been identified as one of the major obstacles in preparation of documents for acceptance into the Data Processing Motor Vehicle record system. (Attachment #1)
4. A 3 Numeric, 3 Alpha system would provide the Division with 15 million numbering combinations, and would make another full plate year virtually unnecessary. (Attachment #2)
5. In comparing 1973 with 1974, Alaska's number of vehicle registrations has increased by nearly 50,000. The present unsophisticated license numbering system must be updated to provide all requirements of lending institutions and law enforcement agencies in Alaska as well as the other 49 States, and to properly serve the needs of every Alaskan citizen. The prediction is that by 1979 Alaska will have 400,000 vehicles registered. (Attachment #3)

B. Law Enforcement

1. Law enforcement's primary concern with license plates is the rapid means of vehicle identification for the purpose of law enforcement and theft

recovery. Accurate visual recognition of the plate is vital and the present complex Alaska plate numbering system lends itself to being easily misread.

2. Other concerns of importance are to identify that proper annual license fees have been paid. The present license plate is less than satisfactory in all regards. (Attachment #4)

#### C. American Revolution Bicentennial Commission

1. The A.R.B.C. has been established to guide Americans in celebrating our heritage of liberty and to spearhead this great national birthday.

Graphic safety plates act as a sort of "mini traveling billboard" which portray our state's design with equal graphic impact both day and night. These Bicentennial "calling cards" will be highly visible wherever our state's registered vehicles travel. (Attachment #5)

2. The Division of Motor Vehicles has assured the Bicentennial commission full cooperation for input into the design of a new plate. (Attachment #6)

#### D. Public Safety

1. Full reflectivity for safety was the intent of legislation passed in the 1970 session, which has not been implemented to date because there has been no new plate issue since that time.

The beaded legend on the current Alaska plate is not sufficient area to be an effective safety reflector or improve legibility. Fully reflective plates being used in the other states has proven to be an effective accident reduction tool.

As you know, a reflective safety plate is a standard license plate with the background fully reflectorized with a material which is 200 times brighter than a painted surface. It can be seen by approaching drivers up to 2,000 feet away, and alerts them in time to avoid rear-end collisions. Other features and benefits of reflective safety plates and more information as to how it relates to Alaska's highways is detailed on the enclosed fact sheet. (Attachment #7)

The following are 4 alternative plans for your consideration showing the cost factors as well as the advantages and disadvantages of each plan.

COST ANALYSIS

Requirements for 260,000 vehicle registrations:

	<u>PLATES</u>	<u>POSTAGE</u>		<u>TOTAL</u>
Plan I Fully ReflectORIZED @ \$2.14 a pair	\$556.4	\$ 28.7	=	\$585.1
Plan II Beaded on embossed area @ \$1.14 a pair	323.3	28.7	=	352.0
Plan III 1 plate only fully reflectORIZED 30% off \$2.14 = \$1.15 each	390.0	14.3	=	404.3
Plan IV 1 plate only beaded 30% off \$1.14 = \$.80 each	208.0	14.3	=	222.3

RESULT:

		<u>DIFFERENCE</u>
Plan I	\$585.1	
Plan II	352.0	(233.1)
Plan III	404.3	(180.1)
Plan IV	222.3	(362.8)

PLAN I

Two plates fully reflectORIZED.

ADVANTAGES:

Dept. of Revenue - Meets all needs of identification of vehicles for Dept. of Revenue registration/title issuance responsibilities.  
Provides internal controls in preventing errors in Motor Vehicle records.

Law Enforcement - Uniform license plate numbering system facilitates rapid identification of vehicles for law enforcement.

vehicles for law enforcement.

- Safety - Fully reflectorized plates have been proven to substantially reduce night time rear-end collisions.
- Other - Provides means to adopt Bicentennial committee recommendations without additional cost. . . . .  
Conforms fully to legislative intent of A.S. 28.10.135 requiring reflectorized plates.

DISADVANTAGES:

Refer to Cost Analysis

PLAN II

Two plates reflectorized beading on embossed area only the same as used on current plates.

ADVANTAGES:

- Dept. of Revenue - Same advantages as Plan I
- Law Enforcement - Same advantages as Plan I
- Other - Bicentennial statement
- Costs - Refer to Cost Analysis

DISADVANTAGES:

- Safety - Reduction in reflectorized surface reduces safety factor

PLAN III

Single plate fully reflectorized.

ADVANTAGES:

- Dept. of Revenue - Same advantages as Plan I
- Law Enforcement - Same advantages as Plan I
- Safety - Same advantages as Plan I
- Other - Same advantages as Plan I
- Costs - Refer to Cost Analysis

DISADVANTAGES:

- Law Enforcement - Limits the ability to identify the

THE FOLLOWING DOCUMENT(S) MAY NOT FILM  
LEGIBLY BECAUSE OF POOR QUALITY OF THE  
ORIGINAL.

license number of on-coming vehicles.

Law enforcement objections.

PLAN-IV

One plate, reflectorized beading on embossed area only  
the same as used on current plates.

ADVANTAGES:

Dept. of Revenue - Same advantages as Plan I

Law enforcement - Same advantages as Plan I

Other - Bicentennial statement

Costs - Refer to Cost Analysis

DISADVANTAGES:

Law Enforcement - Same disadvantages as Plan III

Safety - Same disadvantages as Plan II

THE PRECEDING DOCUMENT(S) MAY NOT FILM  
LEGIBLY BECAUSE OF POOR QUALITY OF THE  
ORIGINAL.

The U. S. Department of Transportation has recognized the inadequacy of Alaska's motor vehicle registration records system as it applies to the standards established by the National Highway Safety Act of 1971. A grant of \$54,375 has been received by the Alaska Department of Revenue to re-design its system to convert it from its present tape system to a disc based system for a more rapid access and retrieval of stored data.

A preliminary study of the existing system reflects numerous errors in the base information. These errors in the base information have been identified primarily as license numbers and vehicle serial numbers--the two basic means of identification of vehicles. Analysis of the reasons for the existing errors indicate three primary sources:

1. In converting from the manual system to the existing tape based computer system, the legibility of the source documents resulted in input errors.
2. The programming required to accommodate the unrelated series of license plate number combinations resulted in complex edit programs that reject correct input data and often accept incorrect data.
3. The number of license plate series has grown to 25 different combinations, each designating a class of vehicle. These series run from one numeral to seven numerals, to a combination of two letters and four numerals with some series duplicating others. No systematic method of assignment or designation of plate series to identify proper registration of vehicles for regulatory purposes exists. The development of a conceptual design for a more efficient system providing for rapid access and retrieval of stored data, without the capability of obtaining accurate and factual information limits the effectiveness of the project for which the grant was received.

#### OPERATIONAL PROBLEMS EXPERIENCED IN CURRENT PLATE NUMBERING SYSTEM

1. Partial license number inquiries into the existing Motor Vehicle system are accepted as valid numbers since the numbering series of 1 to 7 digits are all acceptable. Only when additional information such as the serial number and make is available, can the system verify the validity of the information inquiry.
2. Many applications with incorrect license number must now be processed through the entire work flow to be identified as "incorrect" due to the lack of planned designation of series of plates to classes of vehicles.
3. Complex edit programs now tend themselves to reject valid input data and upon occasions accepting incorrect data.
4. Clerical coding errors result from inability to readily identify the existing license plate designations to classes and types of vehicles.
5. Incorrect vehicle data input through generation of a "new record" results from "forcing" exceptions to program edits.

## OPERATIONAL IMPROVEMENTS THROUGH A NEW PLATE YEAR

1. Applications or inquiries with partial license numbers can be identified at the first operation in the workflow, thus eliminating processing through the entire workflow. Six character plates will preclude attempted processing of work with partial license numbers.
2. Immediate identification of an incorrect license number can be made when the license number given designates a different class of vehicle.
3. More effective computer program edits without the existing complexities can be gained without the necessity of re-working and re-submitting applications.
4. Clerical errors in vehicle class coding can be materially reduced with the less complex license number designation system.
5. More effective controls can be gained to prevent the input of erroneous vehicle data into the motor vehicle system.

## BENEFITS TO REGULATORY AGENCIES

1. Ready identification of the proper registration of vehicles. (Plates issued prior to mid 1973 provided no space for tabs. Indiscriminate placement of validation tabs have distorted configuration of license numbers.)
2. Immediate identification of partial plate numbers.
3. Less complex method of "searching out" a valid license number when only a partial number is available for investigation.

## MEMORANDUM

State of Alaska

TO: Charles Pyles, Director  
Division of Motor Vehicle  
Department of Revenue

DATE: January 13, 1975

FILE NO:

TELEPHONE NO:

FROM: Dale G. Griggs, Asst. Director  
Division of Data Processing  
Department of Administration

SUBJECT:

Motor Vehicle Plate Year

In our discussions of an On-line Motor Vehicle Registration and Title system for your division, I always assumed there would be a new plate year for 1976. The advantages of an On-line Data Processing system will be diminished if we must retain the numbering systems presently used in the Motor Vehicle file.

In an On-line system, many users are contending for the computer. We presently experience an average of 3,700 on-line transactions per day and this is expected to increase by one hundred percent by January, 1976. Sixty percent of all transactions are processed between the hours of 8:00 A.M. and 4:30 P.M. which means the computer will be processing approximately 5,000 transactions during the prime day shift hours.

Because of the high volume projected, we must make every On-line system as efficient as possible to prevent extreme degradation of response time. If there is not a new plate year, we will have to remove the edits of the plate number versus the vehicle type code. There are presently extensive edits to insure the plate number is within a valid range for the type of vehicle. This will not be feasible in the projected On-line system and will result in some inaccuracies in the Motor Vehicle file.

The present plate numbers overlap which causes duplicate plate number. For example, CB123 can be a passenger vehicle or a commercial bus. Duplicate numbers cause us considerable grief because we must use an additional identifier to insure the correct Motor Vehicle record is being accessed.

If a new plate year is granted for 1976, we will be able to store the plate number in six characters rather than seven, which will save 300,000 characters of on-line disk storage. It will require approximately 90,000,000 characters of on-line disk storage to store the Motor Vehicle file at a cost of approximately \$1500.00 per month. Any savings in the amount of storage required can be significant.

The last area I want to mention is operator confusion. The present plate numbers vary from one character to seven characters, some with leading zeros, some without leading zeros. In a data processing application, the numbers entered must match exactly the numbers stored on the Motor Vehicle file. To a computer, the number A123 is not the same number as A00123 and the computer would not be able to find the record on the file. Law Enforcement Agencies have had considerable difficulty when recording stolen vehicles because of the various numbering systems.

DGG/jg

Budgeting be requested for replacement of all outstanding license plates, other than personalized plates and those assigned to individuals, in the 1976 registration year and a 6 digit license plate numbering system be adopted to provide for a permanent numbering system.

Reasons:

The existing series of license plates have been in existence since 1970 with design and numbering format that has resulted in 25 varied designations of license plates, Exhibit J. Duplication in the designation of identical license numbers, namely passenger vehicles and commercial buses, passenger vehicles and farm trucks, passenger vehicles and for-hire vehicles, motor cycles, passenger vehicle and trucks, etc., have resulted. The varied designations of license plates have been identified as one of the major obstacles in the preparation of applications for data processing. A review of applications prior to input and those applications rejected in the machine edits reflect errors in license number or class code to be the major error factor requiring extensive rework.

Recommended Series:

000AAA - 999ZZZ	Passenger vehicles
000GAA - 9999ZZ	Trucks
00000A - 99999Z	Trailers
000000 - 999999	Motorcycles

The reverse order of the usual alpha-numeric order is recommended to avoid duplication of plates currently in use.

Distinctive license plates for amateur radio, legislators, historic vehicles, dealers, personalized plates, consuls and judicial plates which are limited in number would be manufactured in a design and a series other than recommended above.

Taxicabs, commercial busses, Sunday School busses could be issued a given series within the passenger plates group, i.e., 000ZZA - 999ZZZ. The same could apply to ATC trucks, commercial trailers, etc., 0000ZA to 9999ZZ for ATC trucks. Exempt vehicles might be assigned the series starting with 000XXA.

The recommended series of licenses will provide for a permanent license numbering system which will enable the division to establish ease of assignment and accountability for such plates.

The series will provide for the greatest number of license registrations without duplication or a change in the design. The alphabetic letters "I", "O", and "Q" should not be used in the third position since such letters can readily be misinterpreted as the numerals 1 or 0. In the

Manufacturing of the automobile license plate series, objectionable combinations such as ASS, GOD, PIG, DUM, HUT, CAD, should not be used. (Studies made of such objectionable combinations are available from states now using the numbering series.)

The use of a combination of 6 digits, letters and numerals, will provide for a style of lettering or numbering and size best suited for ease of legibility and identification.

A tangent benefit that can be derived from this recommendation is that it will provide for identifying incomplete license numbers when registering and processing vehicles by means of the data processing systems.

After eliminating the use of the letters, "I", "O", and "Q" in the third position of license plate series, the gross number of different combinations available for each series would be:

Passenger	3 Numerals and 3 Letters	15,353,000
Truck	2 Numerals and 4 Letters	5,290,000
Trailers	1 Numeral and 5 Letters	2,300,000
Motorcycles	6 Numerals	1,000,000

By reversing the order and by using the numerals first, followed by the alphabetic letters, except in the motorcycle series, the number of license plate combinations without duplication could be doubled. (Refer to AAMVA publication, "A Uniform Numbering System.")