The original documents are located in Box 5, folder: "Decontrol - President's Proposal" of the Frank Zarb Papers at the Gerald R. Ford Presidential Library.

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461

January 18, 1975

OFFICE OF THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Analysis of Senator Jackson's Economic Assessment of President Ford's Program

FROM: Eric R. Zausner

TO: Frank G. Zarb

There are a number of fallacious and irresponsible analyses in Senator Jackson's release of today.

(1) The Senator's analysis uses a misleading estimate of the number of households. He assumes 53 million families of four when, in fact, there are 67 million households which average closer to three people than to four. Using his inflated total consumer costs but dividing by a more realistic number of households, the cost is not $810 per family, but only $640 per year.

(2) Senator Jackson's estimate of total consumer costs is $43B of which $23.8 is associated with our oil proposals, $17.2 with natural gas, and $2.3 with coal. He further estimates that of the total $43B cost increases, energy producer profits would increase by $14B.

(3) With respect to oil consumer costs, we do not disagree with Senator Jackson's estimate of $23.8B of consumer cost increases. However, his estimate of 2.2B of additional producer profits is inaccurate. He mistakenly assumes that the Administration's windfall profits tax only applies to old oil. Hence, he shows increased profits on old oil when it is decontrolled. This is absolutely correct. However, imposition of our windfall profits tax would, in fact, collect substantial profits on currently uncontrolled oil. Hence, the net effect of our proposal is not increased profits of $2B but an absolute decline of $3B when the effect of our proposal on both new and old oil are included.

(4) Senator Jackson's natural gas estimate involves perhaps the most extreme and inaccurate element of his cost analysis. By our estimates, total consumer costs would only be $7.6B not $17.2B and windfall profits to producers would be $600M not $10B. The reasons are several-fold:

(a) A Foster Associates study indicates that slightly over 1 TCF of intrastate gas can be renegotiated in 1975 even with decontrol. This is less than half the 2.3 TCF that Senator Jackson estimates.

(b) Most important is Senator Jackson's estimate that intrastate gas prices will rise to $2.21 per MCF and that 60% of all intrastate gas contracts could be renegotiated to that price. This is ludicrous. Current spot prices for natural gas are about $1.50 per MCF. If Senator Jackson's calculations were correct (that 60% could be renegotiated) and given that world oil prices did jump to roughly $1.80 to $2.00 more than one year ago, then the average intrastate price today should be $1.30 per MCF. In fact, it is only 50¢ per MCF indicating quite conclusively that intrastate natural gas prices will not rise dramatically as a result of our proposals.

(5) Senator Jackson assumes that half the total coal producers will also increase coal prices by the equivalent of the $2 per barrel excise tax on oil. By our estimates, 80% of all coal is under long-term contract where no such escalation provision is allowable. Further, our current belief that coal is limited by markets would indicate that even the remaining 20% of coal producers might be unable to renegotiate any increase profit as a result of higher oil prices.

Conclusion

Senator Jackson's "conservative" estimates are overblown, both with respect to consumer price effects and producer profits. Based on more reasonable assumptions, we still believe that average household prices will increase by under $250, including both direct and indirect. The total CPI would still be increased by under two percentage points.

TABLE OF CONTENTS

THE ECONOMIC IMPACT OF THE PRESIDENT'S 39 MONTH DECONTROL PROPOSAL

OFFICE OF ANALYSIS
FEDERAL ENERGY ADMINISTRATION

July 28, 1975

EXECUTIVE SUMMARY

Background

The President has proposed a gradual removal of price controls from "old" crude oil, at the rate of 1 1/2 percent a month for 12 months, 2½ percent a month for the next 12 months, and 3½ percent a month for the next 15 months ending November 30, 1978. In addition, it is proposed that there be a cap on all new oil of $11.50, on September 1, 1975. and that the cap will increase at 5¢ per month beginning October 1, 1975. Initially this will cause a decrease in the price of crude oil at the refinery, but the average price will increase more rapidly as the rate of decontrol increases. In the middle of 1976, the average price of crude oil due to the phased decontrol program will be approximately equal to that under the case of continued controls. The ceiling would ensure that further OPEC price increases would not trigger additional domestic crude oil price increases during the phase-out period. Finally, the President has proposed other energy taxes, including a windfall profits tax on the revenues that accrue to producers as a function of the decontrol of old oil. The revenues from these taxes would be returned to consumers to maintain consumer purchasing power in the face of higher petroleum prices.

The reason for decontrolling old oil is to remove regulations and the two-tier price system from the petroleum industry market. These regulations have tended to inhibit the production of new supplies of crude oil.

Benefits of Decontrol

With the decontrol of old oil, additional supplies of domestic crude will be forthcoming over the next decade. In addition, the eventually higher energy prices caused by decontrol will stimulate additional energy conservation by 1978.

Including the supply aspects of the program that the President has proposed, approximately 1.24 million barrels per day by 1977 would be saved in imports over and above what would have occurred without any tariffs or other components of the President's program.

In 1977 the cost of a future embargo without a program would be approximately $33 billion, whereas the cost of an embargo with the President's program would be approximately $12 billion. By 1985, the cost of an embargo without the President's program would be approximately $110 billion whereas with the President's program there would be essentially no costs imposed on the United States economy by an Arab oil embargo. In addition, the reduced reliance on imports will reduce the dollar outflow from the United States economy for the purchase of foreign oil. In 1978 approximately $7 billion more would flow out of the economy without the President's program than with the President's program just in terms of higher cost of imported crude oil. By 1985 the additional dollar outflow from the economy without the President's program would be approximately $41 billion. These dollar outflows clearly would have an adverse effect on the balance of payments and hence would exert adverse pressure on the value of the American dollar overseas.

Costs of Decontrol

The phased decontrol of old oil will increase petroleum prices to the refiners and hence to consumers. By the end of 1977 total costs to consumers per household will be approximately $30 annually. Direct costs will be approximately $14 and indirect costs approximately $16 per household. Due to the nature of the program, costs will be reduced for the remainder of 1975 by approximately $8 per household. Gasoline prices will initially decrease and then increase by approximately 2¢ per gallon by the end of 1977 and 5¢ to 6¢ per gallon by the end of 1978.

In order to ascertain the impact of the President's proposed decontrol program on the national economy, a macroeconomic simulation was performed using the President's program with respect to energy prices as a basic input. This analysis indicated that the President's program would insignificantly affect the unemployment level in 1975 and would decrease the unemployment rate (over what it would have been without any program) by approximately .1 percent during 1976 and an average of about .1 percent during 1977. The rate of inflation would be increased by less than one-half of one percent through 1977. However, the windfall profits tax and the import fees would be rebated to consumers and hence consumer purchasing power would be maintained in the face of these higher prices. The analysis showed that real GNP would increase on average in 1976 and 1977 and would probably decrease insignificantly in 1978.

In doing large simulations of an economy as complex as the United States' economy, there are considerable uncertainties involved. The levels of impact determined are small relative to the other uncertainties and various small changes in other policy variable and would eliminate the adverse effects indicated. For example, small changes in monetary policy could completely negate any adverse effects of the President's program both on real GNP and prices and on unemployment in 1978. In addition, the level of the effect on real GNP is clearly within the random variations of the performance of the economy as measured by analytical models. And in fact, the statistical error of national income accounts is close to the level of the effect on real GNP.

Conclusions

In summary, the President's proposed phased decontrol of old oil together with a windfall profits tax and the rebates to consumers of the windfall profits revenues and the crude and import fees collected will dampen demand and increase supply by 1978, hence reducing U.S. reliance on insecure imports without adverse economic impact. This, in turn, reduces our vulnerability to future embargoes.

TALKING POINTS

1. Need for decontrol plan.

   ° All agree on necessity of reversing growing dependence on foreign oil.

   ° Decontrol would give incentives to both increase supply and conserve.

   ° This plan is a good faith attempt to meet Congressional concerns of last plan.

   ° President has chosen compromise, not confrontation.

2. Elements of the plan.

   ° Thirty-nine month decontrol.

      - Gradual escalation:

        First year -- 1.5% per month

        Second year -- 2.5% per month

        Last 15 months -- 3.5% per month

   ° $11.50 ceiling on the price of uncontrolled oil.

      - Would represent a rollback of about $1 (from present $13 price of uncontrolled oil).

      - Would not apply to stripper wells.

      - Ceiling would increase by 5¢ per month, starting October 1, 1975.

      - Reach $13.40 - $13.50 by end of 39 months.

° Windfall profits tax, with plowback provisions.

- Would provide incentives to expand domestic production, without excessive gain to producers.
- Would allow rebates to consumers.
- Would ensure minimal impact on consumer and the economy.

° Emergency Petroleum Allocation Act (EPAA).

- President would sign three-month extension.
- Will recommend further modifications for the remaining period of decontrol.

3. Decontrol costs and benefits.

° Benefits

- By 1978, reduce imports 515,000 barrels per day.
- By 1985, increase domestic production 1.4 million barrels per day.

° Costs

- Petroleum prices would actually be reduced by 1/2 - 1¢ per gallon by end of 1975 from levels otherwise allowable under FEA regulations.
- Petroleum prices would increase thereafter - 2¢ by end of 1977; 5 - 6¢ by end of 1978.
- No effect on GNP and unemployment through end of 1977, and negligible effect thereafter.

STATEMENT

OF

FRANK G. ZARB

ADMINISTRATOR

FEDERAL ENERGY ADMINISTRATION

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

INTERSTATE AND FOREIGN COMMERCE COMMITTEE

U.S. HOUSE OF REPRESENTATIVES

JULY 28, 1975

Mr. Chairman, Members of the Committee: I am pleased to meet with you again to discuss the critical issue of oil decontrol. Exactly two weeks ago, I was here to discuss the President's 30-month decontrol plan. When that plan was disapproved by the House of Representatives last week, the President was faced with a choice: either to veto the proposed extension of price control authority scheduled to expire on August 31, or to seek a further compromise with Congress. The President chose to make a last attempt to achieve accommodation.

When he announced his 39-month decontrol plan, the President stated that the Nation desperately needs cooperation, not confrontation on this critical energy issue. This latest plan is the result of extensive discussions we have had with Members of Congress, including many of the members of this Committee. Legitimate concerns were raised, and the President's plan is a good faith attempt to meet these concerns, while not losing sight of the essential goal we all agreed upon - the absolute necessity of reversing our growing dependence upon foreign oil.

The present plan would decontrol domestic oil over a 39-month period and would roll back present uncontrolled oil prices. This decontrol would be gradual. The amount of oil under controls would be decreased by a fixed percentage

per month of a "decontrol base production level" (which is a property's average monthly production of old oil during April, May and June of this year). For the first year, beginning September 1, 1975, the amount decontrolled will be 1.5% per month; for the second year, 2.5% per month; and 3.5% per month for the remaining 15 months of the plan. Thus, the plan would have a limited effect on domestic oil prices in the early phases, with a greater impact being felt in 1977 and 1978.

The President also would establish a ceiling on uncontrolled oil prices at $11.50 a barrel, which represents a rollback from approximately $12.50 a barrel. This $11.50 ceiling would gradually increase, starting in October 1975, by 5¢ per month over the length of the program. The purpose of such a ceiling is to assure that future increases in the prices of imported oil will not dictate the price of our domestic oil.

The $11.50 ceiling would not apply to domestic oil produced from stripper wells - wells producing less than 10 barrels per day - which are now statutorily exempt from price controls.

An essential element of this decontrol plan is a windfall profits tax, with appropriate plowback provisions, which would ensure that this decontrol plan would have a minimal effect on the American consumer and the American economy, while providing the vital incentive for expanding domestic production.

The President also indicated that he would sign a three-month interim extension of the Emergency Petroleum Allocation Act, to permit immediate implementation of the decontrol plan, and to allow time to reach agreement on the modifications which should be incorporated in a longer extension covering the entire 39-month period.

I reiterate what I mentioned before this Subcommittee two weeks ago - gradual decontrol is being proposed to reduce any sudden economic impacts associated with rapid decontrol. This course will allow the Congress additional time in which to enact necessary energy measures while, at the same time, gradually eliminating the economic disincentives caused by the present two-tier price system. While the control is more gradual, the ultimate effect of this plan is the same as the effects of the previous Presidential decontrol proposals. First, the petroleum industry will be given the necessary incentives to increase the production of domestic supplies as oil prices are permitted to rise gradually; secondly, the increased overall price for petroleum products will reduce demand.

The phased decontrol of old oil alone could save us an average of approximately 515,000 barrels of oil imports per day by 1978. Petroleum product prices, such as gasoline, could be expected to increase 5 - 6¢ a gallon by the same year. The impact of the $11.50 cap on domestic oil, which effectively reduced by approximately $1 per barrel the current market price of that oil, could result in an overall decrease in the average product price per gallon by the end of this year. The effect of this phased plan on GNP and unemployment will be negligible if the windfall profits tax and rebates proposed by the Administration are enacted by the Congress.

Mr. Chairman, during my last visit, much was said about the Congress and the Administration coming down to the last mile on this issue. The President has offered reasonable approaches to the concerns raised by Congress, first on January 14, then on July 14, and now on July 25. I believe that we have attempted to bridge the gap between the Congress and the Administration with a program which can result in considerable energy savings, increased domestic production, and eventually the dismantling of a complex and counterproductive set of regulations.

Particularly since the embargo, and even years prior to that crisis, we have been acutely aware that time is not on our side. We must act without further delay. With the expiration

of price controls on August 31, coupled with the impending August Congressional recess, I cannot express strongly enough the need for cooperation and compromise on decontrol now. I would hope the Congress would approve the President's decontrol proposal.

FOR IMMEDIATE RELEASE July 25, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

FACT SHEET

THE PRESIDENT'S COMPROMISE OIL DECONTROL PLAN

THE PRESIDENT'S ANNOUNCEMENT

The President today announced a new compromise plan to gradually decontrol the price of old oil (oil now under federal price controls) over a 39-month period. In addition, the President announced for the same period a ceiling on the price of all uncontrolled domestic oil (other than from wells which produce less than 10 barrels per day which are currently exempted from controls) of approximately $11.50, increasing at $.05 per month beginning October 1, 1975.

The President also called for enactment of energy taxes including a windfall profits tax (with appropriate plowback provisions) and a 3 month extension of the Emergency Petroleum Allocation Act to implement the decontrol plan. The energy taxes collected would be rebated to each energy consumer. These actions will result in substantial energy savings, provide an incentive for expanding domestic production, and ultimately remove a complex and counter-productive set of regulations.

Under the President's plan, imports will be reduced and prices will increase gradually. Phased decontrol will thus not impede economic recovery.

BACKGROUND

- The price of old oil is currently controlled at an average of about $5.25 per barrel, while the average price of new domestic oil is now uncontrolled and is about $12.50

- Controlled oil currently represents about 60 percent of domestic oil production. New, released, and stripper well oil account for the remainder.

- Domestic oil production has been declining since 1970 (it is down 11% since early 1973) and is now about 8.4 million barrels per day (MMB/D), a decline of more than 500,000 barrels per day from last year (see chart 1).

- Imports are predicted to average about 6.5 million B/D, but are expected to rise to up to 7 MB/D by the end of this year, which is about 40% of domestic consumption.

- Imports are expected to grow to an average of more than 7.5 MMB/D in 1977, if no action is taken to reduce demand or increase supply. The added imports in the next two years are expected to come mainly from Arab nations and could double our vulnerability to an embargo (see chart 2).

more

- The Emergency Petroleum Allocation Act of 1973, which requires the control of prices and distribution of oil expires on August 31, 1975.

- None of the measures requested by the President almost six months ago in his State of the Union Address has been enacted by the Congress.

- The President originally proposed in his State of the Union Address immediate and total decontrol in April, 1975. In response to concerns expressed by some Members of Congress, on April 30, 1975, the President directed FEA to hold public hearings on a phased decontrol plan in May.

- The President submitted a 30-month decontrol plan to the Congress on July 14, 1975, which also contained a $13.50 per barrel ceiling on domestic oil. The 30-month plan was disapproved by the House of Representatives on July 22.

- Under provisions of the Emergency Petroleum Allocation Act, either House of Congress has five working days in which to disapprove a decontrol plan by majority vote.

OBJECTIVES OF THE PLAN

The plan announced by the President is designed to meet the following objectives:

- Achieve a major reduction in imports by providing an incentive to increase domestic production and by cutting demand through increased conservation.

- Reduce the power of foreign oil cartels to control the prices Americans pay for energy.

- Provide a compromise decontrol plan acceptable to the Congress.

- Remove over a 39-month period the complex, counter-productive, and administratively burdensome government regulations.

- Eliminate excessive oil company profits and minimize consumer and economic impact by rebating energy taxes.

PRINCIPAL ELEMENTS OF THE PLAN

Today's proposal by the President would gradually remove price controls from all currently controlled oil over a 39-month period beginning September 1 of this year and ending in November, 1978. Under this plan, the amount of oil under controls is decreased by an additional 1.5 percent per month of a decontrol base production level (which is the average monthly production of old oil during April, May, and June of this year) for the first year beginning September 1, 1975, 2.5 percent per month for the second year; and 3.5 percent per month for the remaining 15 months.

more

The 39-month ceiling on prices for domestic crude oil proposed by the President would be equal to the old oil ceiling price plus $6.25 per barrel, for a total of approximately $11.50 per barrel.

Prices of domestic oil produced from stripper wells -- wells producing less than 10 barrels per day -- are not now controlled nor would they be under the President's proposal.

The President also announced that along with the decontrol plan, he would urge the Congress to enact his proposed energy taxes including a windfall profits tax with appropriate plow-back provisions and to extend the Allocation Act with appropriate modifications to cover this 39-month decontrol period.

The President also called upon the Congress to enact the other critical conservation, domestic supply, and emergency standby measures which were included in his State of the Union proposals of January 15, 1975.

IMPACT OF THE PLAN

- On prices:

The President's phased decontrol plan will increase the average petroleum product price (such as gasoline) by a cumulative amount of approximately:

End of	
1975 -	-(5-1.0)¢/gallon
1977 -	2.0¢/gallon
1978 -	5- 6¢/gallon

- On Import Savings:

Average for year	Phased decontrol - alone	Phased decontrol, existing $2 import fee & other proposals by President
1975	20,000	270,000
1977	190,000	1,240,000
1978	515,000	1,770,000

more

- Impact of Compromise on Prices

Timing of Decontrol	Cap	Cummulative Prices Increases, as of 4th Quarter		
		1975	1977	1978
Immediate(1)	None	6-7¢/gal	--	--
30 Month(2)	$13.50	0.5¢/gal	4.5	5.6
39 Months(3)	11.50	-(.5-1.0)/gal(4)	2.0	5.6

(1) Proposed on January 15, 1975

(2) Proposed on July 14, 1975

(3) Proposed on July 25, 1975

(4) Decrease from current price levels

CHART 1

DOMESTIC PRODUCTION OF CRUDE OIL

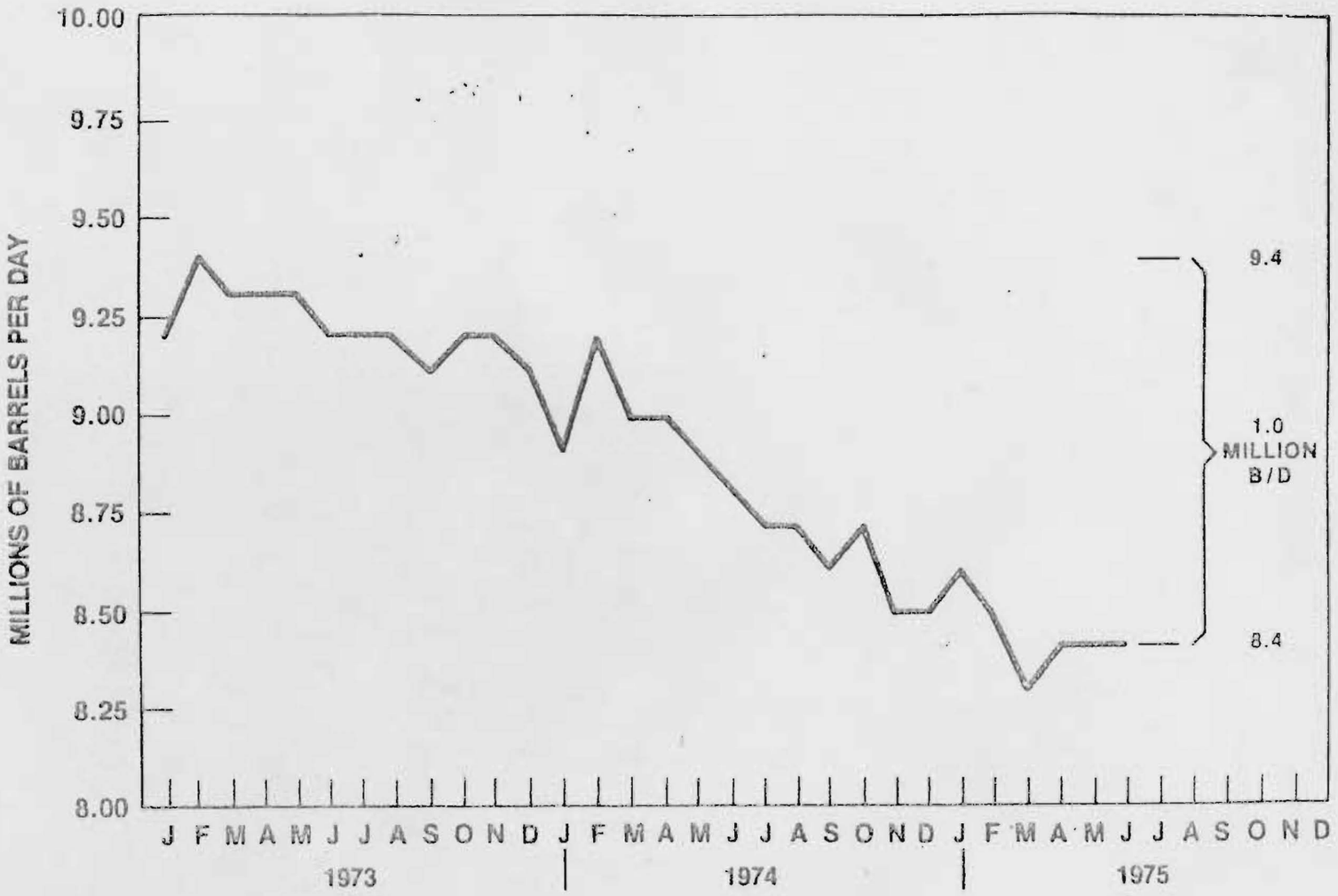
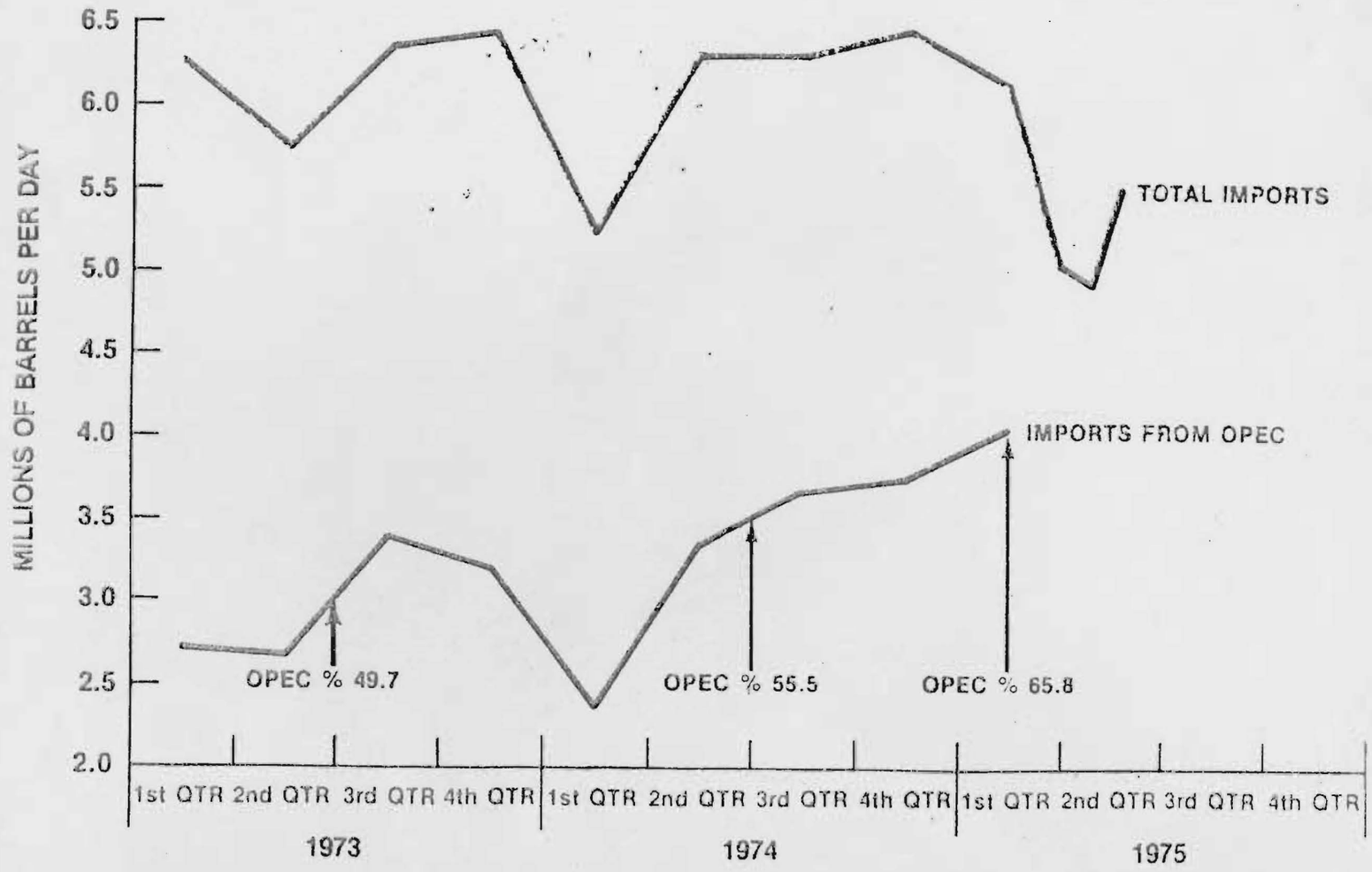


CHART 2

IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS



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Tab D contained no documents at the time of digitization.

Federal Energy Administration
1985 Crude Oil Production
With and Without Price Controls

JULY 1, 1975

Background

The current crude oil pricing system freezes the price of old oil at about $5.25 per barrel. Old oil is determined on a monthly basis and is defined as oil from a property that was in operation during 1972 and with current production equal to or less than the same month in 1972. Since there is no automatic adjustment mechanism for old oil prices, the $5.25 ceiling would apply for as long as current controls are in effect.

Domestic oil production has been declining since 1970. Whereas production in 1970 was about 9.6 MMB/D, it averaged 8.8 MMB/D in 1974, and is still declining. The production declines have resulted from a combination of factors including the draining of existing fields, limited incentives and unavailability of lands for exploration, and uncertainty over national energy policy. Production from existing fields will continue to decline under current regulations; it is expected to decline from about 5 MMB/D in 1975 to less than 1 MMB/D in 1985.

Additional 1985 Production

Even under current controls, some new production will result. First, the Trans Alaskan Pipeline is expected to deliver about 2 MMB/D to the lower 48 States by the end of this decade. Oil may also be produced and delivered from NPR-4 and the Gulf of Alaska and will be considered new oil and exempt from any price controls. Further, additional production from the lower 48 States will be forthcoming from lower cost enhanced recovery and some new fields.

As indicated in the table below, new oil fields, located primarily in the offshore areas, would produce about 3.7 MMB/D in 1985. Old oil fields would produce 4.8 MMB/D under controlled conditions and 6.2 MMB/D if controls were removed.

Expected Lower 48 Crude Oil Production (000b/d)

Type of Field	at $5.25/bbl	at $12.50/bbl
New Fields:		
new primary	3345	3345
new secondary	312	312
new tertiary	85	85
Old Fields:		
primary	2210	2259
new secondary	2192	2260
new tertiary	0	1714
exempt oil	400	0
Totals	8544	9975

The major differences between the controlled and uncontrolled cases are in the expected production from tertiary recovery and exempt oil. Tertiary recovery generally costs substantially more than $5.25 per barrel to produce and will only be initiated if the oil would be exempt from price controls. Since old fields are expected to decline by 4 MM/D, the expected tertiary recovery would only result in production below 1972 base. Hence, it could only sell for $5.25 per barrel. Since this is uneconomic it will not occur.

Exempt oil, or oil which is not subject to price controls, would occur in stripper wells and with released oil. Stripper wells, which produce less than ten barrels per day, are expected to be about 15% of 1985 old oil production; whereas new and released oil from old fields during this period could be as much as 5% of production from those fields.

There are certain important factors which could make the assessment of production under controls optimistic. It assumes that all secondary recovery projects on old fields that are profitable will be initiated. That is, that producers will not delay or otherwise retard production in order to avoid the $5.25 old oil price in anticipation of relaxed controls in the future. If this assumption is optimistic, the differential between anticipated secondary recovery with and without controls could be as high as 1 MMB/D.

The analysis also does not fully take account of the distortions created by long-term price differentials between old and new oil. Under a continually spreading two-tier price system the natural production decline is likely to be accelerated since it would be advisable to curtail production from any property producing between 10 and 30 barrels per day to render that property eligible for the stripper well exemption.

Finally, this analysis assumes that large quantities of offshore areas are made available for exploration and development and that significant amounts of oil are produced in these areas. Of the 3.7 MMB/D of oil produced from new fields, 1.8 MMB/D is from the Outer Continental Shelf. Since a large part of this production is in previously undeveloped areas, any estimate of potential is speculative.

F

JEC STUDY

- Does not include a windfall profits tax and rebates to consumers.
- Does not consider the transfer aspects of increased prices due to decontrol to different sectors within the economy.
- Full passthrough immediately of all price increases.
- Base cost phases out fees over the next two years as OPEC prices increase.
- Accommodating monetary policy to affect growth.

FEDERAL ENERGY ADMINISTRATION

Date: July 11, 1975

Reply to Attn of: G. L. Lagace

Subject: Joint Economic Committee Staff Evaluation of the Economic Impact of Oil Decontrol and OPEC Price Increases

To: A. B. Askin

The Joint Economic Committee (JEC) has released its July 10, 1975 staff study entitled "Economic Impact of Oil Decontrol and OPEC Price Increase." The objective of the study is to determine the economic impact of the expiration of the Mandatory Petroleum Allocation Act on August 31, under which the price of "old" oil is controlled, and of an increase in the price of OPEC oil on October 1.

The study was made by the JEC staff and by the Congressional Research Service of the Library of Congress using the short-term Wharton and Data Resources macroeconometric models of the U.S. economy, respectively.

The procedure followed was to generate a base case solution and to then generate an "Administration Case" solution first using the Wharton and then the DRI models. Since the assumptions incorporated into both models were similar, only those for Wharton are shown here, but solutions for both are presented later.

CHARACTERISTICS OF BASE CASE

1. Mandatory Petroleum Allocation Act is extended throughout 1976.

2. The price of imported petroleum remains at about $13.50 per barrel, in the sense that the OPEC oil price increase that may occur is matched by a compensating reduction in the present duties on imported petroleum.

ASSUMPTIONS FOR APPROXIMATE ADMINISTRATION CASE

1. The present duties on imported oil remain in effect.

2. Deregulation of "old" oil beginning in September 1975 at the rate of 4 percent a month and extending over a 25-month period.

3. Approximately 15 percent ($1.56 per barrel) increase in the price of OPEC oil effective October 1, 1975.

4. An increase in the price of coal and of some natural gas in response to the deregulation of the price of "old" oil and the OPEC price increase. These increases are also phased in.

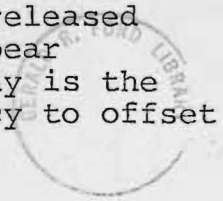
5. The increased price of oil is assumed to be passed on, on a dollar-for-dollar basis, with no additional markup.

6. Federal purchases of goods and services increase by $3 billion per year because of higher energy prices.

The Joint Economic Committee staff evaluations of the effects of the "Administration Case" are within the range of effects generated from use of the two models. The results generated from the Wharton model are in Table 1, those from Data Resources in Table 2, and those from both the models and the final staff evaluations are in Table 3.

The JEC staff concludes that the annual rate of growth in real GNP will be 2.8 percent less during the last quarter of 1976 than it would be without the President's program, that the unemployment rate will be .6 of a percentage point greater, and that the rate of increase in prices will be 2.4 percent greater.

The assumptions employed by the JEC staff are similar but not identical to those of similar studies released by other Congressional groups. The results appear reasonable. Of particular note in the JEC study is the introduction of an accommodating monetary policy to offset owth.



Enclosures

TABLE I

Summary Table Using Wharton Model

Impact of Oil Decontrol and OPEC Price Increase

Annual Rate of Growth	75:4	76:1	76:2	76:3	76:4	77:1	Annual Average 1975:4-1976:4
Real GNP							
Baseline	5.4	6.6	5.3	5.0	6.1	6.0	5.8
Administration	5.3	5.7	4.5	3.2	4.3	4.1	4.4
Difference	.1	.9	.8	1.8	1.8	1.9	1.4
Unemployment Rate*							
Baseline	9.2	9.0	8.9	8.9	8.7	8.6	
Administration	9.2	9.1	9.1	9.1	9.1	9.1	
Difference	0	.1	.2	.2	.4	.5	
Consumer Price Index							
Baseline	3.9	4.4	5.1	5.1	4.8	4.3	4.9
Administration	5.8	6.9	7.2	8.2	7.4	5.9	7.5
Difference	1.9	2.5	2.1	3.1	2.6	1.6	2.6
Money Supply - M_1							
Baseline	7.9	9.1	8.5	9.2	9.4	9.1	9.0
Administration	8.5	9.6	8.7	9.7	9.5	9.1	9.4

* JEC Staff estimates consistent with real growth rates

TABLE 2

Summary Table Using DRI Model

Impact of Oil Decontrol and OPEC Price Increase

Annual Rate of Growth	75:4	76:1	76:2	76:3	76:4	77:1	Annual Average 1975:4-1976:4
Real GNP							
Baseline	7.7	8.0	8.0	9.0	9.7	8.4	8.7
Administration	6.7	7.0	6.1	5.5	5.8	3.7	6.1
Difference	1.0	1.0	1.9	3.5	3.9	4.7	2.6
Unemployment Rate*							
Baseline	9.1	8.8	8.3	7.9	7.4	6.9	
Administration	9.2	8.9	8.5	8.3	8.0	7.9	
Difference	.1	.1	.2	.4	.6	1.0	
Consumer Price Index							
Baseline	4.3	4.6	4.7	4.5	4.3	4.4	4.5
Administration	5.9	6.0	6.4	6.5	6.6	6.8	6.4
Difference	1.6	1.4	1.7	2.0	2.3	2.4	1.9
Money Supply - M_1							

TABLE 3

Probable Range of Economic Impact

	75:4	76:1	76:2	76:3	76:4	77:1
Reduction in Real Economic Growth (percentage points)						
Wharton	.1	.9	.8	1.8	1.8	1.9
DRI	1.0	1.0	1.9	3.5	3.9	4.7
JEC Staff	.5	.9	1.2	2.7	2.8	3.0
Increase in Unemployment Rate						
Wharton	.0	.1	.2	.2	.4	.5
DRI	.1	.1	.2	.4	.6	1.0
JEC Staff	.0	.1	.2	.3	.6	.7
Increase in Consumer Price Index (percentage points)						
Wharton	1.9	2.5	2.1	3.1	2.6	1.6
DRI	1.6	1.4	1.7	2.0	2.3	2.4
JEC Staff	1.7	1.9	1.8	2.5	2.4	2.4

JUN 19 1975

DRAFT

Analysis of Alternative Petroleum Price Strategies

INTRODUCTION

The analyses included in this report have been manually calculated from data which was originally used for the Project Independence Blueprint. The macro-economic simulations referenced were created to operate on the basis of generalized assumptions, e.g. that crude oil will maintain price "x" with stability through the simulation. It was not contemplated that they would be called upon to assess the effects of dynamic, multi-tiered price systems; indeed, to attempt such modifications would require a considerable time investment which was simply not available.

This paper represents an attempt to analyze the most prominent petroleum pricing alternatives which have been considered by the House Interstate and Foreign Commerce subcommittee during the past few weeks. It was prepared at the request of the subcommittee. The following scenarios are contained in this package:

CURRENT CONTROLS

Under this scenario the current two-tier crude oil pricing system would be maintained indefinitely. Old oil would be price controlled at approximately $5.25 per barrel and new, released and stripper well production would be permitted to be sold at free market levels. A windfall profits tax is not contemplated in conjunction with this alternative.

25 MONTH PHASED DECONTROL

This scenario would involve the decontrol of old oil over a two year period and generally reflects the plan issued as a proposed rulemaking by the FEA, May 2, 1975 along with a windfall profits tax.

MR. KREUGER

Keyed to a windfall profits tax which would have to be legislated, this plan allows for immediate decontrol of all domestic crude except old oil which would be maintained at $5.25 but which would also phase out through a declining base. Some oil from old wells would be decontrolled as "incentive" oil, but revenues above $5.75 would be subject to a 90% tax. For new oil, the 90% tax would start at $7.50.

Both tax references would rise by an inflation factor from month to month. Tertiary production would be exempt from controls and tax. Production from stripper wells would be treated like new oil. Provision is made for a 100% plowback tax credit applicable to new oil.

MR. DINGELL

This plan would utilize the principles of a declining base for production from old wells yielding "incentive" oil above the declining base but below the current base; a set of taxes against incentive oil and against new oil and stripper oil from revenues above the tax reference levels; and a ceiling price of $11.50 for all domestic oil. The tax rate would be 95%, but a $1 per barrel credit for plowback could be taken from the tax on new and stripper oil. In effect, a three-tiered proce system would result, considering the price of imported crude. The old oil base decline rate would be 12% per year based on the last eight months of the base year, 1972. The tax reference bases would be $5.75 and $7.50 for incentive and new/stripper respectively, adjusted upward by .67% per month. Tertiary production is entirely exempt.

MR. ECKHARDT: REVISED

This proposal sets three ceiling prices for domestic crude production. Old oil, which is phased out at 12% per year based on 1972 production, is held at $5.25. Stripper oil, new oil and oil from old wells above the declining base is fixed at $7.50. Alaskan, tertiary and "high cost" oil is priced at $8.50. After forty-five months, the $7.50 price is increased by an inflation factor of 0.67% per month compounded. The $8.50 price is similarly increased by the same percentage after the sixty fourth month. There is no windfall profits tax.

Supply and Demand Sources

The demand projection for each alternative is based on an FEA simulation model originally developed by Data Resources, Inc. and modified for the purposes of the Project Independence Study. Production figures for each program are determined by a supply simulation model based on data from a National Petroleum Council study of domestic production by regions. Each model produces varying projections based on the selling price of crude oil.

For supply projections, an initial supply rate for the base case scenario was produced based on the weighted average price of domestic oil from year to year. The split between old and new oil is in turn a projection of decreasing production from old wells based on historic rates of production decrease from such wells. The weighted average prices were adjusted to reflect this split and then total production was rechecked against these refined prices to yield a final base projection.

In each succeeding case, the methodology was consistent. A rough estimate of production as it would vary from the base case was projected, and weighted average prices were calculated from this projection. Then the simulation model produced yearly production based on the first cut average prices, and the prices were recalculated based on the refined projections which were in turn further refined until the production and resultant average prices were consistent from year to year.

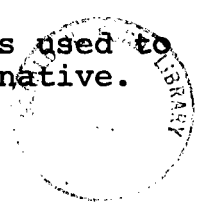
As the entire exercise is based on major uncertainties of economic climate, investment experience and rates of new oil discovery, the method of successive approximations yields results which would appear consistent with the general underlying motivations and disincentives of the various alternative price schemes.

In those scenarios which developed the concept of "incentive" oil, the applicable percentages were applied to projections of old oil production and then increased by .1 to .2 million barrels to reflect increased secondary recovery activity in those areas.

One plan, the revised Eckhardt Plan, results in a wide range of weighted average prices over the next ten years. Thus the simulation-produced estimates of production in the later years had to be modified by a lag factor representing decreased availability of investment capital in the relevant years. The lag utilized was a restriction on the growth rate of new discovery production to a maximum 12% a year, an exceptionally liberal estimate compared to recent years' experience.

FOR EXAMPLE

The following explanation details the methods used to determine supply and demand for the Kreuger alternative.



In this case, the near term incentives for production are better than the Base Case, but not as good as the 25-month Phaseout. Production from 1975 through 1977 reflects this. Beyond 1977, the net weighted average revenue after windfall tax of domestic crude rises to $12 per barrel (in 1975 dollars) in steps through 1985. Thus production for the years 1978-1985 comes from the simulation projections for the related yearly crude prices, adjusted to 1975 dollars. The original NPC model did not include Alaskan North Slope, so in this case the Project Independence projection for Alaskan production at an $12 crude price was added in the appropriate years.

In order to break total production into its component parts, some forecasts had to be made from other sources. "Incentive" oil resulted from applying the declining base against projected production from "old" wells, which was in turn projected from the Base Case old oil production. Old and incentive oil were reduced proportionately by the amount of tertiary oil. It should be specifically noted that tertiary production, for purposes of this analysis, is considered to be all production from a property that employs an approved tertiary recovery technique and not just the incremental production which may be attributable to the tertiary application. Stripper production was assumed to keep pace with rising overall production, increasing from the current 1 million to 1.5 million barrels per day by 1985. New oil was then the difference between total production and the sum of the other categories. Once the relationship between the categories was determined, successive approximations of total demand required adjustments to the categories, with new oil usually absorbing most of the variation. While the method for determining total production is reasonably precise with existing resources, attempts to predict, say, incentive oil in 1981 or tertiary oil in 1984 must necessarily be inexact.

In order to compare this supply data with demand, it was necessary to produce demand figures from the DRI model. In this case, the model was able to predict consumption levels through 1985 at various crude oil prices. Demand under the Krueger scenario is based on the same weighted average crude prices as was the supply estimate.

PETROLEUM DEMAND
(Source: Project Independence)

Crude Price	$7	$11
1977	16.7	15.1
1980	18.5	15.4
1985	21.6	16.9

(NGL's subtracted)

ESTIMATING PRODUCTION

The basis for production estimates in this study is an NPC model which analyses production possibilities in each NPC region under different economic conditions. In the analyses of alternatives, NGL and new technologies like shale oil, tar sands and heavy crude were not included. Also, since the model was formulated in 1973, some adjustments were made to convert the economic environment to a 1975 standard. Finally, some additional minor adjustments were made to reflect the effects of recent events and greater knowledge in certain areas of production.

In the analyses of alternatives, NGL and new technologies like shale oil, tar sands and heavy crude were not included. Also, since the model was formulated in 1973, some adjustments were made to convert the economic environment to a 1975 standard. Finally, some additional minor adjustments were made to reflect the effects of recent events and greater knowledge in certain areas of production.

Elsewhere, the methodology for determining production under different pricing plans was discussed, using the Krueger plan as a detailed example. Every other scenario analysis followed the same format. Based on general expectations of weighted average price behavior in a given plan through the years, an initial plot of production activity can be extracted from the NPC model. Then, the actual components of the plan are superimposed on total production to plot the production of various categories of oil. (This is the most inexact operation in the process, depending as it does on novel producer behavior which will be motivated by the components of the plan selected.) This breakdown is then used to produce a more accurate sequence of weighted average prices, which in turn leads to a fine tuning of total production figures and internal adjustments among the categories.

The result is a ten year production estimate with breakdowns of the differently priced categories of production and the resultant weighted average crude price. The chart is internally consistent, consistent with the source model and comparatively consistent from plan to plan on the basis of the weighted average crude price through the years and across the plans.

There is no precise method for gauging the actual breakdowns of categories of oil in future years beyond the mechanical methods for, say, the declining base production curve.

Estimates of tertiary recovery production in a decontrol atmosphere are highly speculative. In this part of the methodology, the only guide is experience, a knowledge of the past trends and stimulus-response, and common sense. Analysts may differ on these numbers, but the work presented here was done by professionals with the background of similar analyses in devising the Crude Equalization Program and the President's energy proposals. The work rests on a solid foundation.

A NOTE CONCERNING EQUALIZATION

Since domestic crude oil of the same grade and quality currently sells for two different prices because of the two-tier price system, it was necessary that FEA formulate a program to allocate the price controlled oil among refiners to prevent companies with privileged access to cheap oil from gaining an unfair cost advantage over their competitors. The program, even though modified with special exemptions, is basically simple in design and operation. Refiners earn entitlements, based on their volumes of crude runs, which allow them a quota of price controlled oil. If a refiner has more controlled oil than entitlements, he must buy a sufficient number to compensate for his excess from refiners with excess entitlements. The entitlement value is the difference between the weighted average prices of controlled and uncontrolled oil.

The program is simple because the price control system is simple. Since there are only two price levels, the program need only equalize the two categories of oil. Designers of any new price control formula should take careful note of the fact that any situation in which the same commodity sells for different prices under regulations must have a mechanism for equalization to protect the purchases. A complex price system automatically creates a complex equalization system.

In particular, any system which creates more than two price levels will result in severe administrative difficulties for all participants in the equalization program. A system which creates 'n' price levels must be equalized by a system using 'n-1' types of entitlements. Refiners who would purchase the various categories of oil would have to report the quantities received of each and would have to shop around for sellers of the specific types of entitlements they had to

purchase. Some refiners could have an excess of one type and a deficit of another. Exemptions and special allowances would be more complex and more arbitrary. All this complexity and added detail creates more work for government and for the refiners, causing the expenditure of additional time and money to comply with the increased involvement of government in the oil business.

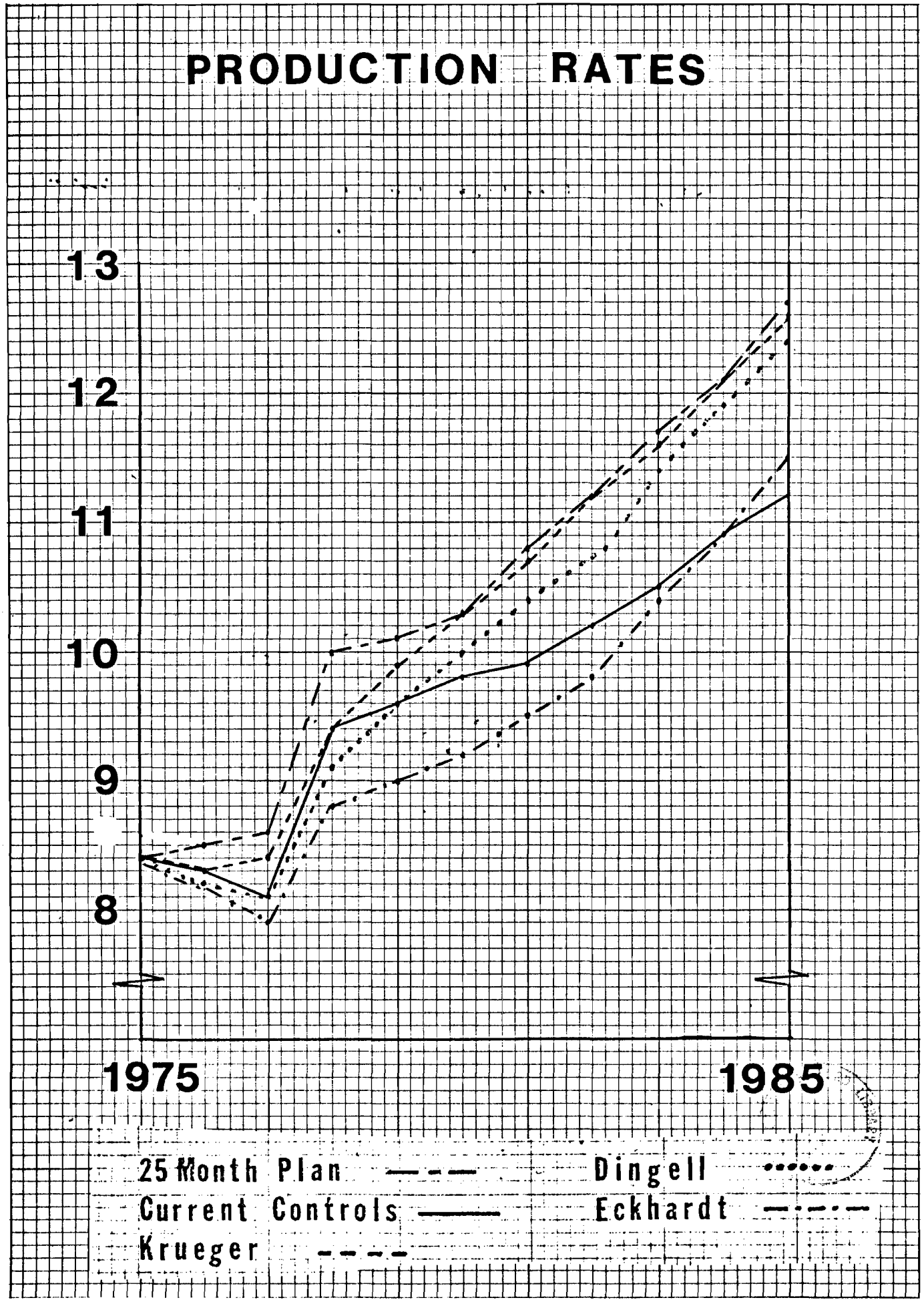
Pricing plans which emphasize control of receipts to producers through special taxes and maintain at most two price tiers retain the simplicity which makes the current equalization program workable and effective. Those plans which proceed toward a single price would ultimately allow the total dismantling of the equalization system.

EFFECTIVE COST

Several charts contained in these analyses refer to a concept related to the purchase cost of crude oil which is referred to as the "effective cost." The effective cost is calculated to be approximately eighty percent of the purchase cost on the following basis.

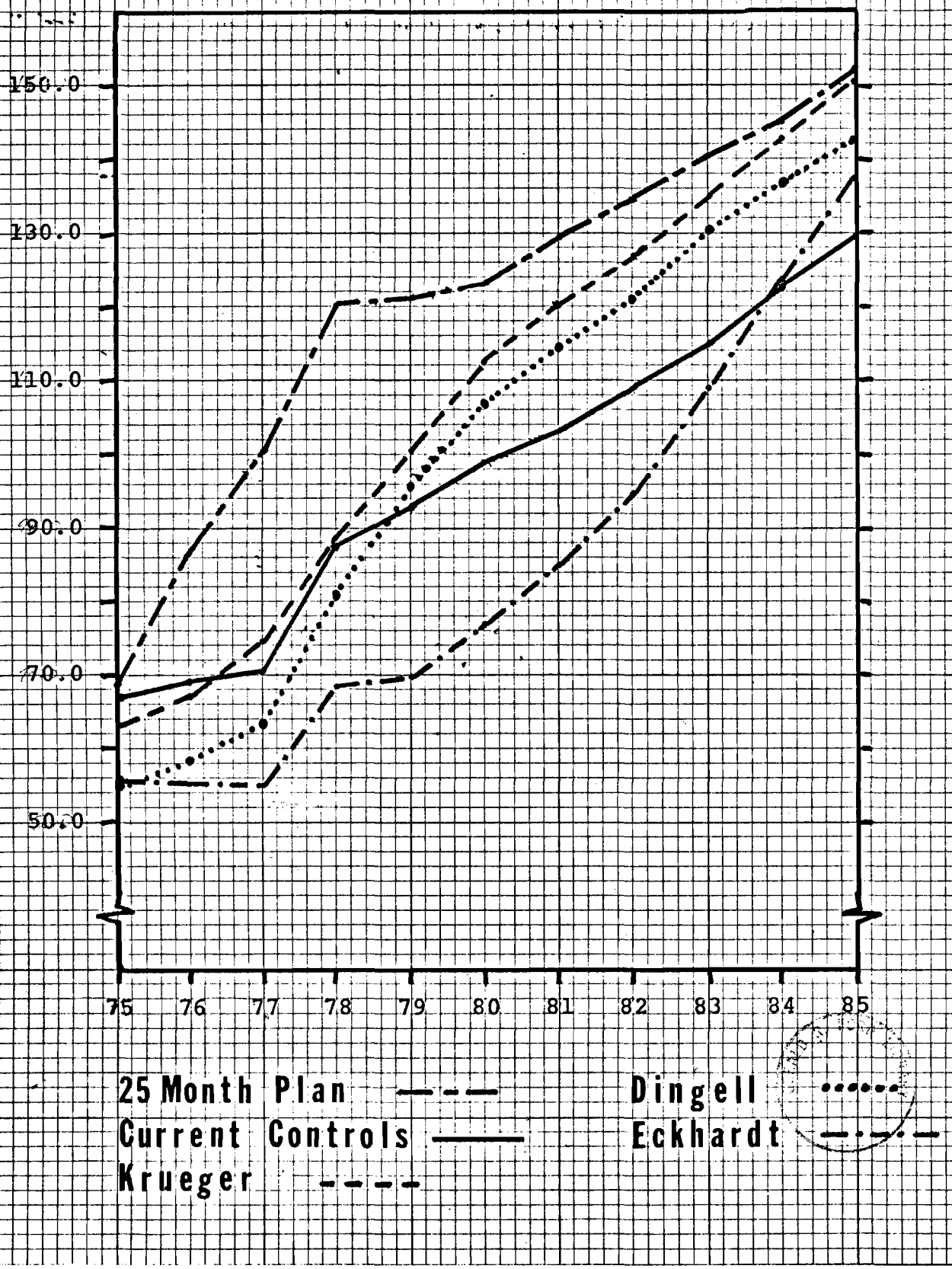
Out of the gross revenue from sales of crude oil, producers must immediately pay out approximately 12.5% to the lessors and owners of the producing properties as royalty fees. As this money is not retained by the oil companies, but instead goes immediately to property owners, it would be appropriate in examining effect on producers to deduct these payments. Additionally, producers must pay severance taxes to the states of approximately seven to eight percent of the net revenues after deducting royalties. Since this money goes directly from purchasers of crude to government, it is also lost to producers. Combining these two factors produces about a 20% loss of gross revenues to these non-industry entities. The remaining 80% is available for expenses, income taxes and profits.

PRODUCTION RATES



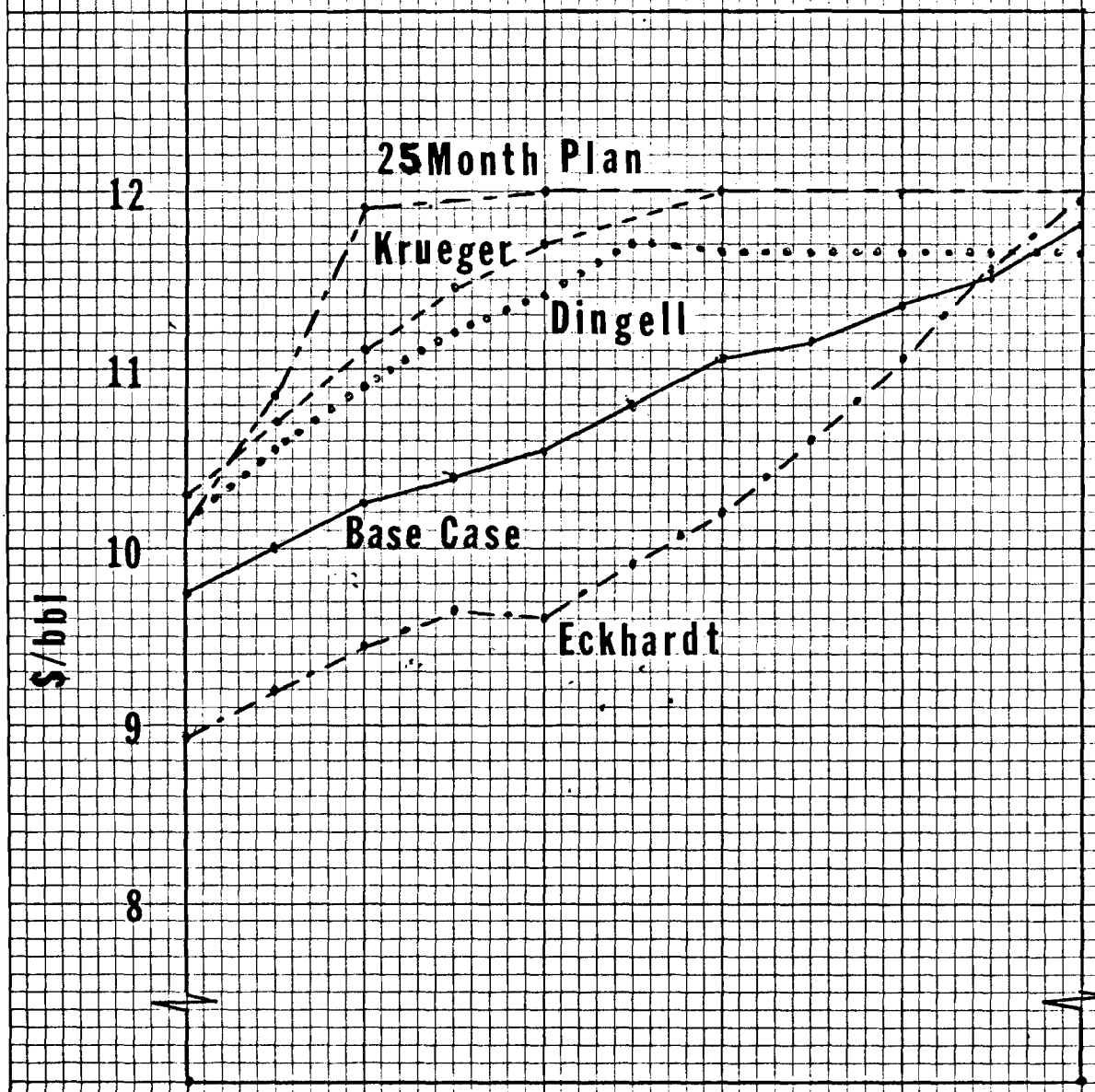
IMPORTS

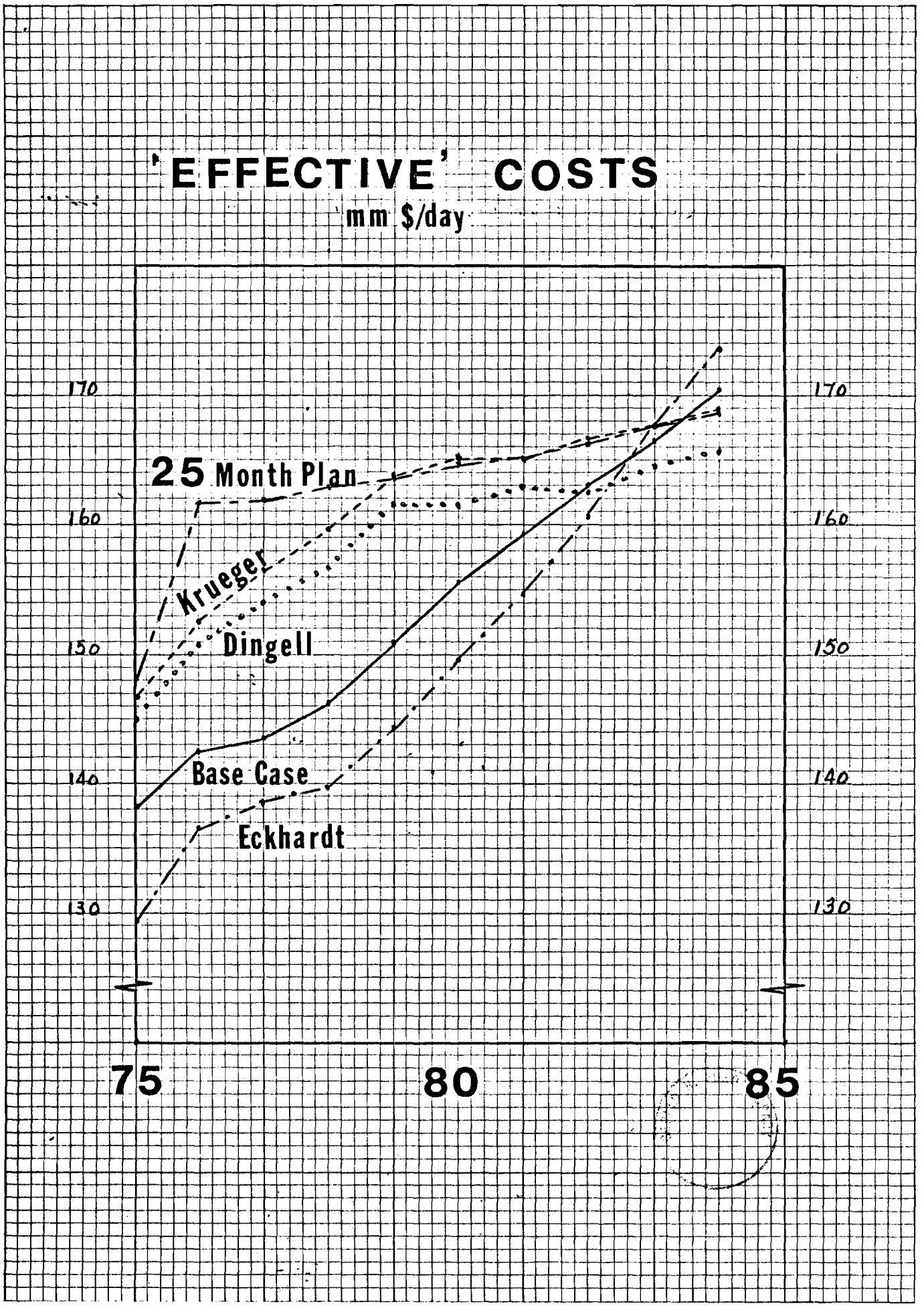
GROSS PRODUCER REVENUES



FPI-MI—10 X 10 TO 1 INCH
10TH LINE HEAVY

AVERAGE CRUDE OIL COSTS





--GROSS PRODUCER REVENUES--
($MM/Day)

Year	Current Controls	25 Mo. Phased	Krueger	Dingell	Eckhardt Revised
1975	$ 67.0	68.9	63.5	55.1	55.9
1976	69.2	86.3	67.3	58.2	55.4
1977	70.2	100.2	74.4	63.7	55.3
1978	87.8	120.0	88.8	81.1	68.2
1979	92.9	121.2	100.3	95.9	69.8
1980	98.7	123.6	112.2	106.4	76.8
1981	103.3	129.6	120.0	114.2	85.0
1982	108.9	134.4	127.1	121.2	94.6
1983	115.2	140.4	135.3	130.1	109.2
1984	122.7	145.2	143.1	136.8	123.7
1985	129.9	152.4	150.2	142.6	137.4

- IMPORT LEVELS AND BALANCE OF PAYMENTS EFFECTS -

PROPOSAL / YEAR	BASE CASE		25 MONTH PLAN		DINGELL		KRUEGER		ECKHARDT REVISED	
	MM B/D	$MM/Day	MM B/D	$MM/Day	MM B/D	$MM/Day	MM B/D	$MM/Day	MMB/D	$MM/D
1975	6.7	$80.4	6.7	$80.4	6.7	$80.4	6.7	$80.4	6.7	$80.4
1976	6.9	82.8	6.7	80.4	7.0	84.0	6.9	82.8	7.1	85.2
1977	7.2	86.4	6.7	80.4	7.2	86.4	6.9	82.8	7.7	92.4
1978	6.1	73.2	5.5	66.0	6.4	76.8	6.1	73.2	7.0	84.0
1979	6.0	72.0	5.5	66.0	6.0	72.0	5.7	68.4	7.0	84.0
1980	6.0	72.0	5.4	64.8	5.8	69.6	5.4	64.8	6.9	82.8
1981	6.1	73.2	5.1	61.2	5.5	66.0	5.2	62.4	6.8	81.6
1982	6.0	72.0	4.8	57.6	5.3	63.6	4.8	57.6	6.6	79.2
1983	5.9	70.8	4.5	54.0	4.8	57.6	4.6	55.2	6.1	73.2
1984	5.7	68.4	4.3	51.6	4.6	55.2	4.3	51.6	5.7	68.4
1985	5.6	67.2	3.9	46.8	4.3	51.6	4.0	48.0	5.3	63.6

CONTINUATION OF CURRENT CONTROLS
BASE CASE

	A	B		C	D	E
		Supply				
Year	Demand (MM B/D)	Domestic (MM B/D)	Foreign (MM B/D)	WTD $\bar{X}$ Domestic (Per BBL)	WTD $\bar{X}$ All (PerBBL)	$ Outflow ($MM/day)
1975	15.1	8.4	6.7	$ 8.00	$ 9.75	$80.4
1976	15.2	8.3	6.9	8.35	10.00	82.8
1977	15.3	8.1	7.2	8.65	10.25	86.4
1978	15.5	9.4	6.1	9.35	10.40	73.2
1979	15.6	9.6	6.0	9.70	10.55	72.0
1980	15.8	9.8	6.0	10.05	10.80	72.0
1981	16.0	9.9	6.1	10.45	11.05	73.2
1982	16.2	10.2	6.0	10.70	11.15	72.0
1983	16.4	10.5	5.9	10.95	11.35	70.8
1984	16.6	10.9	5.7	11.25	11.50	68.4
1985	16.8	11.2	5.6	11.50	11.70	67.2

Note:

Columns A-C Millions or BBLs/day

CONTINUATION OF CURRENT CONTROLS
BASE CASE

Year	A Total Production (MM B/D)	B Old Oil (MM B/D)	C New, Release and Stripper (MM B/D)	D WTD $\bar{X}$ Price Per BBL
1975	8.4	5.0	3.4	$ 8.00
1976	8.3	4.5	3.8	8.35
1977	8.1	4.0	4.1	8.65
1978	9.4	3.7	5.7	9.35
1979	9.6	3.3	6.3	9.70
1980	9.8	2.8	7.0	10.05
1981	9.9	2.3	7.6	10.45
1982	10.2	2.0	8.2	10.70
1983	10.5	1.6	8.9	10.95
1984	10.9	1.2	9.7	11.25
1985	11.2	0.8	10.4	11.50

BASE CASE

	A (MM B/D)	B (MM B/D)	C (MM B/D)	D ($MM/D)	E ($MM/D)	F ($MM/D)	G ($MM/D)	H ($MM/D)
1976	15.2	8.3	6.9	69.2	55.4	82.8	152.0	138.2
1977	15.3	8.1	7.2	70.2	56.2	86.4	156.6	142.6
1978	15.5	9.4	6.1	87.8	70.2	73.2	161.0	143.4
1979	15.6	9.6	6.0	92.9	74.3	72.0	164.9	146.3
1980	15.8	9.8	6.0	98.7	79.0	72.0	170.7	151.0
1981	16.0	9.9	6.1	103.3	82.6	73.2	185.9	155.8
1982	16.2	10.2	6.0	108.9	87.1	72.0	179.9	159.1
1983	16.4	10.5	5.9	115.2	92.2	70.8	186.0	163.0
1984	16.6	10.9	5.7	122.7	98.2	68.4	191.1	166.6
85	16.8	11.2	5.6	129.0	103.2	67.2	196.2	170.4

A: Total Demand Less NGLs
B: Domestic Production
C: Foreign Crude/Product
D: Sale Cost of Domestic Production
E: Effective Cost of Domestic Production
F: Cost of Imported Oil
G: Total Sale Cost of Petroleum
H: Total Effective Cost of Petroleum

25 MONTH PHASED DECONTROL

Year	Total Production (MM B/D)	Old Oil (MM B/D)	New, Release and Stripper (MM B/D)	WTD Aveage Price Per BBL
1975	8.4	4.4	4.0	$ 8.45
1976	8.5	2.6	5.9	9.95
1977	8.6	.2	8.4	11.85
1978	10.0	-	10.0	12.00
1979	10.1	-	10.1	12.00
1980	10.3	-	10.3	12.00
1981	10.8	-	10.8	12.00
1982	11.2	-	11.2	12.00
1983	11.7	-	11.7	12.00
1984	12.1	-	12.1	12.00
1985	12.7	-	12.7	12.00

25 MONTH PHASED DECONTROL

Year	Demand (MM B/D)	Supply Domestic (MM B/D)	Supply Foreign (MM B/D)	WTD $\bar{X}$ Domestic (Per BBL)	WTD $\bar{X}$ All (PerBBL)	$ Outflow ($MM/day)
1975	15.1	8.4	6.7	$ 8.45	$10.15	$80.4
1976	15.2	8.5	6.7	10.15	10.85	80.4
1977	15.3	8.6	6.7	11.65	11.90	80.4
1978	15.5	10.0	5.5	12.00	12.00	66.0
1979	15.6	10.1	5.5	12.00	12.00	66.0
1980	15.7	10.3	5.4	12.00	12.00	64.8
1981	15.9	10.8	5.1	12.00	12.00	61.2
1982	16.0	11.2	4.8	12.00	12.00	57.6
1983	16.2	11.7	4.5	12.00	12.00	54.0
1984	16.4	12.1	4.3	12.00	12.00	51.6
1985	16.6	12.7	3.9	12.00	12.00	46.8

25 MONTH PHASED DECONTROL

	A (MM B/D)	B (MM B/D)	C (MM B/D)	D ($MM/D)	E ($MM/D)	F ($MM/D)	G ($MM/D)	H ($MM/D)
1976	15.2	8.5	6.7	84.6	67.7	80.4	165.0	148.1
1977	15.3	8.6	6.7	101.9	81.5	80.4	182.3	161.9
1978	15.5	10.0	5.5	120.0	96.0	66.0	186.0	162.0
1979	15.6	10.1	5.5	121.2	97.0	66.0	187.2	163.0
1980	15.7	10.3	5.4	123.6	98.9	64.8	188.4	163.7
1981	15.9	10.8	5.1	129.6	103.7	61.2	190.8	164.9
1982	16.0	11.2	4.8	134.4	107.5	57.6	192.0	165.1
1983	16.2	11.7	4.5	140.4	112.3	54.0	194.4	166.3
1984	16.4	12.1	4.3	145.2	116.2	51.6	196.8	167.8
1985	16.6	12.7	3.9	152.4	121.9	46.8	199.2	168.7

A: Total Demand Less NGLs
B: Domestic Production
C: Foreign Crude/Product
D: Sale Cost of Domestic Production
E: Effective Cost of Domestic Production
F: Cost of Imported Oil
G: Total Sale Cost of Petroleum
H: Total Effective Cost of Petroleum

MR. KRUEGER'S AMENDMENT
PRODUCTION

Year	Total Production (MM B/D)	Old Oil	New and Stripper	Incentive	Tertiary	WTD $\bar{X}$ Price Per BBL
1975	8.4	3.8	2.4	2.1	0.1	$ 8.85
1976	8.3	2.9	2.7	2.4	0.2	9.65
1977	8.4	2.0	3.5	2.6	0.3	10.45
1978	9.4	1.3	4.9	2.8	0.4	11.20
1979	9.9	0.7	5.9	2.7	0.6	11.65
1980	10.3	-	6.4	3.0	0.9	12.00
1981	10.7	-	7.2	2.5	1.0	12.00
1982	11.1	-	7.9	2.1	1.1	12.00
1983	11.6	-	8.8	1.6	1.2	12.00
1984	12.1	-	9.4	1.1	1.6	12.00
1985	12.6	-	9.9	.7	2.0	12.00

MR. KRUEGER'S AMENDMENT

Year	Demand (MM B/D)	Supply Domestic (MM B/D)	Supply Foreign (MM B/D)	WTD $\bar{X}$ Domestic (Per BBL)	WTD $\bar{X}$ All (PerBBL)	$ Outflow ($MM/day)
1975	15.1	8.4	6.7	$ 8.95	$10.30	$80.4
1976	15.2	8.3	6.9	9.65	10.70	82.8
1977	15.3	8.4	6.9	10.40	11.10	82.8
1978	15.5	9.4	6.1	11.05	11.45	73.2
1979	15.6	9.9	5.7	11.50	11.70	68.4
1980	15.7	10.3	5.4	12.00	12.00	64.8
1981	15.9	10.7	5.2	12.00	12.00	62.4
1982	16.0	11.2	4.8	12.00	12.00	57.6
1983	16.2	11.6	4.6	12.00	12.00	55.2
1984	16.4	12.1	4.3	12.00	12.00	51.6
1985	16.6	12.6	4.0	12.00	12.00	48.0

KRUEGER

	A (MM B/D)	B (MM B/D)	C (MM B/D)	D ($MM/D)	E ($MM/D)	F ($MM/D)	G ($MM/D)	H ($MM/D)
1976	15.2	8.3	6.9	80.1	64.1	82.8	162.9	146.9
1977	15.3	8.4	6.9	87.3	69.8	82.8	170.1	152.6
1978	15.5	9.4	6.1	104.0	83.2	73.2	177.2	156.4
1979	15.6	9.9	5.7	114.1	91.3	68.4	182.5	159.7
1980	15.7	10.3	5.4	123.6	98.9	64.8	188.4	163.7
1981	15.9	10.7	5.2	128.4	102.7	62.4	190.8	165.1
1982	16.0	11.2	4.8	134.4	107.5	57.6	192.0	165.1
1983	16.2	11.6	4.6	139.4	111.4	55.2	194.6	166.6
1984	16.4	12.1	4.3	145.2	116.2	51.6	196.8	167.8
1985	16.6	12.6	4.0	151.2	121.0	48.0	199.2	169.0

A: Total Demand Less NGLs
B: Domestic Production
C: Foreign Crude/Product
D: Sale Cost of Domestic Production
E: Effective Cost of Domestic Production
F: Cost of Imported Oil
G: Total Sale Cost of Petroleum
H: Total Effective Cost of Petroleum

MR. KRUEGER'S AMENDMENT
STRIPPER WELL OIL

Year	Tax Base	Tax Ref.	Tax @.75 x Tax Ref. x.9	Per BBL Revenue to Producer	Total Daily Tax	Total Daily Producer Revenue	Potential Tax Off
1975	$ 7.63	4.37	$2.950	$ 9.05	$2.95	$ 9.05	$2.95
1976	7.98	4.02	2.714	9.238	2.99	10.21	2.99
1977	8.48	3.52	2.376	9.624	2.85	11.55	2.85
1978	9.00	3.00	2.025	9.975	2.65	11.97	2.65
1979	9.55	2.45	1.654	10.346	2.15	13.45	2.15
1980	10.14	1.86	1.256	10.744	1.63	13.97	1.63
1981	10.77	1.23	.830	11.17	1.16	15.64	1.16
1982	11.43	.57	.385	11.615	.54	16.26	.54
1983	12.00	-	-	12.00	-	16.80	-
1984	12.00	-	-	12.00	-	18.00	-
1985	12.00	-	-	12.00	-	18.00	-

---Mr. Krueger's Amendment---

	Total Production	Total Daily Producer Revenue	Wtd X Price Per Bbl	Total Daily Tax Receipts	Wtd X Tax Per Barrel
1975					
Old Oil	3.8	19.95	5.25		
New, Strip & Ter	2.5	30.00	12.00		
Incentive	2.1	13.57	6.46	11.63	5.54
Total	8.4	63.52	7.56	11.63	1.38
1976					
Old Oil	2.9	15.23	5.25		
New, Strip & Ter	3.0	36.00	12.00		
Incentive	2.4	16.10	6.71	12.70	5.29
Total	8.3	67.33	8.11	12.70	1.53
1977					
Old Oil	2.0	10.50	5.25		
New, Strip & Ter	3.8	45.60	12.00		
Incentive	2.6	18.33	7.05	12.87	4.95
Total	8.4	74.43	8.86	12.87	1.53
1978					
Old Oil	1.3	6.83	5.25		
New, Strip & Ter	5.3	61.20	12.00		
Incentive	2.8	20.75	7.41	12.85	4.59
Total	9.4	88.78	9.44	12.85	1.37
1979					
Old Oil	0.7	3.68	5.25		
New, Strip & Ter	6.5	75.60	12.00		
Incentive	2.7	21.06	7.80	11.34	4.20
Total	9.9	100.34	10.14	11.34	1.15

---Mr. Krueger's Amendment con't---

	Total Production	Total Daily Producer Revenue	Wtd X Price Per Bbl	Total Daily Tax Receipts	Wtd X Tax Per Barrel
1980					
New, Strip & Ter	7.3	87.60	12.00		
Incentive	3.0	24.60	8.20	11.40	3.80
Total	10.3	112.20	10.89	11.40	1.11
1981					
New, Strip & Ter	8.2	98.40	12.00		
Incentive	2.5	21.58	8.63	8.43	3.37
Total	10.7	119.98	11.21	8.43	0.79
1982					
New, Strip & Ter	9.0	108.00	12.00		
Incentive	2.1	19.09	9.09	6.11	2.91
Total	11.1	127.09	11.45	6.11	0.55
1983					
New, Strip & Ter	10.0	120.00	12.00		
Incentive	1.6	15.33	9.58	3.87	2.42
Total	11.6	135.33	11.67	3.87	0.33
1984					
New, Strip & Ter	11.0	132.00	12.00		
Incentive	1.1	11.10	10.09	2.10	1.91
Total	12.1	143.10	11.83	2.10	0.17
1985					
New, Strip & Ter	11.9	142.80	12.00		
Incentive	0.7	7.45	10.64	0.95	1.36
Total	12.6	150.25	11.92	0.95	0.08

MR. KRUEGER'S AMENDMENT
NEW OIL

Year	Tax Base	Tax Ref.	Tax @.9 of Tax. Ref.	Per BBL Revenue to Producer	Total Daily Tax	Total Daily Producer Revenue	Potential Tax Off
1975	$ 7.63	$4.37	$3.933	$ 8.067	$ 5.11	$10.49	$ 5.11
1976	7.98	4.02	3.618	8.382	6.15	14.25	6.15
1977	8.48	3.52	3.168	8.832	7.29	20.31	7:29
1978	9.00	3.00	2.700	9.300	9.99	34.41	9.99
1979	9.55	2.45	2.205	9.795	10.14	45.06	10.14
1980	10.14	1.86	1.674	10.326	8.54	52.66	8.54
1981	10.77	1.23	1.107	10.893	6.42	63.18	6.42
1982	11.43	.57	.513	11.487	3.33	74.67	3.33
83	12.00	-	-	12.00	-	88.80	-
1984	12.00	-	-	12.00	-	94.80	-
1985	12.00	-	-	12.00	-	100.80	-

NOTE:

COL. A-D $ Per Bbl
COL. E-G $MM/Day

MR. KRUEGER'S AMENDENT
(INCENTIVE OIL)

Year	Tax Base	Tax Ref.	Tax @.9 of Tax Ref.	Per BBL Revenue to Producer	Total Daily Tax Receipts	Total Daily Producer Revuene
1975	$ 5.85	$6.15	$5.535	$ 6.465	$11.62	$13.58
1976	6.12	5.88	5.292	6.708	12.70	16.10
1977	6.50	5.50	4.950	7.050	12.87	18.33
1978	6.90	5.10	4.590	7.410	12.85	20.75
1979	7.33	3.67	4.203	7.797	11.35	21.05
1980	7.78	4.22	3.798	8.202	11.40	24.60
1981	8.26	3.74	3.366	8.634	8.42	21.59
1982	8.77	3.23	2.907	9.093	6.10	19.10
1983	9.31	2.69	2.421	9.579	3.87	15.33
1984	9.88	2.12	1.908	10.092	2.10	11.10
1985	10.49	1.51	1.359	10.641	0.95	7.45

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	$5.75										
1	5.78	6.14	6.51	6.92	7.34	7.79	8.28	8.79	9.33	9.90	10.51
2	5.81	6.17	6.55	6.95	7.38	7.83	8.32	8.83	9.37	9.95	10.57
3	5.84	6.20	6.58	6.98	7.42	7.87	8.36	8.87	9.42	10.00	10.62
4	5.87	6.23	6.61	7.02	7.45	7.91	8.40	8.92	9.47	10.05	10.67
5	5.90	6.26	6.64	7.05	7.49	7.95	8.44	8.96	9.52	10.10	10.73
6	5.92-	6.29-	6.68-	7.09-	7.53-	7.99-	8.48-	9.01-	9.56-	10.15-	10.78-
7	5.95	6.32	6.71	7.13	7.56	8.03	8.53	9.05	9.61	10.20	10.83
8	5.98	6.35	6.74	7.16	7.60	8.07	8.57	9.10	9.66	10.25	10.89
9	6.01	6.38	6.78	7.20	7.64	8.11	8.61	9.14	9.71	10.30	11.94
10	6.04	6.42	6.81	7.23	7.68	8.15	8.66	9.19	9.76	10.36	11.00
11	6.07	6.45	6.85	7.27	7.72	8.19	8.70	9.24	9.80	10.41	11.05
12	6.10	6.48	6.88	7.31	7.76	8.23	8.74	9.28	9.85	10.46	11.11
	$7.50										
1.	7.54	8.00	8.50	9.02	9.58	10.17	10.79	11.45			
2.	7.58	8.04	8.54	9.07	9.62	10.22	10.85	11.52			
3.	7.61	8.08	8.58	9.11	9.67	10.27	10.90	11.57			
4.	7.65	8.12	8.62	9.16	9.72	10.32	10.96	11.63			
5.	7.69	8.16	8.67	9.20	9.77	10.37	11.01	11.69			
6.	7.73-	8.20-	8.71-	9.25-	9.82-	10.42-	11.07-	11.75-			
7.	7.77	8.25	8.75	9.29	9.87	10.48	11.12	11.81			
8.	7.81	8.29	8.80	9.34	9.92	10.53	11.18	11.87			
9.	7.84	8.33	8.84	9.39	9.97	10.58	11.23	11.93			
10.	7.88	8.37	8.89	9.43	10.02	10.63	11.29	11.99			
11.	7.92	8.41	8.93	9.48	10.07	10.69	11.35	12.05			
12.	7.96	8.45	8.98	9.53	10.11	10.74	11.40	12.11			

	Incentive	New Stripper
1975	5.85	7.63
1976	6.12	7.98
1977	6.50	8.48
1978	6.90	9.00
1979	7.33	9.55
1980	7.78	10.14
1981	8.26	10.77
1982	8.77	11.43
1983	9.31	12.00
1984	9.88	12.00
1985	10.49	12.00

MR. DINGELL'S OPTION

Year	Total Production (MM B/D)	Old Oil	New and Stripper	Incentive	Tertiary	WTD $\bar{X}$ Price Per BBL
1975	8.4	3.8	2.4	2.1	0.1	$ 8.65
1976	8.2	2.9	2.7	2.4	0.2	9.30
1977	8.1	2.0	3.2	2.6	0.3	9.95
1978	9.1	1.3	4.6	2.8	0.4	10.60
1979	9.6	0.7	5.6	2.7	0.6	11.05
1980	10.0	-	6.3	3.0	0.7	11.50
1981	10.4	-	7.1	2.5	0.8	11.50
1982	10.8	-	7.7	2.1	1.0	11.50
1983	11.4	-	8.6	1.6	1.2	11.50
1984	11.9	-	9.5	1.1	1.4	11.50
1985	12.4	-	10.1	0.7	1.6	11.50

MR. DINGELL'S OPTION

Year	Demand (MM B/D)	Supply Domestic (MM B/D)	Supply Foreign (MM B/D)	WTD $\bar{X}$ Domestic (Per BBL)	WTD $\bar{X}$ All (PerBBL)	$ Outflow ($MM/day)
1975	15.1	8.4	6.7	$ 8.65	$10.15	$80.4
1976	15.2	8.2	7.0	9.30	10.55	84.0
1977	15.3	8.1	7.2	9.95	10.90	86.4
1978	15.5	9.1	6.4	10.60	11.20	76.8
1979	15.6	9.6	6.0	11.05	11.40	72.0
1980	15.8	10.0	5.8	11.50	11.70	69.6
981	15.9	10.4	5.5	11.50	11.65	66.0
1982	16.1	10.8	5.3	11.50	11.65	63.6
1983	16.2	11.4	4.8	11.50	11.65	57.6
1984	16.5	11.9	4.6	11.50	11.65	55.2
1985	16.7	12.4	4.3	11.50	11.65	51.6

DINGELL OPTION

	A	B	C	D	E	F	G	H
	(MM B/D)	(MM B/D)	(MM B/D)	($MM/D)	($MM/D)	($MM/D)	($MM/D)	($MM/D)
1976	15.2	8.2	7.0	76.3	61.0	84.0	160.3	145.0
1977	15.3	8.1	7.2	80.6	64.5	86.4	167.0	150.9
1978	15.5	9.1	6.4	96.5	77.2	76.8	173.3	154.0
1979	15.6	9.6	6.0	106.0	84.8	72.0	178.0	156.8
1980	15.8	10.0	5.8	115.0	92.0	69.6	184.6	161.6
1981	15.9	10.4	5.5	119.6	95.7	66.0	185.6	1616.7
1982	16.1	10.8	5.3	124.2	99.4	63.6	187.8	163.0
1983	16.2	11.4	4.8	131.1	104.9	57.6	188.7	162.5
1984	16.5	11.9	4.6	136.8	109.4	55.2	192.0	164.6
1985	16.7	12.4	4.3	142.6	114.1	51.6	194.2	165.7

A: Total Demand Less NGLs
B: Domestic Production
C: Foreign/Crude/Product
D: Sale Cost of Domestic Production
E: Effective Cost of Domestic Production
F: Cost of Imported Oil
G: Total Sale Cost of Petroleum
H: Total Effective Cost of Petroleum

MR. DINGELL'S OPTION
INCENTIVE OIL
(per day basis)

Year	Quantity (MM B/D)	Tax Base	Tax Ref.	Tax @.95 of Tax. Ref.	Per BBL Revenue to Producer	Total Daily Tax ($MM/D)	Total Daily Producer Revenue ($MM/D)
1975	2.1	$ 5.85	$5.65	$5.368	$ 6.132	$11.27	$12.88
1976	2.4	6.17	5.33	5.064	6.436	12.15	15.45
1977	2.6	6.68	4.82	4.579	6.921	11.91	17.99
1978	2.8	7.24	4.26	4.047	7.453	11.33	20.87
1979	2.7	7.85	3.65	3.468	8.032	9.36	21.69
1980	3.0	8.50	3.00	2.850	8.650	8.55	25.95
1981	2.5	9.21	2.29	2.176	9.324	5.44	23.31
1982	2.1	9.98	1.52	1.444	10.056	3.03	21.12
1983	1.6	10.81	0.69	0.656	10.844	1.05	17.35
1984	1.1	11.46	0.04	0.038	11.462	0.04	12.61
1985	0.7	11.50	-	-	11.50	-	8.05

---Mr. Dingell's Option---

	Total Production	Total Daily Producer Revenue	Average Price Per Bbl	Total Daily Tax Receipts	Average Tax Per Barrel
1975					
Old Oil	3.8	19.95	5.25	-	
Incentive	2.1	12.87	6.13	11.28	5.37
New/Strip	2.4	21.17	8.82	6.43	2.68
Tertiary	0.1	1.15	11.50	-	-
	8.4	55.14	6.56	17.71	2.11
1976					
Old Oil	2.9	15.23	5.25	-	
Incentive	2.4	15.46	6.44	12.14	5.06
New/Strip	2.7	32.45	9.27	6.02	2.23
Tertiary	0.2	2.30	11.50	-	-
Total	8.2	58.02	7.08	18.16	2.21
1977					
Old Oil	2.0	10.50	5.25	-	
Incentive	2.6	17.99	6.92	11.91	4.58
New/Strip	3.2	31.74	9.92	5.06	1.58
Tertiary	0.3	3.45	11.50	-	-
Total	8.1	63.68	7.86	16.97	2.10
1978					
Old Oil	1.3	6.83	5.25	-	
Incentive	2.8	20.86	7.45	11.34	4.05
New/Strip	4.6	48.81	10.61	4.09	0.89
Tertiary	0.4	4.60	11.50	-	-
Total	9.1	81.10	8.91	15.43	1.70
1979					
Old Oil	0.7	3.68	5.25	-	
Incentive	2.7	21.68	8.03	9.37	3.47
New/Strip	5.6	63.62	11.36	0.78	0.14
Tertiary	0.6	6.90	11.50	-	-
Total	9.6	95.88	9.99	10.15	1.06

MR. DINGELL'S OPTION
NEW, STRIPPER AND ALASKAN OIL
BEFORE PLOWBACK
(per day basis)

Year	Quantity (MM B/D)	Tax Base	Tax Ref.	Tax @.95 of Tax. Ref.	Per BBL Revenue to Producer	Total Daily Tax ($MM/D)	Total Daily Producer Revenue ($MM/D)
1975	2.4	$ 7.63	$3.87	$3.677	$ 7.823	$ 8.82	$18.78
1976	2.7	8.10	3.40	3.230	8.270	8.72	22.33
1977	3.2	8.78	2.72	2.584	8.916	8.27	28.53
1978	4.6	9.51	1.99	1.891	9.609	8.70	44.20
1979	5.6	10.30	1.20	1.140	10.360	6.38	58.02
1980	6.3	11.16	0.34	0.323	11.177	2.03	70.42
1981	7.1	11.50	-	-	11.50	-	81.65
1982	7.7	11.50	-	-	11.50	-	88.55
1983	8.6	11.50	-	-	11.50	-	98.90
1984	9.5	11 50	-	-	11.50	-	109.25
1985	10.1	11.50	-	-	11.50	-	116.15

---Mr. Dingell's Option con't---

	Total Production	Total Daily Producer Revenue	Average Price Per Bbl	Total Daily Tax Receipts	Average Tax Per Barrel
1980					
New, Strip & Ter	7.0	80.50	11.50		
Incentive	3.0	25.95	8.65	8.55	2.85
Total	10.0	106.45	10.64	8.55	.86
1981					
New, Strip & Ter	7.9	90.85	11.50		
Incentive	2.5	23.30	9.32	5.45	2.18
Total	10.4	114.15	10.98	5.45	.52
1982					
New, Strip & Ter	8.7	100.05	11.50		
Incentive	2.1	21.13	10.06	3.02	1.44
Total	10.8	121.18	11.22	3.02	.28
1983					
New, Strip & Ter	9.8	112.70	11.50		
Incentive	1.6	17.34	10.84	1.06	.66
Total	11.4	130.04	11.41	1.06	.09
1984					
New, Strip & Ter	10.8	124.20	11.50		
Incentive	1.1	12.61	11.46	.04	.04
Total	11.9	136.81	11.50	.04	.01
1975					
New, Strip & Ter	11.7	134.55	11.50		
Incentive	0.7	8.05	11.50		
Total	12.4	142.60	11.50		

MR. ECKHARDT'S AMENDMENT REVISED

Year	Total Production	Old Oil	New Incentive and Stripper	Alaska and Tertiary	WTD $\bar{X}$ Price Per BBL
1975	8.4	3.9	4.2	0.3	$6.50
1976	8.2	2.9	4.9	0.4	6.75
1977	7.9	1.9	5.5	0.5	7.00
1978	8.8	1.1	6.3	1.8	7.75
1979	9.0	0.5	6.5	2.0	7.75
1980	9.2	-	7.0	2.2	8.35
1981	9.5	-	7.1	2.4	8.95
1982	9.8	-	7.2	2.6	9.65
1983	10.4	-	7.6	2.8	10.50
1984	10.9	-	7.9	3.0	11.35
1985	11.5	-	8.3	3.2	11.95

Average Price

	Old	N/S/Incent.	A/Ter./Hicost
1975	5.25	7.50	8.50
1976	"	7.50	8.50
1977	"	7.50	8.50
1978	"	7.50	8.50
1979	"	7.69	8.50
1980	"	8.29	8.50
1981	"	9.00	8.78
1982	"	9.73	9.49
1983	"	10.56	10.29
1984	"	11.43	11.13
1985	"	12.00	11.91

-Mr. Eckhardt's Amendment-
Revised

Year	(MM B/D) Demand	-Supply- Domestic	(MM B/D) Foreign	Wtd X Domestic Price Per Bbl	Wtd X All Per Bbl	Dollar Outflow ($MM/Day)
1975	15.1	8.4	6.7	$6.50	$8.95	$80.4
1976	15.3	8.2	7.1	6.75	9.20	85.2
1977	15.6	7.9	7.7	7.00	9.45	92.4
1978	15.8	8.8	7.0	7.75	9.65	84.0
1979	16.0	9.0	7.0	7.75	9.60	84.0
1980	16.1	9.2	6.9	8.35	9.90	82.8
1981	16.3	9.5	6.8	8.95	10.20	81.6
1982	16.4	9.8	6.6	9.65	10.60	79.2
1983	16.5	10.4	6.1	10.50	11.05	73.2
1984	16.6	10.9	5.7	11.35	11.55	68.4
1985	16.8	11.5	5.3	11.95	11.95	63.6

REVISED ECKHARDT

	A	B	C	D	E	F	G	H
	(MM B/D)	(MM B/D)	(MM B/D)	($MM/D)	($MM/D)	($MM/D)	($MM/D)	($MM/D)
1976	15.3	8.2	7.1	55.4	44.3	85.2	140.6	129.5
1977	15.6	7.9	7.7	55.3	44.2	92.4	147.7	136.6
1978	15.8	8.8	7.0	68.2	54.6	84.0	152.2	138.6
1979	16.0	9.0	6.9	69.8	55.8	84.0	153.8	139.8
1980	16.1	9.2	6.7	76.8	61.5	82.8	159.6	144.3
1981	16.3	9.5	6.7	85.0	68.0	81.6	166.6	149.6
1982	16.4	9.8	6.4	94.6	75.7	79.2	173.8	154.9
1983	16.5	10.4	6.1	109.2	87.4	73.2	182.4	160.6
1984	16.6	10.9	5.7	123.7	99.0	68.4	192.1	167.4
1985	16.8	11.5	5.3	137.4	109.9	63.6	201.0	173.5

A: Total Demand Less NGLs
B: Domestic Production
C: Foreign/Crude/Product
D: Sale Cost of Domestic Production
E: Effective Cost of Domestic Production
F: Cost of Imported Oil
G: Total Sale Cost of Petroleum.
H: Total Effective Cost of Petroleum

Amendment Offered by Mr. Krueger

On page 41 remove brackets on lines 4 and 9 and strike lines 10 through line 15 on page 42.

On page 43 strike lines 22 through 24; on page 44 strike lines 1 through line 2 on page 45 redesignate "(e)" on page 45 as "(g)" and insert in lieu the following:

(b) Except as provided in subsections (c) and (d), no price ceiling shall apply to any first sale by a producer of domestic crude oil from a property.

(c) No producer may charge a price in the case of sales from a property in a month in volume amounts equal to or less than the production volume subject to price ceiling which is higher than the sum of (A) the highest posted price at 6 ante meridian, local time, May 15, 1973, for that grade of crude oil at that field, or if there was no posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality posted at the nearest field for which prices were posted at such time and date; and (B) a maximum of $1.35 per barrel;

(d)(1) The provisions of subsections (a), (b) and (c) of section 8 shall not take effect unless the President finds that there is in effect (A) an inflation minimization tax consonant with the purposes of this section applicable to sales from a property, from which domestic crude oil was produced and sold in one or more of the months of May through December, 1972, in volume amounts greater than the production volume subject to ceiling price under subsection (C), but less than the base period control volume and (B) a production maximization tax consonant with the purposes of this section applicable to sales of domestic crude oil from any stripper well lease or from a property from which domestic crude oil was not produced and sold in one or more of the months of May through December 1972.

(2) For the purposes of this section, the term --

(A) "inflation minimization tax consonant with the purposes of this section" means a tax which

couples a redistribution of tax receipts mechanism with an excise tax applicable to sales from a property (other than a property certified by the President as having made application of bona fide tertiary recovery techniques) in volume subject to price ceiling under subsection (C) but less than the base period control volume, equal to: (i) in the first month which follows the date of enactment of this section, 90 percentum of the difference between the average sales price per barrel of such domestic crude oil and $5.75 per barrel; and (ii) in each successive month thereafter, 90 percentum of the difference between the average price per barrel of sales of such domestic crude oil in such month and $5.75 adjusted by adding an inflation adjustment factor; provided that provision may be made to take into account increases in State severance taxes and to assure that such tax shall not exceed 75 percentum of the net income attributed to a barrel of oil which is subject to tax determined by taking the net income from the property as calculated under the Internal Revenue Code of 1954 computed without allowance for depletion and intangible drilling costs divided by the number of barrels produced from such property which are subject to the inflation minimization tax;

(B) "production maximization tax consonant with the purposes of this section" means a tax which couples a redistribution of tax receipts mechanism with an excise tax applicable to sales from any stripper well lease or from a property from which domestic crude oil was not produced and sold in one or more of the months of May through December 1972 (other than a lease or property certified by the President as having made application of bona fide tertiary recovery techniques) equal to: (i) in the first month which follows the date of enactment of this section, 90 percentum of the difference between the average sales price per barrel of such domestic crude oil in that month and $7.50 per barrel; and, (ii) in each successive month thereafter, 90 percentum of the difference between the average sales price per barrel in such month and $7.50 adjusted by adding an inflation adjustment factor except that an allowance as a credit against such tax, which credit may be applied to the full amount of such tax, shall be allowed for a qualified investment, and provided

further that provision may be made to take into account increases in State severance taxes and to assure that such tax shall not exceed 75 percentum of the net income attributed to a barrel of oil which is subject to tax determined by taking the net income from the property as calculated under the Internal Revenue Code of 1954 computed without allowance for depletion and intangible drilling costs divided by the number of barrels produced from such property which are subject to the inflation minimization tax;

(C) "inflation adjustment factor" means an amount equal to one-half of one percentum, in the base amount of $5.75 in the case of the inflation minimization tax and $7.50 in the case of the production minimization tax, compounded, for each month occurring between the first month which begins after the date of enactment of this section and the current month of production and rounded to the nearest whole cent;

(D) "redistribution of tax receipts mechanism" means a mechanism which distributes in full amount the tax receipts resulting from the inflation minimization tax and the production maximazation tax making use of appropriate devices for the purpose of offsetting increases in energy related costs which devices shall distribute (i) two-thirds of such receipts to low and middle income taxpayers and adult low income non taxpayers (other than a person who is a claimed dependent of a taxpayer) in a manner weighted in favor of the lower income members of such group of taxpayers and non-taxpayers; (ii) one-half of such remaining one-third of tax receipts to States and local government and (iii) the remainder to corporate taxpayers (other than corporate taxpayers which are required to pay inflation minimization taxes). Such distribution may be accomplished through means which include disbursals, refundable tax credits, permanent reductions in tax liability and adjustments to withholding except that, to the maximum extent practicable, benefits from distributions shall be available on a reasonably current basis within the taxable year;

(E) "qualified investment" means for any taxable period the amount paid or incurred by such producer during such taxable period (with respect to areas within the United States or a possession of the United States) for--

(i) intangible drilling and development costs, or geological and geophysical costs, described in section 263 (c) of the Internal Revenue Code of 1954 (as in effect for taxable years beginning after December 31, 1974),

(ii) the construction, reconstruction, erection, or acquisition of the following items but only if the original use of such items begins with such producer:

(a) depreciable assets used for --

(1) the exploration for or the development or production of oil or gas (including development or production from oil shale),

(2) converting oil shale, coal, or liquid hydrocarbons into oil or gas, or

(3) refining oil or gas (but not beyond the primary product stage),

(b) pipeline for gathering or transmitting oil or gas, and facilities (such as pumping stations) directly related to the use of such pipelines,

(iii) secondary or tertiary recovery of oil or gas, or

(iv) the acquisition of oil and gas leases (other than off-shore oil and gas leases), but the aggregate amount which may be taken into account under this clause for any taxable period shall not exceed one-third of the aggregate of the amounts which may be taken into account by the taxpayer under subclauses (i), (ii), and (iii) for such period; and

(F) "tertiary recovery techniques" means techniques which employ fluid, heat or insert gas injection methods

including miscible fluid displacement, microemulsion flooding, in situ combustion, cyclic steam injection, steam flooding, carbon dioxide injection, polymer flooding, caustic injection, and other chemical flooding designed to produce production in excess of that attributable to natural or artifically induced water or natural gas displacement.

(e) Notwithstanding any other provision of this section, no price ceiling shall apply to any first sale by a producer of any domestic crude oil produced from a property which the President, on a property by property basis, upon petition or upon his own motion, certifies as having made bona fide application of tertiary recovery techniques which application the President determines has or will significantly enhance production from such property"

(f) The President shall conduct a continuous study and analysis of, and report to the Congress by December 31, 1975, and thereafter by December 31 of each successive year for a period of the next four successive years on, the effect of such price ceilings and taxes on (1) economic conditions (2) production of domestic crude oil and other energy sources, (3) demand for crude oil and refined petroleum products and other energy sources (4) imports of crude oil, residual fuel oil, refined petroleum products and other energy sources (including the effect on balance of payments of such imports), and (5) economic efficiency. The President shall include in any such report his views and recommendations respecting the continuation, with or without modification, of the provisions of any such price ceiling or tax.

- ORIGINAL ECKHARDT -

AMENDMENT OFFERED BY MR. ECKHARDT

On page 41 remove brackets on lines 4 and 9 and strike lines 10 through line 15 on page 42.

On page 44 strike lines 1 through line 2 on page 45 and insert the following new paragraphs redesignating subsection "(e)" on line 3 of page 45 as "(d)":

(c) The ceiling price for the first sale of a particular grade of domestic crude oil shall be --

(1) in the case of sales from a property in a month in volume amounts equal to or less than the production volume subject to ceiling price,

(A) the sum of (i) the highest posted price at 6 ante meridian, local time, May 15, 1973, for that grade of crude oil at that field, or if there was no posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality posted at the nearest field for which prices were posted at such time and date; and (ii) a maximum of $1.35 per barrel; or

(B) in the case of such sales from a property which the President, upon petition certifies on a property by property basis,

(i) as having made bona fide application of tertiary recovery techniques and

(ii) that such application has or will significantly enhance production from such property;

such higher price as the President may, by rule, establish for such property, based upon a determination that such higher price is reasonable and justified in relation to the increased costs

associated with such recovery techniques and taking into consideration any enhanced recovery which has or will result from such techniques, but in no case may such higher price exceed an average of $8.50 per barrel for sales from such properties;

(2) in the case of sales from a property, from which domestic crude oil was produced and sold in one or more of the months of May through December, 1972, in a month in volume amounts greater than the production volume subject to ceiling price and justified in relation to the increased costs associated with such recovery techniques and taking into consideration any enhanced recovery which has or will result from such techniques, but in no case may such higher price exceed an average of $8.50 per barrel for sales from such properties;

(3) effective in the first month after the 60-day period beginning on the date of enactment of this subsection in the case of sales from any stripper well lease or in the case of sales from a property from which domestic crude oil was not produced and sold in one or more of the months of May through December 1972 --

(A) the remainder of (i) the highest posted price at 6 ante meridian, local time, January 31, 1975, for that grade of crude oil at that field (excluding any field price applicable to "old crude petroleum" under 10 CFR 212.73 as in effect on January 31, 1975), or if there was no such posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality at the nearest field for which prices were posted at such time and date (excluding any field price applicable to "old crude petroleum" under 10 CFR 212.73 as in effect on January 31, 1975); less (ii) $3.82 per barrel;

(B) in the case of such sales from a property (i) located above the Arctic Circle or (ii) located in the Outer Continental Shelf, such higher price as the President may, upon his own motion or upon petition, establish for such property, by rule, based upon a

determination that such higher price is reasonable and justified by disparities in the kind and quality of crude oil produced or the costs of production (including costs associated with enhanced recovery techniques) from such property, but in no case may such price exceed an average of $8.50 per barrel for sales from such properties; or

(C) in the case of such sales from a property which the President, upon petition certifies on a property by property basis,

(i) as having made bona fide application of tertiary recovery techniques; and

(ii) that such application has or will significantly enhance production from such property;

such higher price as the President may, by rule, establish for such property, based upon a determination that such higher price is reasonable and justified in relation to the increased costs associated with such recovery techniques and taking into consideration any enhanced recovery which has or will result from such techniques, but in no case may such higher price exceed an average of $8.50 per barrel for sales from such properties.

On page 45 after line 5 add the following new paragraph:

(e) (1) Subsection (e) of section 4 of the Emergency Petroleum Allocation Act of 1973 is amended --

(A) by striking out "(1)" after "(e)"; and

(B) by striking out paragraph (2) of such subsection.

(2) Section 406 of "An Act to amend section 28 of the Mineral Leasing Act of 1920, and to authorize a trans-Alaska oil pipeline, and for other purposes," approved November 16, 1973 (Public Law 93-153), is appealed.

(b) No producer may charge a price which is higher than the ceiling price established under subsection (c) for the first sale of domestic crude oil.

(c) Except as provided in paragraph (4), the ceiling price for the first sale of a particular grade of domestic crude oil shall be --

(1) in the case of sales from a property in a month in volume amounts equal to or less than the production volume subject to ceiling price, the sum of (A) the highest posted price at 6 ante meridian, local time, May 15, 1973, for that grade of crude oil at that field, or if there was no posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality posted at the nearest field for which prices were posted at such time and date; and (B) a maximum of $1.35 per barrel;

(2) in the case of sales from a property, from which domestic crude oil was produced and sold in one or more of the months of May through December, 1972, in a month in volume amounts greater than the production volume subject to ceiling price but less than the base period control volume, the sum of (A) the highest posted price at 6 ante meridian, local time, May 15, 1973, for that grade of crude oil at that field, or if there was no posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality posted at the nearest field for which prices were posted at such time and date; and (B) $3.60 per barrel, plus an inflation adjustment factor;

(3) effective in the first month after the 60-day period which begins on the date of enactment of this subsection, in the case of sales from any stripper well lease or in the case of sales from a property from which domestic crude oil was not produced and sold in one or more of the months of May through December 1972, or in the case of sales in volume amounts in excess of the base period control volume from a property from which domestic crude oil was produced in one or more of the months of May through December 1972 --

(A) the sum of --

(i) the remainder of (a) the highest posted price at 6 ante meridian, local time, January 31, 1975, for that grade of crude oil at that field (excluding any field price applicable to "old crude petroleum" under 10 CFR 212.73 as in effect on January 31, 1975), or if there was no such posted price for that grade of crude oil at that field, the related price for that grade of crude oil which is most similar in kind and quality at the nearest field for which prices were posted at such time and date (excluding any field price applicable to "old crude petroleum" under 10 CFR 212.73 as in effect on January 31, 1975); less (b) $3.82 per barrel; and

(ii) an inflation adjustment factor; or

(B) in the case of such sales from a property (i) located above the Arctic Circle or (ii) located in the Outer Continental Shelf, such higher price as the President may, upon his own motion or upon petition, establish for such property, by rule, based upon a determination that such higher price is reasonable and justified by disparities in the kind and quality of crude oil produced or the cost of production (including costs associated with enhanced recovery techniques) from such property, but in no case may such price exceed an average of $8.50 per barrel plus an inflation adjustment factor for sales from such properties; or

(C) in the case of such sales from a property classified by the President, on a property-by-property basis, as a "high cost property", such higher price as the President may, by rule, establish for such property based upon a determination that such higher price is reasonable and justified by the costs of production from such property, geological formations involved, the depth of the well, and the types of recovery techniques involved but in no case may such price exceed an average of $8.50 per barrel, plus an inflation adjustment factor, for sales from such properties. The classification of a property as a "high cost property" for purposes of this subparagraph, shall be made pursuant to procedures

which shall be incorporated in a rule promulgated by the President which takes effect in accordance with the provisions specified in section 751 of the Energy Conservation and Oil Policy Act of 1975.

(4) (A) in the case of such sales from a property which the President, upon petition certifies on a property-by-property basis,

(i) as having made bona fide application of tertiary recovery techniques and

(ii) that such application has or will significantly enhance production from such property;

such higher price as the President may, by rule, establish for such property, based upon a determination that such higher price is reasonable and justified in relation to the increased costs associated with such recovery techniques and taking into consideration any enhanced recovery which has or will result from such techniques, but in no case may such higher price exceed an average of $8.50 per barrel, plus an inflation adjustment factor, for sales from such properties;

(B) the term "tertiary recovery techniques" means techniques which employ fluid, heat, or inert gas injection methods including miscible fluid displacement, microemulsion flooding, in situ combustion, cyclic steam injection, steam flooding, carbon dioxide injection, polymer flooding, caustic injection, and other chemical flooding designed to produce production in excess of that attributable to natural or artificially induced water or natural gas displacement.

(d) For the purpose of subsection (c), the inflation adjustment factor shall equal --

(1) in the case of paragraph (c)(2) and subparagraph (c)(3)(A),--

(A) during the forty-five month period after the date of enactment of this section, zero; and

(B) thereafter, (i) in the case of paragraph (c)(2), two-thirds of one per centum (rounded to

the nearest whole cent) of the ceiling price established by paragraph (c)(2), without addition of an inflation adjustment factor, compounded, for each month occurring between the date of enactment of this section and the current month of crude production; and (ii) in the case of subparagraph (c)(3)(A), two-thirds of one per centum (rounded to the nearest whole cent), of the ceiling price established by subparagraph (c)(3)(A), without addition of an inflation adjustment factor, compounded, for each month occurring between the date of enactment of this section and the current month of crude production.

(2) in the case of subparagraphs (c)(3)(B) and (c)(3)(C), and paragraph (c)(4), --

(A) during the sixty-four month period commencing with the first full month after the date of enactment of this section, zero; and

(B) thereafter, two-thirds of one percentum, (rounded to the nearest whole cent), of the respective ceiling price established pursuant to subparagraphs (c)(3)(B) or (c)(3)(C), or paragraph (c)(4), without addition of an inflation factor, compounded, for each month occurring between the sixty-fourth month after the date of enactment of this section and the current month of production.

(e) Notwithstanding any other provision of law the ceiling price for the sale of crude oil and petroleum condensates, including natrual gas liquids, produced from any lease, of which the average daily production of such substances during the preceding calendar month or year did not exceed ten barrels per well, shall be set by the provisions of this section.

(f) This section shall take effect on the first day of the first full month following the date of enactment of this section.

H

94th Congress
1st Session

COMMITTEE PRINT

MAJOR EFFECTS OF DECONTROL OF DOMESTIC OIL PRICES

Compiled for the Use of the

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

U.S. HOUSE OF REPRESENTATIVES

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CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
SUBCOMMITTEE ON ENERGY AND POWER,
Washington, D.C., July 1, 1975.

Memorandum

Re: Impact of expiration of authorities under Emergency Petroleum Allocation Act.

To: Members, Committee on Interstate and Foreign Commerce.

From: John D. Dingell, Chairman, Subcommittee on Energy and Power.

By its present terms, the Emergency Petroleum Allocation Act of 1973 is due to expire at midnight, August 31, 1975, 62 days from today. That Act provides the only authority in the hands of the government to control the price of domestic crude oil.

Unless that Act is extended, it is reasonable to assume that the price of domestic crude oil will begin to rise on September 1. How far it will rise is necessarily uncertain but I see no valid reason to doubt that it will rapidly approach the world price of crude oil, which today is in the neighborhood of $12.00 per barrel.

Nor is the world price likely to remain at present levels for very much longer. It is generally accepted today that OPEC nations are going to raise the cartel price of crude oil by at least $2 a barrel, and that this price may go to $1, without taking any account of the price increases occurring as a result of an OPEC shift to World Bank SDR's. To this must be added the $2-3 tariff added by the President, under the authority of the Trade Expansion Act.

Under these circumstances, it seems likely that the U.S. economy would be suddenly and severely impacted by sudden decontrol of domestic oil prices. Several studies have been done on this subject, using a variety of assumptions. Most of the FEA studies thus far, and perhaps all of them, assume that there is virtually no linkage between oil prices and other energy prices: principally coal and natural gas. I have real doubts as to the validity of this assumption and recent history appears to substantiate these doubts.

Another direct effect that would surface following the loss of our ability to control domestic crude oil prices would be a more or less substantial increase in the costs of electric power.

I have asked the staff of the Subcommittee to analyze the possible effects of this loss of ability to set a ceiling price on domestic oil prices. They have done so, using the macroeconomic model developed by Chase Econometrics, Inc., and doublechecking their answers against the Wharton model.

A summary table of the results of this analysis is attached, for your information.

These studies confirm my apprehensions. Two alternatives were suggested, to test the response of the system, both of which appear to be relevant to the situation which would confront this country, in the event of loss of control authority on September 1, 1975.

The "Base Case," outlined in the left column, assumes continuation of existing authority under the Emergency Petroleum Allocation Act, plus continuation of the pre-June $1 tariff on imported oil.

"Case 2" assumes a $1 tariff increase on June 1, 1975, another $1 tariff increase on September 1, 1975, and decontrol of old oil on September 1.

"Case 3" assumes the same events as "Case 2," and in addition incorporates the effect of an OPEC-instituted increase of $4 per barrel.

The figures speak for themselves. You will note that both alternatives produce a drop in real GNP, a price rise in virtually every category, a rise in the Consumer Price Index, the Wholesale Price Index, and the rate of unemployment. Analysis also suggests that major oil price increases of the scale described here will operate to retard economic recovery by as much as a full year.

How these figures would relate to your own constituents, and to business and industry who may be damaged by the significant increase in wholesale prices within your own district, you can best judge yourselves. I am persuaded that these figures point to enormous problems for the U.S. economy in general, and that they illustrate how critical it is that the legislative authorities be extended for sufficient time to enable the House to deal with these complex questions in detail, as is proposed to be done under H.R. 4035.

I urge you to give these figures your careful analysis and consideration, and to take those steps which may appear proper in order to call to public attention the importance and urgency of the questions which may attend upon a Presidential veto of H.R. 4035, and on the effects of Congress failure to override such a veto.

SUMMARY OF MAJOR EFFECTS OF DECONTROL OF OIL PRICES

A turnaround has been generally hoped for and predicted in the U.S. economy during the next half year. The projections of recovery, however, have taken little or no account of two events which could produce major impacts upon domestic energy prices, and thus on the entire economy:

1. The possibility of immediate, rather than phased, decontrol of domestic "old oil". (Such immediate decontrol could result from the expiration of the Emergency Petroleum Allocation Act on September 1, 1975, if that Act is not extended or substitute controls enacted.)

2. An increase in OPEC crude oil prices in October.

Individually, either of these events would have a significantly negative influence on our economy. Jointly, they appear capable of simultaneously retiring inflation and seriously reenforcing existing recessionary forces on our economy.

In a conservative approach, the staff of the Subcommittee on Energy and Power has analyzed the potential impacts of these events through the use of economic forecasting models. Major reliance was placed on the Chase Econometric Model and its forecast was validated against the Wharton/DCS Model. The analysis assumed the continuance of current controls plus the February 1975 $1 tariff on imported crude oil as a "base" case, and compares this to other scenarios.

Should immediate decontrol of domestic "old oil" occur, additional tariffs, aggregating $3/bbl, be levied on imports and a 15% ($4.00) increase in OPEC crude prices be imposed, the studies indicate the following effects:

1. Unemployment - an increase of about a half a million by the end of 1976.

2. Inflation - an increase in the rate of inflation, most significantly felt in the wholesale price index which is 12.8% above the "base" case at the end of 1976, but continues to grow through the temporal limit of the model to over 18% in the third quarter of 1977.

3. Housing and Automobiles. The negative impact on domestic new car sales is at its maximum during the second and third quarters of 1976, where sales are down over 10%. The negative impact on housing starts continuously unfavorable, shows an increasingly unfavorable variance from the "base" case from the fourth quarter of 1976, where it is down 7.3%, to the third quarter of 1977, where it is down 10.8%.

For a graphic display of these impacts, the attached charts compare this not unreasonable projection against the previously described "base case."

There is apparently little that can be done unilaterally within this country to deflect the OPEC nations from their announced intentions to raise the price of oil. The other variable, continuation of price controls, is more tractable to national action, if its implications are clearly understood.

If the authorities contained in the Emergency Petroleum Allocation Act of 1973 are extended, as legislation presently before a House Senate conference would provide, there will be no sudden decontrol of the type indicated in the study. The period of extension would give the Congress and the President the time necessary to develop a workable and rational national energy policy. There are, however, rumors to the effect that the President may veto this legislation, in an effort to force the Congress to adopt the White House program in its entirety. Termed "political hard ball" by some this strategy promises to create a situation in which only the OPEC nations and the oil companies will profit.

TABLE I

STATE OF THE ECONOMY AS OF 1/77 UNDER THE FOLLOWING THREE SCENARIOS

	BASE CASE Continued controls, $1 tariff	CASE 2 Decontrol of old oil on 9/75 tariff increases on 6/75 and 9/75	% change	CASE 3 Case 2 plus $4.00 OPEC increase on 10/75	% change
GNP in 58 $'s (millions)	599.8	595.6	-1.2	835.7	-2.8
Consumption expenditures ($Billions)	361.4	357.7	-0.7	342.3	-1.6
Net Exports ($ Billions)	12.6	11.5	-8.8	9.1	-27.8
Housing Starts (Units in millions)	1.66	1.60	-3.6	1.54	-7.3
Domestic Car Sales (Units in millions)	8.66	8.33	-3.8	7.9	-8.7
Prices					
Consumer price index, all	178.3	179.2	0.5	180.6	1.3
Consumer price index, electricity	186.5	189.0	1.3	170.9	2.6
Consumer price index, gas & oil	153.9	157.0	8.0	188.2	19.8
Wholesale price index, all	177.6	189.8	6.9*	200.4	12.8*
Wholesale price index, refined petroleum products	[illegible]	[illegible]	17.0	323.6	22.1
Employment					
Unemployment rate	7.52	7.72	2.7	8.02	6.6
Number unemployed (millions)	7.23	7.42	2.6	7.76	6.5

* The incremental impact on the wholesale price index continues to rise under both scenarios until the third quarter of the model (third quarter 1977)

The staff of the Subcommittee on Energy and Power has attempted to analyze the potential impacts on the U.S. economy of expiration of authorities contained in the Emergency Petroleum Allocation Act of 1973. The Act, which contains the only legal authority to control the price of domestic crude oil, will expire at midnight, August 31, 1975, unless it is extended by law.

If that Act is not extended, the price of domestic crude will begin to rise on September 1. Crude oil production from a property at or below 1972 levels, "old oil", other than stripper or released, is now controlled at a price of $5.25 per barrel. The May 1975 Energy Review (FEA) reports that the average refiner acquisition cost of crude consumed in the U.S. was about $10.00 in February, whereas the world wellhead price was approximately $11.50. Should old oil be deregulated, domestic prices will tend to rise to world market prices. Imposition of one or more dollars in tariffs will also raise the market clearing price accordingly. It is not at all clear how far prices will rise, but the magnitude and potential impact of the President's proposed decontrol program, coupled with a $2-$3 tariff, prompted the staff's analysis.

Against a "Base Case" incorporating continued regulation of old oil and a tariff ceiling at the pre-June level of $1/Bbl (the maximum permitted under the Ways and Means bill as passed in the House) we have tested two alternatives. "Case 2" examines the effect of a domestic policy to decontrol the price of old oil on September 1, to continue the second $1 import tariff imposed on June 1, and to add a third dollar tariff on September 1. "Case 3" assumes the same events as "Case 2" and in addition incorporates an OPEC instituted increase of $4 per barrel for imported crude oil. The Chase Econometrics macroeconomic model was the focus for our investigations, but those results were checked against equivalent simulations performed on the Wharton/BCS model.

Case 2: Decontrol of old oil and a $2 tariff increase

Relative to current $11.50 price of imported crude, a $1 additional tariff corresponds to a 9% increase. Because uncontrolled domestic production (New oil, stripper, and released) is one-third of total domestic production, a $1 tariff creates an overall 3% domestic crude price increase. Using a weighted average of imported and domestic (controlled and uncontrolled) oil consumption, each dollar of import price increase causes the average price of crude to rise by about 5%.

Old oil, if decontrolled in the face of a $2 tariff increase, will increase approximately $8.00/Bbl ($5.25 to $13.50) in price. About 40% of our crude oil consumption now comes from old oil. The composite price of crude oil consumption will therefore increase by about $3.20/Bbl, an increase of 32% over the current $10.00 composite.

The effect of the $2 tariff/decontrol program would be to phase the composite price of crude oil from $10.00 to $13.50 between June and October, 1975. Input/output analysis performed by staff at the Commerce Department indicates half of the current cost in petroleum refining is attributable to the price of crude, and this cost component necessarily increases as crude costs rise. Accordingly, we estimate that the 35% composite crude price increase in "Case 2" will result in an approximate 17.5% direct increase in the wholesale price index for refined petroleum products. The Chase model contains explicit price indices for (1) the price of petroleum imports and (2) the price of refined petroleum imports and (3) the price of domestically refined petroleum products. Model alterations to incorporate the foreign and composite price changes described above are straightforward.

Natural Gas and Coal

A reported weakness of several previous attempts to model the macroeconomic effects of oil price increases lies in their inadequate treatment of

cross-elasticities between oil and other oil substitutes. The staff analysis attempts to account for the cross-impact of oil price increases on natural gas and coal. Figures compiled by the Congressional Research Service indicate that unregulated natural gas prices will tend to increase $ .17/MCF for each dollar increase in crude oil. A $ .17 increase is the BTU parity price increment associated with a oil fuel increment. Intra-state sales of natural gas, which are unregulated, are about half of all domestic gas production. About 30% of intra-state sales are in long-term contracts, so only 35% of total gas production is free to move toward parity. The average price increase for all natural gas will be (.35)($3.50)(.17), or $0.21. This represents a 29% increase over the current composite price of $.72/MCF and brings the price to $.93/MCF. A 29% increase in natural gas prices is estimated by Chase Econometrics to cause slightly more than a 1% increase in energy-related elements of the composite wholesale price index. These elements, which are endogenous in the Chase model, would therefore be multiplied by 1.01 per quarter to reflect the direct cost impacts of natural gas prices.

Coal prices are assumed to rise by roughly $4/ton per dollar of crude price. This again reflects a price trend toward BTU parity with oil. A $3.50/Bbl oil increase will create pressure for a $14/ton coal increase. About 30% of coal is assumed to be under long term price limiting contracts which will frustrate market clearance. The average price of coal will tend to rise by (.70)($14) or $9.80/ton. Current average coal price is $18/ton, so a $3.50 oil increase creates pressure for a short-term (0-5 year) coal price increase of 54%. Chase Econometrics estimates that a 50% coal price increase produces a 1% increase in energy-related components of the wholesale price index. To represent the combined cross-impacts of a $3.50 crude increase on coal and natural gas prices, the Chase model wholesale price indices were raised by a factor of 1.02.

Price increases in natural gas and coal are assumed to lag crude oil price increases by two quarters. The 1.02 multiplier is phased in gradually beginning in third quarter'75, and reaches its full (1.02) value in first quarter '76. The full set of actual changes to the Chase model are contained in the Technical Appendix.

Case 3: Tariff, deregulation of old oil, plus a $4 increase in OPEC price on October 1, 1975

A $4 OPEC price increase corresponds to a 35% increase over the current import price of $11.50/Bbl. Assuming a free market in which domestic oil producers will be compelled to raise prices toward the total import price (including tariff) of $17.50/Bbl, the effect of the overall scenario described here is a $4.00 increase in the price of both and domestic crude. Rapidly rising oil prices will undoubtedly stimulate new public criticism of the actions of major domestic producers. Independent oil refiners and distributors will further articulate the perceived need to keep domestic oil prices below the world price. We introduce conservative domestic pricing into the model by increasing the wholesale price of domestically consumed petroleum products by only 15% in the face of the $4 OPEC increase. Recall that in the previous case a $3.50/Bbl increase created a 17.5% increase in the wholesale price index of refined petroleum products. Adding the $4.00 OPEC increase to "Case 2" would suggest a further increase in wholesale refined products of over 20%, or an aggregate increase of about 40%. The simulation in "Case 3" contains only a 33% increase over the base run thereby representing domestic oil refiners and distributors affirmative reactions to public urging for price restraints. The assumed 15% wholesale price increase in refined petroleum products would occur if domestic crude prices rise by $3.00 in the face of a world price increase of $4.00.

Foreign crude oil prices in the Chase model are raised an additional 35% over the tariff levels assumed in "Case 2."

Natural gas and coal prices are assumed to rise in the face of a $4.00 OPEC increase by approximately the same amount that they increased due to the $3.50 increase in "Case 2." Components of the wholesale price index were therefore raised an additional 2% over their levels in "Case 2."

Analysis

Table I presents a summary of outcomes. The numbers reflect conditions for the fourth quarter of 1976. Both alternative scenarios produce a drop in all major components of real GNP. Net exports worsen, due primarily to the tariff in Case 2 and the additional OPEC price in Case 3. Prices, especially at the wholesale level, rise substantially by the end of 1976. Presumably, further increases in the consumer price index should be expected beyond 1976 as wholesale prices advance toward final consumption.

Employment conditions are strongly affected. The employment recovery which the Chase model predicts in the base run is substantially delayed and eroded in the face of sharply rising energy costs. Almost 200,000 workers will lose jobs under the $2 tariff and decontrol scenario. Should a further $4 OPEC increase occur, the number of unemployed will rise by 470,000.

The numbers presented in Table I and in the Appendix are not intended as "predictions" of the future state of the economy. No model is capable of anticipating all the changes that will occur during the next few years. Modeling is a new science with profound implications for economic policy makers. But proper use of models involves cautious interpretation and analysis. Models are particularly useful for investigating how a particular policy alternative will affect the economy over and above the performance

that the economy would otherwise experience. Direction and general magnitude of change can often be derived with considerable confidence. For example, while it is difficult to predict the level of unemployment at the end of 1976, we are confident that approximately 500,000 more workers will be out of a job if "Case 3" assumptions prevail instead of those in the "Base Case." Similarly, exact magnitudes of price increases are unclear, but prices will no doubt raise faster if domestic and foreign crude prices rise substantially over their current levels.

While an OPEC price increase is often regarded as completely independent of domestic activity OPEC has continually cited the actions of oil consuming nations as one justification for any price increases they may impose. If the U.S. considers it necessary to impose a $2 or $3 tariff, OPEC sees this as a signal that their own prices are too low. In a sense, "Case 2" and "Case 3" are not independent; decontrol and tariffs will raise rather than lower OPEC incentives for price increases.

These scenarios intentionally represent the extreme limits of tariff and OPEC changes which have been recently proposed. Actual Changes in oil price over the next two years are likely to lie somewhere between "Case 2" and "Case 3." A substantial OPEC price increase will, for example, tend to create pressure for reducing tariff levels. But so long as old oil is decontrolled, "Case 2" serves as an approximate lower bound on the impacts of current oil pricing alternatives.

TECHNICAL APPENDIX

The following charges were made to the Chase Econometrics quarterly model to obtain the "Base case," "Case 1," and "Case 2."

KEY:

PIMOL -- Price index of imported petroleum (exogenous)

IMOLZ -- Imports of petroleum products in constant dollars (exogenous)

WPI29 -- Wholesale price index of refined petroleum products (exogenous)

WPIPFF -- Wholesale price index of food (endogenous)

WPI34A -- Wholesale price index of metals and metal products (endogenous)

WPIRES -- Wholesale price index of residuals (endogenous)

BASE CASE:

Changes are to remove assumed oil, gas, and coal price increase in the Chase base quarterly model.

	3:75	4:75	1:76	2:76	3:76	4:76	1:77	2:77	3:77
PIMOL	440	440	440	440	440	440	440	440	440
IMOLZ	30	30	30	30	30	30	30	30	30
WPI29	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6	244.6
	3:75	4:75	1:76	2:76	3:76	4:76	1:77	2:77	3:77
Multipliers on:									
WPIFF	.99	.99	.98	.98	.98	.98	.98	.98	.98
WPI34A	.99	.99	.98	.98	.98	.98	.98	.98	.98
WPIRES	.99	.99	.98	.98	.98	.98	.98	.98	.98

(cont.)

CASE 2:

Changes are to reflect an 18% increase in imported oil price and a 17.5% increase in refined petroleum products.

	3:75	4:75	1:76	2:76	3:76	4:76	1:77	2:77	3:77	4:77
PIMOL	462	484	519.2	519.2	519.2	519.2	519.2	519.2	519.2	519.2
IMOLZ	31.5	33	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
WPI29	256	268	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4
Multipliers on										
WPIPFF	1.01	1.015	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
WPI34A	1.01	1.015	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
WPIRES	1.01	1.015	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02

CASE 3:

Changes are to reflect an overall 53% increase in imported oil price and a 31% increase in refined petroleum products:

	3:75	4:75	1:76	2:76	3:76	1:77	2:77	3:77
PIMOL	462.0	530.0	630	677.6	677.6	677.6	677.6	677.6
IMOLZ	31.5	36.0	42.0	45.0	45.0	45.0	45.0	45.0
WPI29	256.6	277.6	304.6	325.6	325.6	325.6	325.6	325.6
Multipliers								
WPIPFF	1.01	1.02	1.04	1.04	1.04	1.04	1.04	1.04
WPI34A	1.01	1.02	1.04	1.04	1.04	1.04	1.04	1.04
WPIRES	1.01	1.02	1.04	1.04	1.04	1.04	1.04	1.04

Wharton Quarterly Model

Back-up runs were made on the Wharton BCS Quarterly model to check the reasonableness of the preceding analysis. Mr. David Hoff of Wharton BCS prepared the following model changes to reflect the assumptions behind the "Base Case", "Case 2", and "Case 3".

The Wharton runs describe a substantially more severe impact on the economy of the policy options incorporated in "Case 2" and "Case 3". Real GNP, for example, is 5% less than in the "Base Case" when "Case 3" is simulated on the Wharton model. Staff projections based on the Chase Econometrics model were a 2.8 % reduction under "Case 3". Impacts on prices and employment are also more extreme in the Wharton runs.

The following list of model alterations is provided for users of the Wharton model who would like to extend and refine these preliminary analyses.

BASE CASE

Changes are to remove the assumed decontrol of old oil, the second (June) $1 tariff, and the presumed impacts of a $.03 gasoline tax.

ADJU	PDCENG	12.0	197503	197701					
ASSU	TXCRFOIL$	1.5							
INCR	PXMG	-6.3							
INCR	PXMFN	-0.5,	-0.5,	-0.5,	-2.4,	-.24,	-.24,	-.24,	-.24
INCR	PDCENG	-4.4	-1.1,	-1.1,	-14.9,	-6.6,	-6.6,	-6.6,	-6.6
INCR	PDCENO	-1.2,	.3,	.3,	.3,	.3,	.3,	.3,	.3
INCR	PDCESS	-0.4,	0,	0,	0,	0,	0,	0,	0

CASE 2

Decontrol of old oil								
INCR PXMG	0	34.0,	101.6,	101.6,	101.6,	101.6,	101.6,	101.6
INCR PDCENG	0	8.2,	47.3,	12.5,	12.5,	12.5,	12.5,	12.5
INCR PDCENO	0	1.0,	5.2,	1.7,	1.7,	1.7,	1.7,	1.7
INCR PDCESS	0	0.8	3.3,	3.3,	3.3,	3.3,	3.3,	3.3
$2 tariff								
INCR TXCRFOIL$	.5,	2.0,	3.0,	3.0,	3.0,	3.0,	3.0,	3.0
INCR PXMG	2.5,	10.0,	15.4,	15.4,	15.4,	15.4,	15.4,	15.4
INCR PXMFN	0.1,	0.43,	0.64,	0.1,	0.1,	0.1,	0.1,	0.1
INCR PDCENG	1.7,	6.8,	10.2,	3.4,	3.4,	3.4,	3.4,	3.4
INCR PDCENO	0.21,	0.84,	1.25,	0.5,	0.5,	0.5,	0.5,	0.5
INCR PDCESS	0.14,	0.56,	0.87,	0,	0,	0,	0,	0

Wharton Assumptions (continued)

CASE 3

Add to the changes in "Case 2" the following to reflect a 35% increase in OPEC prices:

MULT	PTMEGTCM58	1.35	197504	197701					
INCR	PTMB	14.3	197504	197701					
INCR	PXMG	29.5	197504	197701					
INCR	PDCENO	2.9,	0.84,	0.84,	0.84,	0.84,	0.84	197504	1977(
INCR	PDCESS	2.7,	0,	0,	0,	0,	0	197504	1977(
INCR	PDCENG	29.5,	7.5,	7.5,	7.5,	7.5,	7.5	197504	1977(
INCR	TMGGT3$	7.9	197504	197701					