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THE POLITICAL ECONOMY OF CRUDE OIL PRICE CONTROLS

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INTRODUCTION

Price controls on United States crude oil production and petroleum products are commonly thought of as a unique reaction to the unprecedented increase in the world price of oil associated with the events surrounding the Arab oil embargo. This view is in part true, but it overlooks an important fact: the basic structure of the price controls which are now in force for the U.S. petroleum industry was largely in place and functioning prior to the embargo. The effect of the changes in the price structure of the world oil market, which were being translated into increased U.S. crude oil and oil product prices, was to cause a special set of price controls to be developed and continued for the U.S. petroleum industry.

THE DEVELOPMENT OF CONTROLS

Price controls were imposed on a substantial portion of the U.S. economy during the period August 15, 1971 to April 30, 1974.¹ Until March 6, 1973, the petroleum industry operated under the same general regulations that applied to manufacturing and re-selling industries.² Since this date, the petroleum industry has been subject

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The authors are indebted for conversations with Mark J. Frederiksen. All errors remain their own.

1. For a more detailed description of the administrative development of petroleum price controls, see OFFICE OF ECONOMIC STABILIZATION, U.S. DEPARTMENT OF TREASURY, *History of Petroleum Price Controls*, Historical Working Papers of the Economic Stabilization Program, Part II 1227-1340 (Washington: GPO) (hereafter cited as *History*).

2. The specific phases of the general price controls were:

- Phase I: August 15 to November 12, 1971.
Initial 90 day freeze on wages and prices.
- Phase II: November 12, 1971 to January 10, 1973.
Mandatory cost pass-through controls.
- Phase III: January 11 to June 12, 1973.
General price standards applied on voluntary and self-administered basis.
- Freeze II: June 13 to August 12, 1973.
60 day price freeze.

to special regulations imposed in response to the higher levels of price increases which were occurring in this industry. General price controls on the other sectors of the economy expired on April 30, 1974.

Prior to 1973, petroleum was not viewed as a special inflationary problem. One of the curious, but not surprising, things about the narrative description in *History* is the continued identification of a change in relative prices for a particular industry with the general problem of inflation. For example: "So, as Phase II neared its close at the beginning of 1973 and the administration was preparing to relax inflation controls, the first of a long series of oil price problems was emerging as a major inflationary threat."³ The initial 90 day price freeze (Phase I) limited prices in all sectors of the economy to their August 15, 1971 levels. Under Phase I, gasoline prices were frozen at their seasonal (summer) high, and distillates were frozen at seasonally low prices.

The Phase II regulations allowed for price increases above August 15, 1971 levels only to the extent that they reflected cost increases. In most instances, large companies were required to give the Price Commission advance notice of price increases and to specify cost increase information.⁴ Further, companies were constrained by a profit-margin limitation; the limit being defined as the highest profit rates (as a percent of sales) from two of the last three fiscal years prior to August 15, 1971.

After January 10, 1973, the Phase III program of "General Stan-

Phase IV: August 13, 1973 to April 30, 1974.

Mandatory price regulations re-imposed.

See, *History*, at iii for a more complete chronology. In addition, there was also a special two-week freeze (October 15-31, 1973) for petroleum products which was used for collecting and analyzing comments on proposed rulemaking to amend the Phase IV petroleum regulations. See, *History*, at 1286-1287.

3. *History*, at 1238. See also 1245, 1250, 1261, 1263, 1279, 1281, 1285, 1305, and 1308. World and U.S. oil prices have recently been quite stable in nominal terms and declining in real terms, but the general rate of inflation has accelerated due to overall monetary and fiscal phenomena.

4. Most major oil companies opted for term-limit pricing (TLP) agreements. These limited company price increases to a weighted average of 2 percent per year. The TLP agreements were subject to both cost justification provisions and profit margin limitations. TLP agreements allowed companies to allocate cost increases between product lines so long as the weighted average cost increase was below 2 percent. However, over the course of the year this did not allow petroleum companies enough flexibility to adjust the price of distillates to seasonally higher prices during the 1972-1973 heating season and still remain within the average 2 percent increase. The price controls thus tended to aggravate the heating oil shortage that winter. Independent retailers and wholesalers generally were free from controls after the adoption of the Small Business Exemption on May 6, 1972. Most small crude oil producers were also exempt, though crude prices remained stable throughout 1972.

dards" for price adjustments applied "voluntarily and on a self-administered basis" was substituted for Phase II mandatory price controls. In the face of less restrictive controls, distillate prices increased sharply after the beginning of Phase III. In February, 1973, the Cost of Living Council held public hearings on heating oil price increases. As a result, in March the Council issued Special Rule No. 1 which reimposed mandatory controls on the sale of crude and petroleum products. This rule covered the twenty-four largest petroleum firms.⁵ Under the rule, price increases of more than 1 percent above January 11, 1973 prices had to be cost justified; increases of more than 1.5 percent were subject to profit margin limitations and pre-notification.

In response to the general inflationary pressures during the first half of the year, an economy-wide 60 day price freeze was declared on June 13, 1973. After this second freeze, most sectors of the economy were under general Phase IV price controls. As in Phase III, the petroleum industry was subject to more stringent consideration.

In August and September of 1973, controls were imposed on all segments of the petroleum industry, from wellhead to retail pump price. Basically, refiners and re-sellers could increase prices above base levels only to the extent that they reflected increased crude and purchased product costs on a dollar-for-dollar basis. For refiners, base prices were those of May 15, 1973. Crude oil prices were frozen at their May 15, 1973 prices plus 35 cents per barrel.⁶ The distinction between "old" oil and uncontrolled "new" oil was implemented at this time.

Initially, Phase IV re-sellers and retailer margins were limited to January 10, 1973 levels. This was intended to roll back dealer margins from their higher May, 1973 levels. On September 28, 1973, the dealer margin levels were changed to those in effect on May 15, 1973. The regulations that were in effect just before the October, 1973 Arab oil embargo were designed to limit price increases to a

5. The premise was that since the 24 largest firms accounted for 95 percent of output, their regulation would effectively control the entire industry. This reasoning failed since these companies did not have full penetration at every level of the industry. For example, only 10 percent of retail gasoline stations were direct company operations. This anomaly created a dual market, with most supplies from refiners sold at controlled prices, while most retailers were uncontrolled. From January to June 1973, retail prices of gasoline and distillates (measured by the Consumer Price Index) increased 7.3 percent and 10.6 percent, respectively. For more on Special Rule No. 1 and the dual market, see *History*, at 1242-1250.

6. In December, 1973, in anticipation of the end of the crude oil price controls in 1974, an additional one dollar increment over the May 15, 1973 base price was added to the allowed price for old oil. This adjustment produced the \$5.25 per barrel figure which is now widely regarded as the general ceiling price for old oil. See *History*, at 1308-1310.

dollar-for-dollar pass-through of increased crude and imported product costs.

There has recently been discussion of the relationship between U.S. and world product prices and the effects of decontrol of U.S. crude oil and product prices. This is a question to which we will subsequently return. There is little doubt, however, that the price controllers of the Energy Division of the Cost of Living Council perceived the regulatory apparatus as a device to encourage increased imports. As the architect of the system recounts in *History*: "What finally emerged was a system designed to keep prices in line with costs, while at the same time encouraging greater domestic production and not discouraging importation of necessary additional petroleum supplies;"⁷ or "To encourage the importation of the necessary petroleum products in this country, refiners had to be permitted to recoup the higher costs of these increases by raising their prices for refined products;"⁸ and "The other advantage was that the cost pass-through system allowed purchasers of incremental product to compete in the world market and yet essentially made certain that they would not reap large windfall profits as a consequence."⁹ These 1973 regulations serve as the nucleus of continued petroleum price regulations. They are the basis for the multitier controls on crude oil which are now in effect.¹⁰

Petroleum price controls originated under the more general price control apparatus of the Economic Stabilization Act.¹¹ In addition, on November 27, 1973, Congress passed the Emergency Petroleum Allocation Act of 1973 (EPAA).¹² During December of 1973, petroleum price control and allocation responsibilities were transferred from the Energy Division of the Cost of Living Council to the Federal Energy Office.¹³ The EPAA extended petroleum price regula-

7. See *History*, at 1264.

8. See *History*, at 1292.

9. See *History*, at 1313.

10. The various pricing categories of oil now in force or proposed include old oil (lower tier), new oil (upper tier), stripper oil, Alaskan North Slope oil, Naval Petroleum Reserve oil, enhanced recovery oil and "new new" oil. Stripper oil is oil produced from wells which for technical and economic reasons have been unable to produce more than 10 barrels per day. For a time, there was also a category of released oil which provided special incentives for increased oil production from old oil properties. In the discussion which follows, released oil is not considered. For more on released oil, see, ERICKSON, MILLSAPS, & SPANN, *Forecasting U.S. Crude Oil Supply under Alternative Tax and Regulatory Regimes*, (Proceedings of the Conference on the Economics of Oil and Gas Self-Sufficiency in Canada, University of Calgary, Alberta, Canada) 33-36 (1975); W. MONTGOMERY, *The Transition to Uncontrolled Crude Oil Prices*, Social Science Working Paper No. 186, California Institute of Technology 28-31 (1977); and *History*, at 1265 and 1306.

11. Pub. L. No. 92-210, 85 Stat. 743 (1971).

12. Pub. L. No. 93-159, 87 Stat. 627 (1973).

13. See *History*, at 1318-1320.

tion and allocation authority until August 30, 1975. After repeated efforts to fashion workable allocation procedures, the "entitlements system" was proposed in late 1974 and implemented in early 1975.¹⁴ In December of 1975, the Energy Policy and Conservation Act (EPCA)¹⁵ solidified the system of price and allocation regulations into their approximate present form. The provisions of EPCA provided for controls to be gradually phased out over the period from February, 1976 through May, 1979. In August of 1976, the Energy Conservation and Production Act (ECPA)¹⁶ provided for the decontrol of stripper oil.

AN ECONOMIC RATIONALE FOR MULTITIER CRUDE OIL PRICE CONTROLS

Crude oil price controls are a political phenomenon with a life of their own. But there is an economic rationale for multitier crude oil price controls based upon the concept of regulatory monopsonization of U.S. crude oil producers.¹⁷ If one assumes that the elasticities of supply of crude oil from different categories of production differ, and if one assumes that an element of the objective function which guides U.S. energy policy formulation is to minimize the outlays of U.S. oil consumers (or revenues of U.S. oil producers) for any given volume of U.S. crude oil production,¹⁸ then a stylized representation of a multitiered crude oil price control system for domestic production can be readily constructed.

In Figure 1, only three sources of crude oil are considered: lower tier domestic oil, upper tier domestic oil and imported oil. It is assumed that the elasticity of supply of lower tier (old) domestic oil is lower than that of upper tier (new) domestic oil, which in turn is lower than that of imported oil. For purposes of illustration, it is further assumed that the United States is a price taker in the world

14. For more detail on the history of the entitlements program, see W. Montgomery, A Case Study of the Regulatory Programs of the Federal Energy Administration, Social Science Working Paper No. 147, California Institute of Technology (1977).

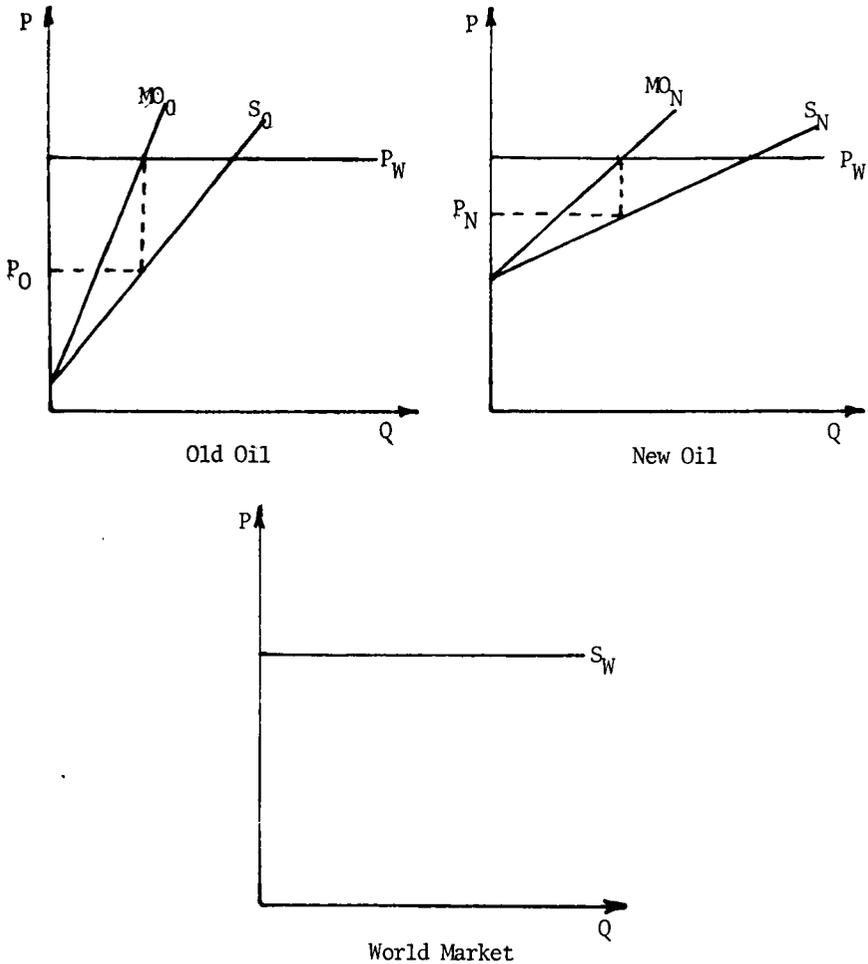
15. 42 U.S.C. §6201 (1975).

16. 42 U.S.C. §6801 (1976).

17. This example follows Mark J. Frederiksen, A Theory of Multi-Tiered Price Regulations and Its Application to Domestic Crude Oil Production (mimeo presented at the Western Economic Association meetings, June, 1978).

18. See *History*, at 1303; MONTGOMERY, No. 186, *supra* note 12, at 33-40; and EXECUTIVE OFFICE OF THE PRESIDENT, ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN (Washington: GPO, 1977). The most succinct statement of this rationale is that of The National Energy Plan: "Deregulation of oil and gas prices would make U.S. producers the beneficiaries of those arbitrary price rises, and yield windfall profits from the increased value of oil and gas in existing fields. The producers have no equitable claim to the enhanced value because it is unrelated to their activities or economic contributions." *Id.* at 50.

FIGURE 1
A MONOPSONY PRICING RATIONALE FOR
DOMESTIC CRUDE OIL PRICE CONTROLS



oil market and faces a perfectly elastic supply of imported oil.¹⁹ Under these conditions, the objective of minimizing consumer outlays for U.S. oil is met if the controlled prices for categories of U.S.

19. In addition, locational and quality differences among various types of crude oil are ignored. Quality differentials include such varying features of specific crude oils as specific gravity and sulphur, asphaltene, wax, heavy metal content, etc. All of these features cause crude oil to be less than fungible for a particular refinery installation. The most important heterogeneity currently may be sulphur content.

crude oil production are set such that the marginal factor cost of each source is equal to the price of imported oil. A discriminatory, multitier price control system for U.S. crude oil production thus reduces the outlay for domestic crude oil, but increases the demand for imported oil.

For such a system to be efficient in a static sense, the controllers must know the elasticities of supply of the various categories of domestic oil; the actual set of controlled prices must reflect these elasticities; there must be no interaction between the volume of U.S. imports of oil and the world oil price; the reduced outlays of consumers must be valued more highly than the foregone revenues of domestic producers; there must be no adverse strategic national security implications of increased reliance on imported oil, and the prices which consumers pay must reflect the marginal cost of imported oil.

Alternatively, if increased producer revenues are politically assigned zero social value, and if there are adverse strategic national security consequences of increased oil imports, then for static efficiency to be achieved, the cost of insuring against such implications must be less than the benefits derived by consumers due to discriminatory reduction of outlays for domestic oil. On the other hand, if national security insurance is not costless, and if no social value judgment is made concerning consumer outlays and producer revenues, then a crude oil price control system which reduces domestic output and increases imports must have negative net benefits.

The dynamic efficiency conditions are more complicated.²⁰ In addition to efficient consumption and national security considerations, they include short-run and long-run production effects. The long-run production considerations for conventional crude oil involve the extent of the domestic resource base and the time path of its development and use. The shorter-run production considerations involve the effects of the price control system upon the rates at which the supply curves for the various categories of established oil production drift to the left as reservoirs are depleted and secondary and enhanced recovery project opportunities are foregone.²¹ The knowledge requirements for the design and administration of even a statically efficient price control system are formidable.

20. See, MONTGOMERY, *supra* note 12, at 41-60.

21. This effect, as well as the rate at which new oil prospects are acquired and drilled, may not be independent of the cash flows of producing firms if the cost of capital for internally generated funds is less than that for external funds. See, ENERGY ECONOMICS DIVISION, CORPORATE BANKING DEPARTMENT, CHASE MANHATTAN BANK, THE IMPACT OF CONTINUED PRICE CONTROLS AND THE CRUDE OIL EQUALIZATION TAX (COET) ON THE IMPORTED OIL REQUIREMENTS OF THE UNITED STATES (1978).

The knowledge requirements for a dynamically efficient system are even more perplexing. This is because the ultimate extent of the domestic conventional²² crude oil resource base can only be inferred in very general terms from a priori geological information. The actual extent of the ultimate resource base can only be determined from the results of drilling and recovery investment projects. Since a price control system reduces drilling and investment incentives, it also reduces the rate at which that knowledge is acquired which is an essential input into the design of the system.²³ In the final analysis, the question is one of whether regulatory direction and the power to tax or private initiative and market incentives are the best guides for optimal oil resource development and transition to alternative sources of energy.

THE PRICE OF OLD OIL

The current average price of old oil is in the neighborhood of \$5.30 per barrel.²⁴ There is a widespread presumption that the volume of old oil output is insensitive to the old oil price.²⁵ This presumption is based upon too simplistic a conception of crude oil production. Crude oil production does not simply involve drilling wells, setting casing, installing surface facilities, turning a valve, and allowing the reservoir to produce until it is depleted. Crude oil is often corrosive. The production process involves the production of fine sand grains, in addition to the oil, from the underground rock formation in which the oil occurs. Formations must be fractured or leached with acid to maintain producibility. Reservoir pressure must be maintained by injecting fluids. Pumps must be installed. Wells must be worked over as they become corroded or clogged. The density of well spacing may be increased to improve ultimate recovery or to shift production from the future to the present. Some of these expenditures are ordinary maintenance included in the lifting costs of oil production. Others are investment expenditures with payouts which stretch over the remaining life of the reservoir. Lower old oil prices increase the decline rate of established production. In this

22. Conventional crude oil is here used to include the output of enhanced oil recovery projects. Shale oil, tarsands oil and other sources which are based upon essentially mining rather than drilling technology are excluded.

23. In addition, the nature of reservoir engineering is such that some opportunities may be completely foregone rather than just postponed.

24. In February, 1978, the old oil price was \$5.29 per barrel. See, U.S. ENERGY DEPARTMENT, ENERGY INFORMATION ADMINISTRATION, MONTHLY ENERGY REV. 73, DOE/EIA-0035/5 (May 1978).

25. For example, "... [T]he static model implies that the lower tier price will be irrelevant to production decisions." MONTGOMERY, No. 186, *supra* note 12, at 32.

connection it is worthwhile to examine how current lower tier price incentives compare to historic incentives to undertake the costs of such activities.

In Table 1, the economic incentive in the current old oil price of approximately \$5.30 per barrel in current collars is converted into constant 1969-1970 dollars and compared to a reference price of \$3.30 per barrel.²⁶ Under price controls, the real economic incentive for maintaining the production of that oil we know the most about—old oil—has declined by approximately a dollar per barrel (or about 25 to 33 percent). The long-term, cumulative effect of this erosion of incentive has negative effects upon domestic crude oil supply. First, there is a reduction in the number and type of maintenance and increased ultimate recovery investments which can be cost justified. The effect of price controls upon investment projects to increase

TABLE 1

DEFLATION OF THE ECONOMIC INCENTIVE IN THE OLD OIL PRICE

| | |
|---|--------|
| Current Old Oil Price | \$5.30 |
| Deflation Factor* | 187.8 |
| Deflated Old Oil Price | \$2.82 |
| Adjustment for Elimination of Percentage Depletion (.14 x \$3.30)** | \$0.46 |
| Net Economic Incentive in The Old Oil Price | \$2.36 |
| Percentage Reduction from 1969-1970 Price | 28% |

*March, 1978, WPI = 203.8 (1967 = 100) Average 1969-1970 WPI = 108.6

**See E. ERICKSON, S. MILLSAPS, and R. SPANN, OIL SUPPLY AND TAX INCENTIVES, BROOKINGS PAPERS ON ECONOMIC ACTIVITY, 2:1974, at 449-478, for a discussion of the depletion component of economic incentives for crude oil supply. The adjustment used here is an approximation.

26. In 1969-1970, analysts used a representative price of \$3.30 per barrel for low sulphur, high gravity crude oil at tidewater as a basis for examining U.S. oil policy. This price included the economic incentive of percentage depletion at 27.5 percent. CABINET TASK FORCE ON OIL IMPORT CONTROL, THE OIL IMPORT QUESTION 39 (Washington: GPO, 1970). The actual average price of all U.S. crude oil was \$3.09 per barrel in 1969 and \$3.18 in 1970. AMERICAN PETROLEUM INSTITUTE, BASIC PETROLEUM FACT BOOK, Section VI, Table 1. The wholesale price index (all items) is used as the deflator. Since oil field equipment and supplies have generally increased in cost more rapidly than the WPI, the deflated economic incentive inherent in the current old oil price is overstated. This is offset somewhat by use of the \$3.30 reference price.

recovery can be quite complicated. If the project succeeds in increasing production above the Base Production Control Limit (BPCL), all the oil in excess of the BPCL qualifies for upper tier prices. However, if natural decline causes production subsequently to fall below the BPCL, the price component of the economic incentive for investments to increase ultimate recovery reverts to the old oil price. The lower tier price is less than half of the upper tier price. As a result, this potential jeopardy inhibits investment decisions.²⁷ Second, as the volume of old oil consequently declines more rapidly than would otherwise be the case, a larger burden of meeting the composite price stipulated by the controls is shifted to upper tier oil.²⁸ Since the composite price is a weighted average of lower and upper tier oil prices which is less than the upper tier price, a smaller volume of lower tier oil necessarily reduces the upper tier price. The result, under composite price controls, is to reduce the price incentive for discovering and developing new oil resources.

COST PASS-THROUGH AND PRODUCT PRICES

U.S. crude oil price controls are intended to be reflected in lower U.S. refined product prices. This intention has been embodied in price controls on refined products.²⁹ Refiners have thus been subject to two sets of price constraints: (1) the market constraint established by competition among refiners, and (2) the controlled price based upon cost pass-through regulation. In the event that controlled ceiling prices based upon cost pass-through exceed market prices, refiners are permitted to "bank" costs.³⁰

27. A concrete example illustrates this effect. The SACROC unit for the Kelly-Snyder field in Texas has installed a CO₂ injection system to increase recovery. It appears to be a technical success. But production has now fallen below the BPCL and upper tier price incentives have been withdrawn. At lower tier prices, the continued operation of the project appears not to be economically feasible. SACROC is a bellwether project and its regulatory experience will condition expectations for investment in other projects. The Department of Energy is moving to allow uncontrolled prices for oil from enhanced recovery projects beginning September 1, 1978. (*Wall Street Journal*, July 27, 1978, at 6) This step could have been accomplished earlier under current law. A continuing question will be whether the administration of the program is so narrowly interpreted that U.S. oil production which would otherwise be feasible is foregone because of regulatory constraints.

28. In February, 1978, the imputed average price used for the purpose of price controls was \$8.48 per barrel. See MONTHLY ENERGY REV., *supra* note 24, at 73. This composite price is less than the actual domestic average price (\$8.84 in February, 1978) because of an adjustment for stripper oil which limits the depressing effect upon the composite price which exemption of stripper oil from price controls would otherwise have. Stripper oil has been exempt from price controls since September 1, 1976. The February, 1978, upper tier price was \$11.81 per barrel.

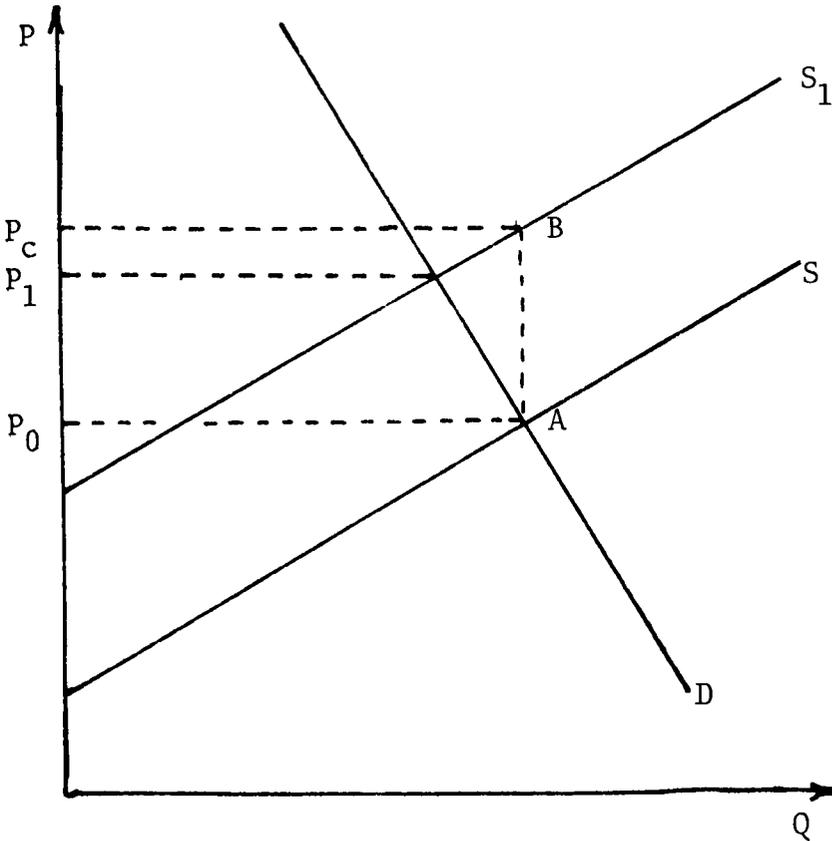
29. Product price controls are gradually being removed. Middle distillates and residual oil are now exempt from controls. There is a pending proposal to decontrol gasoline.

30. Banked costs accumulate for specific products, and there have been various arrange-

Since the simple analytics of a price control system based upon cost pass-through are very much like that of an excise tax (see Figure 2), it is not surprising to find that all of the crude oil cost increases have not been passed through into increased refined product prices.

FIGURE 2

MARKET AND REGULATORY CONSTRAINTS FOR REFINED PRODUCTS



N.B.: AB = crude oil cost increase
 P_0 = initial price
 P_1 = new price
 P^2 = cost pass-through based ceiling price

ments designed to limit or permit banked costs accumulated for one product to be used to relax the regulatory price constraint for another product. These arrangements have changed from time to time. Gasoline is now the product for which there is the most flexibility in terms of using banked costs accumulated in other product sales to relax the controlled price constraint.

For refined products, the market has generally been the more binding constraint.³¹

THE U.S. AND THE WORLD MARKET

It has recently been argued that decontrol of U.S. crude oil prices would have no effect upon U.S. refined product prices.³² In short, the argument is that world refined products are made from world crude, and the U.S. imports refined products, therefore U.S. refined product prices must reflect world crude prices. And because banked costs indicate that U.S. product markets are clearing at less than the allowable controlled ceiling prices, decontrol of U.S. crude oil prices would not cause U.S. refined product prices to increase. Unfortunately the public policy issue of crude oil price decontrol cannot be solved so simply.

The entitlements program subsidizes the importation of residual oil into the U.S. East Coast.³³ Much of the refined product imported into the United States is produced in refineries which have been built in the Caribbean or Canada particularly to serve the U.S. market. Much of this refining capacity has substantial excess capacity.³⁴ There is reason to believe, both analytically and empirically, that in addition to monopsonizing U.S. crude oil production, U.S. crude oil price controls have resulted in at least some temporary, modest monopsonization of suppliers of refined products to the U.S. market.³⁵ In 1977, the weighted average U.S. wholesale value of a component barrel of refined products did not greatly exceed the landed cost of the barrel of crude oil from which they were refined.³⁶ This

31. In February, 1978, unrecovered costs for refined products for the 30 largest refiners were \$1.8 billion. In 1977, they averaged \$1.5 billion. In E. ERICKSON, *OIL, DIVESTITURE AND NATIONAL SECURITY* (F. N. Trager, ed.) 61-4 (1977), it was argued that firms with market power would not bank costs. Jim Sweeney and Bob Scott have each shown in private communication that this statement is too strong. Under some combinations of price elasticity of demand and output elasticity of marginal cost, a firm with market power would bank costs. But the general conclusion holds, a firm with market power is less likely to bank costs than a firm in an effectively competitive industry.

32. See, C. PHELPS and R. SMITH, *PETROLEUM REGULATION: THE FALSE DILEMMA OF DECONTROL*, RAND R-1951-RC (1977).

33. See COX & WRIGHT, *The Effects of Crude Oil Price Controls, Entitlements and Taxes on Refined Product Prices and Energy Independence*, 54:1 *Land Economics*, 1-15 (February 1978).

34. John H. Lichtblau, *Pricing U.S. Oil Products*, *Wall Street Journal*, November 11, 1977, p. 16; and PIRINC, *Distillate Fuel Oil in Mid-Winter: An Analysis of the Current and Near-Term Supply, Demand and Price Situation* (1977).

35. See Martin J. Bailey, *The Crude Oil Equalization Pass-Through Issue* (mimeo, 1977), for an analytical treatment of this question.

36. See *Monthly Energy Rev.*, *supra* note 19, for the landed cost of imported crude oil and the Oil and Gas J. for representative wholesale product prices. For example, in June of 1977, the refiner acquisition cost of imported crude averaged \$14.63 per barrel and the wholesale value of a barrel of refined products was slightly in excess of \$16 per barrel.

suggests that non-U.S. refiners' margins on product exports to the U.S. were abnormally low. In the event of decontrol of U.S. crude oil prices, U.S. crude oil prices would in general reflect world crude oil prices, with locational and quality differentials.³⁷ At the current level of world crude oil prices (\$14 to \$15 per barrel landed in the U.S.), this would mean an increase in U.S. product prices of approximately five cents per gallon for gasoline.

THE CARTER ADMINISTRATION PROPOSALS

The EPCA crude oil price controls are scheduled to phase out in May, 1979. The President, subject to veto by Congress, may extend them for two additional years. However, to replace the system of price controls and entitlements for crude oil, President Carter has proposed a Crude Oil Equalization Tax (COET) and user taxes on oil consumption.³⁸ This combination of policy instruments reflects the conflict in goals which has characterized U.S. energy policy formation. On the one hand, reduced reliance upon imported oil is desired.³⁹ On the other hand, a regulatory system intended to limit the profits of domestic oil production and subsidize oil use increases U.S. dependence upon imported oil.⁴⁰ This conflict has not been limited to the Carter Administration.

Rather than equalizing the U.S. price of crude oil and refined products with world market crude oil prices, various conservation measures such as automobile mileage standards, mandatory coal conversion, and the 55 mile per hour speed limit attempt to cause U.S. refined product users to act as if they were facing shadow prices which were at the world level (or higher), while at the same time subsidizing direct prices through the crude oil price control system.

From an analytical point of view, the proposed COET and oil user taxes represent a curious set of proposed additions to existing policy. Most analysts agree that the elasticity of supply of crude oil exceeds in absolute value the elasticity of demand for refined products. Under these conditions, proposals which rely upon demand effects

37. In February, 1978, U.S. upper tier prices were \$41.81 per barrel and uncontrolled stripper prices were \$13.90 per barrel. Old oil accounted for 40.74 percent of U.S. supply, and has been a steadily declining fraction. *Monthly Energy Rev.*, *supra* note 19, at 73-4.

38. The National Energy Plan, *supra* note 12, at xv, xvii, 35-40, 49-52, and 60-66. As of this writing (summer of 1978) the Administration's energy proposals are making very slow progress in Congress, and consideration of COET is likely to be deferred until 1979. The user taxes on gasoline are no longer under active consideration.

39. See, The National Energy Plan, *supra* note 12, at 9.

40. See COX and WRIGHT, *supra* note 29, for an analysis which separates the effects for product and crude oil markets. U.S. crude oil imports are about three times as great as product imports. Total U.S. oil imports account for nearly half of U.S. consumption.

for most of the desired adjustment, and which restrict the price of domestic oil to less than the minimum opportunity cost of alternative supplies,⁴¹ require substantially more tax and regulatory intervention in the economy than would a simpler policy which includes continuation of the phased decontrol of oil prices proposed under EPCA.

CONCLUSIONS

Direct crude oil and refined product price controls, allocations and entitlements have been a complicated chapter in the complicated regulatory history of the U.S. petroleum industry. The basic price control system was in place prior to the embargo and, while controls in the rest of the economy were being phased out, the embargo resulted in an elaboration and continuation of controls in the U.S. petroleum industry. The effect of U.S. crude oil price controls has been to monopsonize U.S. crude oil producers, increase U.S. dependence upon imported oil, subsidize domestic consumption and perhaps monopsonize some refiners with non-U.S. capacity targeted to the U.S. market. The Energy Policy and Conservation Act of 1975 provided for crude oil price controls to phase out in May of 1979. Such a phase-out would simplify the regulatory environment in which the U.S. petroleum industry operates, increase domestic supplies of oil and reduce reliance upon imports. The political question which now appears to be on the agenda for the U.S. energy economy is whether, and in what fashion, the crude oil price control phase-out legislated in EPCA will be allowed to occur.

41. Under the proposals in The National Energy Plan, *supra* note 12, at 50-2, a new tier of domestic oil production would be created. This "new new" oil would be allowed in 1980 to reach the nominal world market price which obtained in 1977, adjusted for domestic inflation. Use of the landed cost of imported oil as the minimum opportunity cost of alternative supplies does not include any national security premium.